A Marxist Guide to Capitalist CRISES

Sam Williams

A Marxist Guide to **CAPITALIST CRISES**

SAM WILLIAMS

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Editor's Note

In 2010, a project was announced to compile the main posts into a PDF eBook.

By 2015, an update on the eBook's status indicated that the first draft had been completed, with 37 chapters organized into seven sections, a general introduction, and individual introductions for each section. The update suggested that the project was expected to be finalized within the following year, 2016.

However, as is often the case, unforeseen circumstances delayed the project until now.

This is the second draft of the eBook, building upon the 2015 first draft.

Jon Britton

Edited and originally compiled by Jon Britton (1939–2021), a lifelong Marxist and close collaborator on the *Critique of Crisis Theory* project, whose work made this book possible; with subsequent editing and preparation for publication by a small group of Marxists in North America, along with New Zealand union leader and Marxist Mike Treen.

The problem: Marx didn't leave a completed crisis theory

Sam Williams *March 1, 2015*

This book is based on my blog Critique of Crisis Theory. The blog is focused on one question of Marxist economic theory: What are the causes of periodic economic crises such as the one that occurred in 2007-09 that have marked the concrete history of the world capitalist economy since 1825?

The blog and this book are built on the foundations of *Capital*, which, during the panic in 2008, became a bestseller once again. However, that work itself, though it lays the foundation, is not about the periodic crises capitalist production goes through. Nor is there a section within it dealing with crises as such.

Since Marx and Engels put so much emphasis on crises in the *Communist Manifesto* and other works, this omission seems surprising. However, according to Marx's original plan, *Capital* was to be only one of a series of books he intended to write on economics. According to this plan, Marx would crown his economic work with a book on the world market, the state, competition, and crises. However, Marx did not have the time to produce this work.

Evolution of capitalism

It is, of course, impossible for anyone else to write the book that Marx would have written if he had been given the time needed. This isn't simply because only Marx was Marx. Since the time of Marx, capitalism has evolved from industrial capitalism based on free competition to monopoly capitalism. It passed through the Great Depression of the 1930s, the so-called Keynesian revolution in government economic policies, the end of

the international gold standard and the stagflation of the 1970s, the neoliberal reaction from the 1980s on, the crisis of 2007-09, and its aftermath. These events provided considerable material for crisis theory that was unavailable to Marx.

Economic crises of varying intensities break out in the capitalist world market about every seven to 11 years. This pattern has been observed since the second quarter of the 19th century. These crises have survived all attempts by capitalist governments to stamp them out. Periods of violent crises have been succeeded by periods of more moderate crises, followed by even more severe crises.

Mainstream capitalist economists dismiss crises, or "recessions" as they call them, as accidental or, at most, secondary phenomena. In Marxist theory, however, crises play a far more important role. To understand why this is so, we must understand another aspect of Marxism far more basic than crisis theory – historical materialism.

Historical materialism holds that one form of human society does not give way to another until the development of the forces of production characterizing a given epoch has come into fundamental conflict with the existing social relations of production or, in legal language, property relations. Eventually, this renders the further development of human society – and of economic production, which is the foundation of every human society going back to the time when our species first differentiated from the rest of the animal kingdom – impossible within the framework of existing relationships of production.

There then begins a process of revolutionary transformation, which sooner or later brings not only property relations but also ideological life and even religious institutions into harmony with the new productive forces and the relationships of production or property forms that the new productive forces require.

For example, in the *Communist Manifesto*, written between December 1847 and January 1848 in the wake of the worldwide capitalist economic crisis of 1847, the young Marx explained the root cause of the end of feudal society: It had come into conflict with the new productive forces. The further development of these new forces of production demanded the abolition of the monopolistic restrictions of guild production and feudal-serf relations in agriculture and their replacement by "free wage labor."

Feudal social and economic relations and its system of serf labor had been sufficient for developing new techniques in agriculture and craft production

that had developed in Europe after the fall of the Roman Empire. This was true even though feudal society, with its serfdom, hierarchy, orders, and clericalism, strikes us today as having been horribly unfree and unjust.

However, toward the end of the Middle Ages, new methods of production were coming into conflict with the prevailing feudal relations. There began an era of revolutionary transformation that for centuries banished the feudal world and gave birth to modern capitalist society with its democracy, individual freedoms, equality of all before the law (at least in theory), separation of church and state, free markets (free trade and free competition), and above all the labor market – "free" wage labor.

Up to this point, many bourgeois historians and economists are prepared to go along with Marx. But they say that now that all feudal restrictions on the development of the economy have been removed, no additional revolutions are needed. Future centuries will see the continued growth of society's wealth based on capitalist private property, competition, and wage labor. Human society has reached its final form. Since no qualitative changes in the economy or the political system of liberal democracy will occur in the future, history has reached its end.

Neoliberalism

Present-day "neoliberalism" wages a struggle against all concessions that the working class over the last 200 years has wrung from the capitalist ruling class. Neoliberals claim these restrictions on business must be removed so that the rate of economic growth can be accelerated. They claim to continue the progressive struggle that the original liberals waged several centuries ago against lingering feudal restrictions on capitalist industry. They hold that their struggle against the gains won by the working class will lead to full employment and a new rise in the standard of living for all.

The most extreme manifestation of neoliberalism was the dismantling of the planned economies of the Soviet Union and Eastern Europe by the anti-communist governments that rose to power in the 1980s and 1990s. The leaders of these new governments claimed that by removing the restrictions that the planned economies placed on industry and agriculture, the resulting economic upswing would lead to a great rise in the standard of living of the entire population.

Instead, industrial and agricultural production plunged, and except for the members of the new capitalist class and a few hangers-on, the standard of

living has greatly declined. Much of the population faces truly dire poverty, and whole regions have seen a collapse of modern civilization. What greater refutation of neoliberalism could be imagined, not in theory but in practice?

Marx versus liberals

In contrast to the economic liberals, Marx held that it was precisely "free capitalist relations" – that is, capital itself that was the new barrier to the development of the forces of production and human society. Therefore, according to the theory of historical materialism, capitalism cannot be the final form of society. "It is enough to mention the commercial crises that by their periodical return put the existence of the entire bourgeois society on trial, each time more threateningly," Marx wrote in the *Manifesto*. "In these crises, there breaks out an epidemic that, in all earlier epochs, would have seemed an absurdity – the epidemic of over-production." [1]

It is not necessarily true that capitalism will be overthrown during a particularly severe "commercial crisis"– to use the original name for cyclical capitalist crises – as the early socialist movement held around the turn of the 20th century, though this is, of course, a possibility. Rather, the economic contradictions that come to a head during capitalist crises prove that capitalist production is simply a phase in the history of production that must sooner or later be replaced by a higher mode of production if humanity is to survive.

An amazing man

Frederick Engels, who co-authored the *Communist Manifesto*, was an amazing man. He was a 19th-century businessman, Karl Marx's closest friend and collaborator, and an uncompromising advocate of a world working-class revolution. Engels combined a profound theoretical knowledge of political economy with the practical experience of a businessman who had helped steer the textile firm of Engels and Erman through booms and crises that wracked the mid-19th-century world textile market. This is a resumé few can match.

In 1877, Engels wrote a polemical work known as *Anti-Dühring* against the now-forgotten German professor Eugen Dühring, who was then gathering influence in the early German Socialist Workers Party, the forerunner of the German Social Democratic Party. Here, Engels gives a classic description of capitalist economic crises that anybody old enough to remember the crisis of 2007-09 will recognize.

1. https://www.marxists.org/archive/marx/works/1848/*communist-manifesto*/ch01.htm

At the time it was written, Karl Marx was still very much alive, though his ability to work was significantly reduced by ill health. If the mature Marx had disagreed with his friend's work, he would surely have let it be known. Instead, he contributed a chapter to it. Therefore, we can be confident that the following quote from the work reflects the views not only of Engels but of the mature Marx as well on the subject of cyclical crises.

Engels wrote: "We have seen that the ever-increasing perfectibility of modern machinery is, by the anarchy of social production, turned into a compulsory law that forces the individual industrial capitalist always to improve his machinery, always to increase its productive force. The bare possibility of extending the field of production is transformed for him into a similarly compulsory law. The enormous expansive force of modern industry, compared with which that of gases is mere child's play, appears to us now as a necessity for expansion, both qualitative and quantitative, that laughs at all resistance. Such resistance is offered by consumption, by sales, by the markets for the products of modern industry. But the capacity for extension, extensive and intensive, of the markets is primarily governed by quite different laws that work much less energetically. The extension of the markets cannot keep pace with the extension of production. The collision becomes inevitable, and as this cannot produce any real solution so long as it does not break in pieces the capitalist mode of production, the collisions become periodic. Capitalist production has begotten another 'vicious circle'." [2]

Here, Engels sees crises as collisions between two counter-posed forces: the physical ability modern science and technology give the industrial capitalists to expand production seemingly without limit, and the need of the same industrial capitalists to do just that due to the pressure of the competition amongst themselves, and [3] "the quite different laws" that govern the growth of markets. These laws dictate that markets, though they too grow both intensively and extensively, expand at a rate much slower than the ability and need of the industrial capitalists to expand production.

Since under capitalism, production cannot, in the long run, grow faster than the market, this contradiction is periodically resolved through a massive contraction of production, destruction of existing productive forces, and large-scale unemployment. This resolution is only temporary. After the crisis and sometimes years of stagnation, production enters a new powerful expansion that again leads to a new flooding of the market and a new crisis.

2. https://www.marxists.org/archive/marx/works/1880/soc-utop/ch03.htm
3. https://www.marxists.org/archive/marx/works/1880/soc-utop/ch03.htm

As these crises and their "side effects" – such as world wars, for example – become increasingly destructive, replacing capitalism with socialism becomes urgent and eventually must take place if modern society is to survive. In *Anti-Dühring* – this material can also be found in *Socialism: Utopian and Scientific*,[4] a part that has been published as a stand-alone pamphlet – Engels gives a masterly description of the basic contradictions of capitalist production, the contradiction between the growing socialization of production versus the continuation of individual appropriation of the product, the overall anarchy of production versus its increasingly centralized, socialized and globalized character, and the deepening conflict between an ever more wealthy capitalist class and the growing, increasingly exploited working class.

Laws governing growth of market not spelled out

However, Engels does not formulate the laws governing the market's growth and expansion. While his readers do not doubt that he considers the fundamental contradictions of capitalism to be behind the inability of the market to grow as fast as production, Engels does not actually explain why this is and indeed must be so.

Why does the conflict between the private appropriation of wealth and the socialized nature of production; the growing anarchy of production in society between competing entities versus the increasingly planned nature of production within the capitalist enterprise, and later the giant transnational capitalist corporations; and the growing antagonism between the capitalist ruling class and the working class lead by necessity to a situation where the growth of the market cannot keep up with the growth of production?

Many political generations have come and gone since Engels wrote *Anti-Dühring*. So, it might be thought that the answer to this question would be well understood by the fighters of the 21st century. Yet Marxists give the most diverse and sometimes completely contradictory explanations of why this is so. Indeed, many – perhaps most – Marxists largely disagree with Engels and Marx as well and deny that industrial overproduction is the essence of the cyclical economic crises that mark the concrete history of capitalism from 1825 onward.

I will examine the crisis theories that have been proposed by various schools of Marxists, and make some suggestions based on many decades of thought, research on and study of the concrete history of crises from the crisis of 1825 to those that have occurred in my own time, how this puzzle can finally be resolved. Along the way, I will examine the attempts of capitalist

governments to counteract crises and their results, as well as the relationship between crises, imperialism, militarism, and war.

Marx's method and his theory of crises

Why did Marx not leave a complete theory of crises? The answer can be found in his method. Originally, *Capital* was to be only a part of a much more ambitious project entitled *A Critique of* [Bourgeois] *Political Economy*. In addition to the book on capital, Marx, according to his letter to Engels dated April 2, 1858, [4] planned to write books on landed property, wage labor, the state, international trade, and the world market. It was probably to be the last book on the world market that would have contained the theory of crises.

The theory of crises would have crowned the entire critique of political economy since it is during crises that all the contradictions of capitalist production, many of them normally hidden, rise to the surface. Due to his declining health, it eventually became clear to Marx that he would almost certainly not be able to complete his project. *Capital* (all three volumes plus *Theories of Surplus Value*) [5] was to be only one of six books according to the plan of 1858.

It seems that Marx also worked into Volume III of *Capital* elements of what had been the book on landed property according to the original plan. Marx was not able to incorporate a complete rounded theory of crises into any part of *Capital*. The full theory of crises simply does not belong in that work.

Why not? Again, it's a matter of method. Marx always began at the abstract level, only gradually working towards the concrete. Just like crises in practice are the crown of capitalism's basic contradictions, the theory of crises would crown the *Critique of Political Economy*. And therefore, the theory of crises would have to come last.

Marx's mature economic works that were published in the author's lifetime – that is, the works written after Marx had worked out, at least in his head, his most important contributions to economics – consist of exactly two books: *A Contribution to the Critique of Political Economy* (1859) [6] and Volume I of *Capital* (1867).[7] Other books by Marx, *The Poverty of Philosophy*[8] and *Wage Labor and Capital*, [9] belong to Marx's early period, before he had worked out his theory of labor power and surplus value and many other important economic discoveries that are crucial to a complete

4. https://wikirouge.net/texts/en/Letter_to_Friedrich_Engels,_April_2,_1858
5. https://www.marxists.org/archive/marx/works/1863/theories-surplus-value/
6. https://www.marxists.org/archive/marx/works/1859/critique-pol-economy/
7. https://www.marxists.org/archive/marx/works/1867-c1/
8. https://www.marxists.org/archive/marx/works/1847/poverty-philosophy/
9. https://www.marxists.org/archive/marx/works/1847/wage-labour/

theory of capitalist crises. *Value, Price, and Profit,* considered part of Marx's mature work, was published as a pamphlet or small book after the author's death. [10] It was part of a debate in which Marx defended trade unions at a meeting of the International Workingmen's Association (First International) held in London around the time of the publication of the first volume of *Capital* in German.

Other economic works of Marx were not published in his lifetime. The *Grundrisse*, [11] generally considered the earliest of Marx's mature economic works is a series of notebooks that Marx wrote up in the winter of 1857-58 when his interest in economics was stimulated by the worldwide economic crisis of those years. It was published first in Moscow in 1939-41, and a later English version was brought out in 1973 by Penguin Books with a new translation by Martin Nicolaus. In 2008, a new version was published by Routledge, edited by Marcello Musto. [12]

The *Grundrisse* is a rich mine, but it is a series of notebooks by the author, not a work meant for publication in that form. Many ideas were just being worked out for Marx's self-clarification.

Volume I of *Capital* (the only part finished by Marx himself) deals with capitalist production. It explains how surplus value arises based on the production of commodities exchanged at their values – based on an hour of (abstract) embodied labor for one hour of (abstract) embodied labor. Volume II of *Capital* deals with the circulation of capital and the problem of reproduction. The subject matter of volume III was to be capitalist production as a whole – the unity of capitalist production and circulation.

Volume III introduces such crucial concepts as the equalization of the rate of profit and the transformation of values into prices of production, as well as the famous law of the tendency of the rate of profit to fall. This volume also contains a section on landed property and differential and absolute ground rent, which perhaps was originally intended for the book on landed property that Marx never wrote. It contains many scattered observations on credit, the money market, banking, currency, interest rates, and, yes, crises. Volume III is also enriched by footnotes by Engels, many dealing with the concrete crises of the 19th century, based partially on Engels' personal experiences as a Manchester businessman.

10. https://www.marxists.org/archive/marx/works/1865/value-price-profit/

11. https://www.marxists.org/archive/marx/works/1857/grundrisse/

12. Karl Marx's Grundrisse: Foundations of the critique of political economy 150 years later. Edited by Marcello Musto. New York: Routledge, 2008

But Volumes II and III are also a series of notebooks put together by Engels. They retain a rough, unfinished character. This is especially true of Volume III. *Theories of Surplus Value,* a part of what was to be a history of economic thought, were put together from Marx's notebooks by Karl Kautsky [13] after Engels' death. Later, after World War II, the Institute of Marxism-Leninism of the Central Committee of the Communist Party of the Soviet Union put out a different version. Their version contains an introduction that is very critical of Kautsky's work. [14]

Of the two economics books that belong to Marx's mature period that Marx finished, the *Contribution to a Critique of Political Economy* of 1859 deals with the nature of commodities, money, and exchange rates. It is mostly known for its famous introduction; the book itself is little read. Much of its subject matter – though not all – was repeated in "much-improved form," according to Marx, in the first three, and most abstract chapters of *Capital*, Volume I.

Marx made some interesting observations on crises in a letter to N.F. Danielson (a Russian Populist writer) dated April 10, 1879, [15] in which he gives a fascinating analysis of the crisis that was then hitting England. He even says that he didn't want to publish the next volume of his book before the crisis had worked itself out.

Even at this very late stage in his life, Marx was still learning from the evolution of the world capitalist economy and its concrete crises. To the end, he was as much a student as he was a teacher. Engels, in the years after Marx died in 1883 until his own in 1895, wrote letters to various correspondents with much to say about crises and the concrete development of the world capitalist economy in those years. These letters deserve careful study. [16]

Attempts to further develop Marxist crisis theory inadequate

Since the death of Engels, many Marxists have attempted to develop Marxist crisis theory. They tend to be based on published and unpublished quotes from Marx's works (in Marx's lifetime). In these chapters, I will examine these proposed solutions to the puzzle of capitalist crises. I will examine the most popular crisis theories various Marxist writers have put forward since Engels' death. This examination does not claim to be exhaustive, but it covers the most common crisis theories. All these theories are, in my opinion, interesting and contain elements of the truth but are inadequate by themselves.

13. https://www.marxists.org/glossary/people/k/a.htm#kautsky-karl
14. https://www.marxists.org/archive/marx/works/1863/theories-surplus-value/
15. https://www.marxists.org/archive/marx/works/1879/letters/79_04_10.htm
16. http://www.marxists.org/archive/marx/letters/date/

I will examine currency, exchange rates, credit, interest rates, banking, world trade, competition, and the world market. This book won't, of course, be the exhaustive work that Marx planned to write. But it will say what has to be said to support a correct theory of world market-wide periodic economic crises of capitalism. No crisis theory can, in my view, be correct if it does not include a careful examination of these subjects.

I will also examine the so-called "*Law of Comparative Advantage*,"[17] which preaches to oppressed countries that they should abolish their protective tariffs and open their markets to "free trade." This idea is central to the arguments of neoliberal economists. Anybody who has had the misfortune to take a college-level economics course has been exposed to this so-called law, though most people no doubt have long forgotten it, along with much else they learned in college courses.

On these foundations, I developed a theory of crises based on the concrete conditions of credit and competition found on the world market but rooted in the basic laws of motion of capitalism that were worked out by classical political economists and, later, Karl Marx.

Other chapters will deal with the concrete history of capitalism and a question closely related to crisis theory – the controversial view accepted by some Marxists and strongly rejected by others that, in addition to short-term business cycles of some seven to 11 years, the capitalist economy shows a series of much longer cycles or "waves" that extend over several business cycles. I examine the period from the mid-19th century up to the outbreak of the current crisis to see what concrete evidence there is for the existence or absence of "long waves."

Finally, I look at the breakdown theory, which is closely related to crisis theory. This began as a debate between Rosa Luxemburg[18] and the other leaders of the old German Social Democratic Party, which grew out of the struggle against Edward Bernstein's original "revisionism"[19]. The debate was later continued by Henryk Grossman [20] and Paul Mattick[21] in the years after the Russian Revolution.

Between them, Luxemburg on one side and Grossman and Mattick on the other put forward two contradictory "breakdown" theories. The supporters of both versions hold that capitalist production has a built-in limit beyond which

17. http://en.wikipedia.org/wiki/Comparative_advantage
18. https://www.marxists.org/glossary/people/l/u.htm#luxemburg-rosa
19. http://en.wikipedia.org/wiki/Revisionism_%28Marxism%29
20. https://www.marxists.org/glossary/people/g/r.htm#grossman-henryk
21. https://www.marxists.org/glossary/people/m/a.htm#mattick-paul

it cannot go. Though formally apart from crisis theory, which deals with the periodic crises of capitalism, Luxemburg's and Grossman's contradictory "breakdown" theories are closely connected with their respective crisis theory.

Crisis of 2007-09 vindicates Marx

The 2007-09 crisis proved again that Marx was correct when he explained that periodic cyclical crises are endemic to capitalism and will never be eliminated while this mode of production exists.

In the wake of that crisis, the (bourgeois) economists attempted once again to find a way to prevent a repeat of a crisis like 2007-09. Various schemes were put forward requiring banks to hold more capital relative to their liabilities – and not for the first time – were put forward. But increasingly, the economists in the wake of that crisis simply circulated old ideas. The truth is that the economists were running out of ideas in their attempts to find a way to control, if not eliminate crises while retaining the capitalist system. The truth is that everything that could be thought of as feasible has already been tried. These ideas range from the international gold standard, protectionism, free trade, abolition of the international gold standard, increased regulation of banking and business, deregulation of banking and business, currency inflation, and government spending to generate increased demand. And all come up short.

There have been, and may well be – though this is by no means certain – periods, such as the "Great Moderation" of 1983-2007, when crises become less severe for a while for reasons I will examine in this book. What is certain is that the contradictions of capitalist production will continue to be reproduced on an ever-larger scale as long as capitalist production continues. Sooner or later, these growing contradictions inherent in capitalist production will find vent in the form of severe economic crises, as they have done periodically since 1825.

As crises have become a greater threat to capitalist society, the state has been forced to take ever stronger and more expensive financial measures to keep the more destructive consequences in check. The result has been that, as time goes on, crises increasingly involve the finances of the state itself. Therefore, more than was true of the early crises in Marx's day, or even as late as the 1920s, the modern cyclical crises of capitalism become increasingly political and economic crises.

This trend was in full display during the crisis of 2007-09. Already by that date, the necessity for society to take over the management of the means of

production was so pronounced that even the extreme right-wing neoliberal Bush administration found itself forced to partially nationalize the banking system. By then, the banking system had evolved into a system dominated by a handful of gigantic universal banks that were increasingly tending to dominate industry and capitalist society as a whole.

This doesn't mean a U.S. president will carry out the socialist revolution during some future crisis! But just as Engels explained, the fact that capitalist governments are forced to intervene increasingly in the sphere of production while resisting it at every step indicates that the task of socializing the means of production must be carried out sooner or later – increasingly sooner – if modern society is not to go to pieces and be reduced to barbarism.

And what about the agent of this takeover by society of the management of the means of production? Marx said it would have to be the working class, the class that sets the means of production into motion and produces the surplus value that is the basis of profit, the sole motive of capitalist production. Could Marx have been right about that as well, whatever the state of the workers' movement at any particular time? What other conclusion can be drawn?

Aim of the book

So, the real aim of this book is to help provide weapons to the younger generations of workers and revolutionary intellectuals to move this process along. After mastering the results of incomplete revolutions of the last century, revolutions that stopped halfway and were then driven back, though not all the way back to their starting points, a new movement of workers "ready to storm heaven" must be launched like that of the immortal Paris Commune of 1871 the Russian Revolution of October 1917 and the "October wave" of revolutions that followed.

This time, the storming of heaven must not stop halfway. It must not stop until all of heaven's positions are captured and secured. There is no other choice. I hope this work will make a modest contribution to the preparatory work for this task by helping educate the coming revolutionary generation about the real nature of capitalist production and the need to transform this system based on the private ownership of the means of production into a system based on the collective ownership of the means of production by the associated producers, a communist society where class rule is forever abolished.

Crisis theories

The debate among the (bourgeois) economists about the possibility of a general glut of commodities

Even before the first general capitalist crisis hit the world market in 1825, a debate occurred among the political economists on whether or not a general glut of commodities was possible. On one side were J.B. Say, James Mill (father of John Stuart Mill), and David Ricardo; on the other side were Simondi de Sismondi and Thomas Robert Malthus

Sismondi, the father of crisis theory

The Swiss economist Simondi de Sismondi (1773-1842) had begun as a champion of economic liberalism, or what comes to the same thing; he was what we would call today a "free market" economist. But as he observed the development of the capitalist system during the opening decades of the 19th century, he became increasingly alarmed. What bothered Sismondi was exactly who was going to buy the ever-increasing mass of commodities that were being churned out by capitalist industry.

In the early 19th century, before the rise of the modern workers' movement, the capitalist system was driving wages down to the barest biological subsistence. The small independent producers – the peasants and artisans who owned their own means of production – could not meet the competition of large-scale industry, which was increasingly under-selling them. The ruined peasants and artisans were being forced to sell their labor power to the industrial capitalists at rock-bottom wages.

Sismondi's fears realized

Sismondi predicted that because the capitalist system was increasing production without apparent limit on one side while at the same time destroying the purchasing power of the great mass of society on the other, capital-

ism would inevitably suffer from periodic general gluts of commodities. On this point, events beginning with the first general crisis of overproduction in 1825 and continuing with the most recent crisis – that of 2007-09, at the time of this writing – have proved Sismondi correct.

The end of classical political economy & the debate on the general glut

Sismondi can be considered to be the father of crisis theory. Marx considered him, along with David Ricardo (1772-1823), to be the last representative of what he called classical political economy. By classical political economy, Marx referred to the economists who were concerned with finding the economic laws that governed the emerging capitalist system as opposed to simply serving as apologists for the capitalist system. The founder of scientific socialism considered himself to be very much the student as well as a critic of the classical economists.

Alongside the economists that Marx considered to be representative of the classical school, there were those he called the vulgar economists, who were simply apologists for the capitalist system and sometimes, as was the case with Thomas Robert Malthus, the landlords as well. Malthus supported the capitalists in their struggle against the workers, but in the class struggle that raged between the landlords and the capitalists, Malthus supported the landlords against the capitalists.

While the classical economists dug beneath the surface appearances and discovered that the values of commodities were determined by the quantities of labor that were, on average, necessary to produce them, the vulgar economists like Malthus limited themselves to describing the surface appearances much like "mainstream" economists do today. For example, Malthus explained the origin of profit – the most important question in all of economics – as the extra charge that the capitalists add to the cost-price of their commodities so they can earn a "fair" return on investment.

As the class struggle between the workers and the capitalists increasingly overshadowed the class struggle between the retreating landlords and the advancing capitalists, the further progress of economic science became impossible on a pro-capitalist basis. The science that studies the laws and destiny of a capitalist economy shifted from the representatives of the capitalist class to the representatives of the working class.

Therefore, the controversy that broke out among the political economists on the possibility of a general glut occurred during the final stage of bourgeois political economy as a science.

Thomas Robert Malthus

Thomas Robert Malthus (1766-1834) is best known for his so-called law of population. This "law" holds that the poverty of the overwhelming mass of the people can never be overcome no matter how much the productive power of human labor grows.

According to Malthus, this is because no matter how much the means of subsistence grow, the human population would grow even faster. This "law" has been refuted by reality. Today, it is well known that the population grows slowest in the countries where wages are highest and fastest where wages are rock bottom. This is exactly the reverse of the so-called Malthusian population law. But in the early 19th century, Malthus's so-called law was accepted not only by his reactionary supporters but also by his liberal opponents such as David Ricardo.

Less well known is the fact that Malthus agreed with Sismondi that the capitalist system was prone to general gluts of commodities. Malthus, however, gave Sismondi's theory of general gluts and underconsumption a reactionary twist. The prophet of eternal poverty for the "masses" became the champion of what Marx called "overconsumption" by the landlords, clergy, and the non-producing dependents of the state!

Malthus's theory of underconsumption

Applying his theory of population, Malthus held that any rise of wages above bare subsistence would be unsustainable because it would cause the rate of increase of the working population to exceed the rise in the means of subsistence. The labor market would become glutted, and wages would fall below biological subsistence levels, causing a portion of the working class to die off through famine and starvation. This would re-balance the labor market, allowing wages to rise again to biological subsistence but not above – at least not for very long.

Even if a lasting rise in wages were possible, Malthus was opposed to it. According to Malthus, higher wages only increase prices. This is an argument we still hear today, especially from the "Keynesian" economists. With the consumption of the working class confined to bare subsistence as an eternal law of nature, Malthus held, the workers could not possibly provide a sufficient demand to purchase the growing quantity of commodities that they were producing.

Could increased consumption of consumer goods by the capitalists themselves provide a solution? That wouldn't work either, according to Mal-

thus. The industrial capitalists are forced, after all, to maximize their accumulation of capital. They accumulate only to the extent they refrain from (personal) consumption.

In addition, the capitalists had to add a "fair profit" above the cost-price of their commodities. Therefore, the capitalists plus the workers together simply lacked the purchasing power to buy back the full commodity product. Therefore, Malthus argued, the capitalists plus the workers could never provide the necessary demand.

Malthus's proposed solution to general gluts

Malthus's solution was a class of third consumers who consume without producing. Happily, such a class was available: the landlords. They could be assisted in their consumption duties either by the clergy – Malthus himself was a clergyman of the established state-supported Church of England. If that were not enough, there would always be the possibility of large-scale unproductive state expenditures such as spending on wars. The state expenditures had to be unproductive because if they were productive, they would add to the tendency toward general gluts.

These third consumers – landlords, clergymen, and the unproductive dependents of the state such as soldiers and the owners of government bonds – would provide the necessary monetarily effective demand that would prevent ruinous general gluts of commodities – what are today called generalized recessions.

In order to provide the necessary effective demand, Malthus urged the government of Britain to maintain the system of protective tariffs on agricultural commodities (called the corn laws), which kept rents – and food prices – high. In addition, he looked kindly on expenditures for wars, since all this kept "monetarily effective demand high" and kept the wheels of capitalist industry humming.

Marx held Malthus in very low esteem both for his now thoroughly refuted theory of population and his proposed "solution" to capitalism's periodic crises of overproduction or general gluts of commodities. Marx pointed out that Malthus was actually a champion of overconsumption on the part of the landlords and the dependents of the state, including the clergy. The overconsumption on the part of the non-capitalist and non-working class "third consumers" was to compensate for the underconsumption of the impoverished masses on one hand and the "thrifty capitalists" on the other.

Notwithstanding Marx's low opinion of Malthus's theories, they have a surprisingly modern ring to them. They anticipate the theories of John Maynard Keynes. Indeed, Keynes was a great admirer of Malthus, both of his theory of population and his theories of general gluts.

Elements of truths in underconsumptionism

The supporters of underconsumption as the root cause of crises, starting with Sismondi and Malthus, point to a very real contradiction of capitalist production.

Marx wrote in Volume III of *Capital*, "The ultimate reason for all real crises always remains the poverty and restricted consumption of the masses as opposed to the drive of capitalist production to develop the productive forces as though only the absolute consuming power of society constituted their limit." [1]

Marxist supporters of underconsumption use the quote to bolster their claims that Marx, like Sismondi (whom Marx admired) and Malthus (whom Marx did not admire), himself held an underconsumptionist theory of crisis.

Under the pressure of competition, as the underconsumptionists correctly note, the industrial capitalists are obliged to expand production without limit, but at the same time, competition forces them to drive their costs down as far as possible in order to maximize their profits. This forces the industrial capitalists – and other capitalists such as merchants and bankers – to pay the lowest possible wages and salaries.

"Thus it comes about," Engels wrote in Anti-Duhring, "that the overwork of some becomes the preliminary condition for the idleness of others, and that modern industry, which hunts after new consumers over the whole world, forces the consumption of the masses at home down to a starvation minimum, and in doing this destroys its own home market." Today, this is called the "race to the bottom." [2]

If capitalist production were production for the needs of the worker-consumers, crises of overproduction would be impossible. Under an economic system where production is geared to the needs of the worker-consumers, if more were produced than the worker-consumers needed, the hours of work would be reduced. There would be no crisis.

1. *Capital*, Volume III, Chapter 30: Money-Capital and Real Capital https://www.marxists.org/archive/marx/works/1894-c3/ch30.htm
2. *Anti-Dühring*, Frederick Engels, 1877, Part III: Socialism https://www.marxists.org/archive/marx/works/1877/anti-duhring/ch24.htm

However, capitalist production is most certainly not production for the workers' needs; rather, production is for the capitalists' profits. Capitalism, therefore, keeps the workers' consumption within the narrow limits allowed for by production for profit. Therefore, in the final analysis it is indeed true that the real ultimate cause of crises is the fact that the consumption of the great majority – the workers – is kept within the narrow limit that is allowed by production for profit.

But certain pro-labor underconsumptionists claim that if we raise wages through labor unions and political action without abolishing capitalism itself, we eliminate or at least greatly mitigate the crises. Marx, however, did not agree.

Indeed, Marxists who are opponents of the underconsumption-based crisis theories quote Marx's observation that wages rise during economic booms that immediately precede the outbreak of a crisis. According to underconsumptionists, this should prevent the crisis but in reality, Marx observed, it does not. Marx wrote in Volume II, "But if one were to attempt to give this tautology the semblance of a profounder justification by saying that the working class receives too small a portion of its own product and the evil would be remedied as soon as it receives a larger share of it and its wages increase in consequence, one could only remark that crises are always prepared by precisely a period in which wages rise generally and the working class actually gets a larger share of that part of the annual product which is intended for consumption. From the point of view of these advocates of sound and 'simple' (!) common sense, such a period should rather remove the crisis." [3]

Say's so-called law of markets, the liberal economists' answer to Sismondi and Malthus

Let's return to the pre-Marxist days of the early 19th century.

How did the supporters of economic liberalism – the "free-market economists" of the day such as Say, Mill, and Ricardo answer Sismondi and Malthus? The economic liberals believed that they had proven that the threat of a general glut of commodities that had so alarmed Sismondi and been used by Malthus to support his reactionary pro-landlord politics was impossible. Say is generally credited with developing the alleged proof, which has been

3. *Capital*, Volume II, Chapter 20: Simple Reproduction https://www.marxists.org/archive/marx/works/1885-c2/ch20_01.htm

dubbed "Say's law," though some economic historians credit James Mill for the "discovery."

Say's law holds that commodities are always exchanged for commodities, though this is obscured by the role of money as a means of circulation. According to Say's Law, money makes commodity exchanges vastly more efficient, but it is quite possible to imagine commodity exchange without money. Therefore, as Say would have it, in order to understand the fundamental laws that govern the exchange of commodities, we must abstract money as a mere means of circulation and look only at the exchange of commodities as though money did not exist. In the final analysis, the supporters of Say's law claim that money is "neutral."

If we abstract money, Say argued, we will see that it is commodities themselves that provide the purchasing power to purchase other commodities. Suppose the quantity of commodities on the market was suddenly doubled. Wouldn't this cause a "general glut" – a terrible economic crash?

Not according to Say's law. But where would the demand come from to buy twice as many commodities? According to Say, by doubling the quantity of commodities, we would at the same time be doubling the means of purchasing the commodities – other commodities. Therefore, Say and his followers believed that they had proven that the limits of the market were set by the physical limits of production. Or, in popular language, supply creates its own demand.

Say did concede that commodities could be produced in the wrong proportions. Perhaps too many means of production would be produced, and not enough means of consumption, or perhaps the reverse would be the case. In that case, some commodities would indeed be overproduced, causing their market prices to fall below their "cost of production." However, the overproduction of some commodities would be backed up by the underproduction of other commodities. The market prices of the under-produced commodities would rise above their cost of production. In the real world, capital is always flowing from sectors where market prices are below the cost of production, or what comes to exactly the same thing, profits are below the average rate, to sectors where market prices are above the cost of production. Therefore, a crisis of overproduction of some commodities will always be accompanied, according to Say's law, by an offsetting underproduction of other commodities.

The Ricardian criticism of Malthus

Ricardo accepted Say's "proof" that generalized gluts were impossible. He also accepted Malthus's theory of population. Ricardo and his followers, however, took strong exception to Malthus's proposed solution to what they believed was the non-existent danger of generalized commodity gluts.

Where, the Ricardians asked, did the incomes of the landlords – ground rent – and other "third buyers" come from? Wasn't ground rent just a portion of the "net income" – the surplus value, as Marx would later call it – of society? Ground rents are deductions from the "net income" of society that would otherwise go to the capitalists in the form of profits. The same is true of the incomes of the clergy, unproductive dependents of the state, and indeed the government itself – Malthus's other "third consumers." As one of the Ricardians put it, no merchant – capitalist – pays his own customers to buy his commodities.

Imagine if you saw this advertisement: "If you are a landowner, clergyman, state employee, or government bondholder and can prove you are a non-producer, we have a deal for you! Our dealership is selling new luxury automobiles for a price of $100,000. But for you non-producers out there, don't worry! We will provide you free of charge the full $100,000 to buy our cars. The cars will cost you absolutely nothing! This a permanent offer, not a one-time sales gimmick."

Now imagine that this offer – for landowners, clergymen, state dependents – applied not only to cars but all commodities. Even the corporations that sell arms to the government would agree to supply the arms for absolutely nothing in return! They agree to bear the entire cost! This was Malthus's "solution" to the problem of generalized commodity gluts.

The problem is that no capitalist is interested in selling for the sake of selling. The real capitalists are interested in selling for the sake of making a profit. If they pay a portion of the customers to buy their products – that is, in effect give away their commodities free of charge to "non-producers" – they make no profit on these sales but instead incur massive losses.

In reality, the higher such overconsumption on the part of the landlords, church, and state and its dependents, the lower are the profits of the capitalists, all other things remaining equal. Far from accelerating capitalist economic growth, the result is a reduction of economic growth. At best, it can be argued that instead of "achieving" economic stagnation indirect-

ly through the effects of crises, we end up achieving stagnation directly through the high rents and taxes that eat up the profits of capitalist industry. Under capitalism, no profits equal no production.

Ricardo pointed out that when the industrial capitalists "saved," they were engaged in what Marx was to call productive consumption. Industrial capitalists had two choices. They could use a portion of their profits – the part net of their and their families' expenses – to purchase more factories, machines, and labor. Alternatively, they could lend their money either directly or, more likely, through a middleman, such as a banker, to other industrial capitalists. The latter capitalists, in turn, could use the borrowed savings to purchase additional factory buildings, machines, and raw and auxiliary materials, sharing a portion of the profits with the capitalist savers in the form of interest.

In theory, of course, the industrial capitalists could hoard their profits in the form of idle money. But that would be irrational, Ricardo and the other free market economists argued, because idle money bears no profit. Therefore, rational capitalists would spend, either directly or indirectly, the entire profit they earned. Some would be spent, of course, on their own and their families' upkeep. This would include, in addition to necessaries like food and clothing, luxury items such as "fancy carriages" in Ricardo's time or Gulfstream jets today.

What was not spent by "thrifty capitalists" on their own personal living expenses would be invested either directly or indirectly in expanding industrial production, including the hiring of additional workers to produce still more – profit for the capitalists. There would be no problem finding markets for commodities as a whole – the capitalists themselves would be their own best customers – though individual commodities could, as Say acknowledged, be overproduced relative to consumer tastes while other commodities are being underproduced.

As for workers who were paid bare subsistence – Ricardo agreed with Malthus on the question of "overpopulation" and wages – they had no alternative but to spend all of their wages on the means of subsistence. Obviously, the workers could not hoard their money since if they did they would starve to death. Therefore, neither the capitalists nor the workers would ever hoard money. Both of the main classes of capitalist society – the capitalists and the workers – throw the money that passes through their hands immediately back into circulation

Therefore, the Ricardians argued, the capitalists had absolutely no need for unproductive "third consumers" – the landlords, clergymen, soldiers, and other unproductive state employees, the state itself, or its creditors – to provide the demand to buy the commodities they were producing. These third consumers would only "consume" a portion of what would otherwise be capitalists' profits. Therefore, economic liberalism preached that incomes of unproductive third persons should be reduced as much as possible.

CHAPTER 1
Modern underconsumption theories

The first underconsumptionist theories were put forward by pre-Marxist bourgeois economists such as Sismondi and Malthus. As trade unions developed, these theories gained considerable support among their members and supporters.

By their very nature, labor unions correctly rejected Malthus and Ricardo's view that wages could never rise above bare subsistence. If we drop the assumption that workers' wages will always be barely enough to keep body and soul together and no more, can't we increase the demand for commodities by raising wages?

Pro-trade union underconsumptionists argue: Since the vast majority of the population in highly developed capitalism are wage and salary earners, won't increasing their incomes increase the effective demand for commodities? How can the capitalists be expected to consume the huge profits they make when wages are low? Even the wealthy have limits on how many fine wines they can drink, mansions they can live in, or Gulfstream private jets they can fly around.

The crude underconsumption argument goes like this: Wage workers can buy back only a portion of what they produce. This is true. If it weren't, no surplus value would be produced; there would be no profit and, therefore, no capitalism.

Didn't Marx himself say that the restricted consumption of the masses was the cause of all real crises? Now, it is true that if the production were carried out for the needs of the actual producers – workers –there would yet be a crisis of overproduction. If indeed production were carried out for the needs of the workers, we would have neither commodity production nor capitalism. And without commodity production, there would be no generalized overproduction of commodities. However, this does not mean that underconsumptionism provides an adequate crisis theory.

In its crudest forms, underconsumption assumes that capitalists live on air! For underconsumptionism to provide us with an adequate theory of crisis, it is necessary to demonstrate that capitalists and their hangers-on can neither physically consume the entire surplus product produced through their personal or their productive consumption. However, we find that even in the more sophisticated underconsumptionist theories, the inability of the capitalists and their hangers-on to physically consume the surplus product is always assumed, not proven.

Labor unionists holding this view assert that raising wages or raising the living standards of the great mass of people leads to a "virtuous cycle" of rising demand and higher profits for the capitalists because their increased labor costs will be more than compensated for by the increase in the demand for their products.

The higher profits made possible by expanding markets, they reason, lead to an increased number of jobs. Recessions – the generalized commodity gluts identified by Sismondi and Malthus – will be avoided or at least minimized if wages are high. When the bosses resist demands by the trade unions for higher wages and shorter hours, the underconsumpionists contend that the capitalists are acting against their own self-interest.

A 'Fordist' model of high-wage capitalism

Well-meaning European writers influenced by underconsumptionist theories often refer to the "Fordist" model of "high-wage" capitalism. Fordism refers to the U.S. industrial capitalist Henry Ford (1863-1947). This famous automobile manufacturer paid relatively high wages to his workers in the 1920s, so it is said they could afford to buy the Model T autos they were producing for Ford. By allowing his workers to buy back the automobiles, the underconsumptionists hold, Ford created a market for them.

They reason that Henry Ford's enlightened high-wage policies provided the model for the great prosperity of 1948-1973. Following Ford's example, capitalists in the United States, Western Europe, and later Japan finally began to pay their workers wages high enough so they could enjoy a "decent" middle-class lifestyle. Underconsumptionists assert that for the first time since the Industrial Revolution, workers could afford to purchase the ever-increasing mass of commodities they produced for the capitalists. This new "high wage," or "Fordist," capitalism, it was claimed, could now avoid the series of severe and worsening recessions that had climaxed with the economic collapse of 1929 and the Great Depression.

The retreat from 'Fordist' high-wage capitalism and the return of severe recessions

However, underconsumptionists complain that since 1973, the capitalists have been increasingly turning their back on "Fordism," which had been working so well for both workers and capitalists. Instead, they have returned to the old failed policies of holding down wages in a short-sighted bid to increase their profits by cutting "labor costs." The pro-labor underconsumptionists claim this has led to the return of deep recessions.

Severe global recessions occurred in 1974-1975, 1979-1982, and, worst of all – as of the time of this writing – 2007-2009. Underconsumptionists warn that abandoning "Fordist" policies that prevailed between 1948 and 1973 could end in another 1930s-style economic collapse or "Great Depression."

During the 2007-09 crisis and the election of Barack Obama in 2008, at the very height of the crisis, there were hopes that the capitalists had learned the lesson underconsumptionists were trying to teach them. They hoped for a return to the "Fordist" high-wage policies that reconciled the interests of "capital and labor." The capitalists, however, failed to learn the lesson. Instead, they used the mass unemployment produced by the 2007-2009 crisis to drive wages even lower and launch a new series of "austerity plans."

'Fordism,' myth and reality

However, the term "Fordism" is never used in the above sense in Ford's own country, the United States of America, for a good reason. The "enlightened industrial capitalist" Henry Ford had a certain German friend and admirer. His name was Adolf Hitler, and the admiration was mutual.

Ford and Hitler saw eye to eye on the "Jewish Question." Ford, like Hitler, was an extreme anti-Semite who published tracts on the Jewish question that won Hitler's praise. Less well known today is the fact that Ford agreed with his German friend on the trade union question as well. Once he came to power in Germany in 1933, Hitler wasted little time suppressing all genuine labor unions.

Ford brutally resisted the unionization of his factories. While General Motors and the other automobile bosses agreed to recognize the United Auto Workers after the mass sit-down strikes of the mid-1930s, the pro-Hitler Ford refused. Instead, he used his brutal Ford Service System, a Gestapo-like private police force, to spy on, fire, and beat up anybody who was seeking to organize a union in Ford's plants.

The UAW and other U.S. labor militants used the word "Fordism" to describe Ford's stubborn refusal to recognize the right of his workers to organize an independent union to represent their interests and bargain collectively. This indeed is the real "Fordist" model. Ford only recognized the UAW in 1941 when the U.S. government pressured the old industrial tyrant to do so in the interests of wartime "national unity."

Did Ford earn profits by paying his workers relatively high wages?

In reality, Henry Ford never realized a penny in profit by selling his cars to his workers, nor did any other industrial capitalist. At most, Ford merely recouped part of the money he advanced in wages when he sold his cars to his own workers.

Suppose Ford sold all his cars to his workers, which is far from true. The money he spent on wages would have flowed back to him in the form of sales – no losses here but also no profits. In Marxist terms, this would have enabled him to realize only his variable capital or the labor power he purchased from his workers to produce his autos. No matter what this amount of money was, it would have earned back only a portion of his cost price – the portion of the cost price represented by his "labor costs."

However, the "price of labor" only covered a portion of the costs that Ford incurred when he produced a Model T. In addition, there were his other "prime costs" such as raw and auxiliary materials–for example, the electricity to power his huge plants. He also had depreciation costs on his gigantic factories, such as the River Rouge plant, his machines on his assembly lines, and the lathes, mills, and presses in his machine shops.

If he had only realized his "variable capital" and nothing else – the case if he had sold all his cars to his workers – he would not only have failed to realize a penny of profit, he would have incurred a total loss on the capital he had to consume other than labor power. In this case, Ford would have incurred massive overall losses and would have soon gone out of business. It is sheer nonsense to say that Henry Ford made profits by paying his workers "decent wages" so that they could buy the Model T cars they were producing. To grasp this, we don't need Ricardo or Marx; we simply need elementary bookkeeping.

Whatever Ford or his hired propagandists might have claimed, Ford realized this too, as does every real-world businessperson. That is why Ford was so opposed to unionizing his plants and thought the costs of his private Gestapo were well worth it as long as it succeeded in keeping the union out.

Then why did Ford pay relatively high wages?

Ford was forced to pay relatively high wages because he would have been unable to find many workers willing to work for him if he had paid the usual low wages of his day. Keeping up with the Ford assembly line was – and is – exhausting compared to many other jobs where the pace of work is far slower. Because of the greater intensity of work, Ford was forced to pay relatively high wages if his plants were not to stand idle because of a sheer lack of workers.

Marx's theory of surplus value

To dig deeper into this subject, we must fully grasp Marx's theory of surplus value, his single most important contribution to economics.

The classical law of value held that commodities that take on average the same quantity of labor to produce exchange for other commodities that require, on average, an identical quantity of labor to produce. Or, in short, equal quantities of labor embodied in commodities exchange for equal quantities of labor. But how does this apply to the selling of workers' labor?

A big contradiction in Ricardian value theory

If workers sell their labor at its value, where does the profit come from? On average, after all, industrial capitalists are forced to buy all other commodities at their values. And if they also have to pay the full value for the labor they purchase – according to the Ricardian theory of value, labor, like any other commodity, should on average sell at its value – how can they sell their commodities at their values, and still make a profit?

Suppose, to produce a certain amount of linen, an industrial capitalist purchases 12 hours worth of labor from a worker per day. According to Ricardo, a capitalist would have to pay the worker a sum representing 12 hours of labor. In addition, the capitalist would have to purchase other commodities, such as raw and auxiliary materials – coal to run his steam engines, for example – as well as incur depreciation costs on his fixed capital.

But how, then, was the capitalist supposed to make a profit? Malthus claimed that the capitalist would just add a profit to his costs, but the logical Ricardo would have none of that. If every capitalist raised the prices of their commodities above their values, these price increases would simply cancel out, and there still would be no profit. Neither Ricardo nor his pro-capitalist supporters, nor indeed the Ricardo-inspired socialist critics who followed, were able to answer this paradox. Marx – not the right way either – hit upon the answer around 1857.

Marx, after years of wrestling with bourgeois political economy, finally realized that workers do not sell their "labor" to the capitalists but rather their *ability to work*, their labor power. In exchange for a sum of money – a wage – workers put their ability to work at the disposal of the capitalists for a certain period, such as a day or week.

Workers use the money they earn by selling their ability to work, or labor power, to purchase the commodities that reproduce their own labor power – both personal labor power and raising their children, who represent the next generation of workers. Why is it so important to distinguish between labor and labor power? Aren't we simply splitting hairs here? Not at all.

Like every other commodity, workers' labor power embodies a certain quantity of human labor – the labor that, given the current conditions of production, is on average necessary to produce the commodities the workers must consume to reproduce their labor power. We should also note that labor power is not a capitalist-produced commodity. The quantity of labor embodied in their labor power sold to the capitalists for a given period is quite different than the amount of labor the workers must perform for the capitalists in the same period.

The confusion arises because the use value of the labor power the capitalists purchase and productively consume by putting the workers to work, on one hand, and the labor the workers perform, on the other, are measured by the same unit – time.

For example, in a 40-hour week, the capitalists purchase and consume 40 hours of the worker's labor power, and the workers perform 40 hours of labor. However, we are dealing with two different things here. First, we measure a certain quantity of the *use value* – not the value – of the commodity labor power.

If wages rose so high that the workers were paid for the entire value that they produced, their labor power would have no use value for the capitalist because it would produce no surplus value. This puts an outermost limit to how high wages can rise under given conditions of production.

Second, we are measuring the amount of labor that workers must perform after they have sold their labor power.

The amount of labor that the workers perform is also measured in terms of time; in our example, 40 hours of labor.

The workers sell 40 hours of labor power as a use value and then perform 40 hours of labor. As the 40 hours of labor becomes embodied in the commod-

ities the worker is producing, it adds 40 hours of value to the commodities.

Suppose it takes only 20 hours on average – which represents the value – to produce 40 hours of labor power as a use value. In this case, the labor power that has a value of 20 hours produces 40 hours of labor.

In this case, the ratio of unpaid labor – 20 hours – to paid labor – also 20 hours – is 1 or 100%. The rate of surplus value or the rate of exploitation will be 100%. The worker will then spend half of their working day working for themselves and half of the working day working for the industrial capitalists and the other non-worker consumers of surplus value. This rate of surplus value must not be confused with the rate of profit because in calculating the rate of surplus value, we divide the surplus value only by the variable capital, but when we calculate the rate of profit by dividing the surplus value by the total advanced capital and not just the variable capital.

The difference in the amount of labor that the workers perform and the actual value of their labor power, also measured in hours of labor, represents what Marx called surplus value. The surplus value becomes profit when the capitalists realize it in money form by selling their commodities.

Therefore, the capitalists pay only for the first 20 hours of labor. The workers perform the rest of the 20 hours of labor without pay for the capitalists.

Indeed, the use value of the commodity labor power for its capitalist purchaser is that it produces a *surplus value above and beyond its own value.* If labor power does not produce surplus value, it has no use value for the capitalist.

The rate of surplus value

In our case, Marx would say the rate of surplus value is 100%. The portion of the labor performed free of charge by the workers for the capitalists – 20 hours, according to our example – is divided by the portion of labor that the capitalists actually pay for. The rate of surplus value could be higher or it could be lower than 100%. But if the rate of surplus value were to fall to zero, labor power would lose all use value to the capitalists. The capitalists would refuse to buy it. It is from the surplus value that profit and ground rent – and all the incomes that derive from these two primary incomes – arise.

Three parts of a commodity's value

As we saw in the case of Henry Ford's Model T cars, the value of a commodity can be divided into three parts. The first part is the value that is

passed to the commodity during its production from the used-up constant capital – fixed capital, raw materials, and auxiliary materials, for example, the electrical power to light the factory.

The second is the value that replaces the value of the labor power that is consumed by the industrial capitalist in the commodity's production. This is the necessary labor – the paid labor – that makes it possible for the worker to live.

Third and not least is the part of the value of the commodity that constitutes surplus value. It is this portion of the commodity's value that provides the actual motive for the industrial capitalist to carry out production.

Notice here, when we make this division, we are talking in terms of value – hours of abstract human labor embodied in the given commodity – and saying nothing at all about the *use value* of the commodity in question.

A particular commodity as a use value is destined to perform one of the following five functions.

1. As a use value it can function as an item of personal consumption for a productive (of surplus value) worker. While for the worker, it is an item of personal consumption, it plays a much larger role for capitalist production as a whole. First, when the workers consume it, it allows them to both reproduce their personal labor power as well as help raise the next generation of workers. In terms of the value of the commodity, when the workers consume it, it transfers its value both to the workers' labor power and to the developing labor powers of their children.
2. A use value might function as an item of personal consumption for newly hired productive (of surplus value) workers. Alternatively, it might function as an item of personal consumption for already employed productive (of surplus value) workers whose hours of labor have been extended. In both cases, the commodity will represent surplus value that has been transformed into additional variable capital.
3. A use value can replace used-up raw or auxiliary material or a machine that has been fully consumed in the process of production and, therefore, has reached the end of its life as a means of production. Its role is to replace the elements of the existing constant capital that have been used up. In this case, our commodity represents a part of the capitalist's constant capital.
4. The commodity may be destined to function in production as an item of fixed capital or raw or auxiliary material to be used to expand the

existing scale of production. In this case, the commodity will represent the surplus value converted into new constant capital.

5. Some of the commodities produced will function as items of personal consumption for the capitalists and other consumers of surplus value, such as landowners and clergy – Malthus's third consumers – that enable these persons to live without working. The use values of these commodities might represent necessaries like food that all people need to live, or they might represent luxury items like "fine carriages" in Ricardo's time or Gulfstream jets today. When these use values are consumed, their values disappear without a trace. Unlike the values of the commodities consumed by the productive workers, the values of these commodities can only be replaced by a portion of the surplus value produced by the productive workers. As material use values, these commodities represent the social surplus product that does not function as new means of production but instead functions as personal means of consumption of the capitalists and their hangers-on, either as necessities or luxury goods.

Commodity capital

The inventories of newly produced commodities of an industrial capitalist that have yet to be sold represent what Marx called commodity capital. When Sismondi and Malthus talked about the danger of a general glut of commodities, they had in mind the overproduction of commodity capital.

The industrial capitalists who produce commodity capital are indifferent to the use values of the commodities that make up the commodity capital. They see them simply as *values* – not use values – that are greater than the values of the commodities that made up the capital they began with.

Through the process of commodity exchange, each individual commodity will end up in the hands of its ultimate consumer. Whether the ultimate consumers are productive workers or industrial capitalists or unproductive consumers of surplus value, such as landowners, they are very much concerned with the *use value* of the commodity they purchase. A lathe, for example, cannot function as a means of personal consumption for a worker, nor could Henry Ford use a loaf of bread to cut metal in one of his machine shops.

Therefore if the capitalists are to avoid either the underproduction or overproduction of particular commodities, every commodity must be produced in the right proportion in terms of both use values and values. Only if they are will the capitalist economy be able to function optimally.

In the real world, commodities are produced in only approximately correct proportions. Even during periods of general prosperity, commodities are either being over- or under-produced at any given time, which degrades the process of (re)production to a certain extent but not enough to cause it to dissolve into general chaos. If commodities were to be produced in radically wrong proportions in either value or use value, the capitalist economy would indeed collapse into chaos.

Does a fall in the rate of surplus value lead to an expansion of the market?

Let's examine an individual industrial capitalist who produces work clothes destined to be consumed only by members of the working class. To our industrial capitalist, the work clothes that he produces will represent his commodity capital. Like all other industrial capitalists, he is completely indifferent to their use value. But to the buyers of work clothes – productive workers – the use value of the clothes is the whole point of buying them as opposed to another commodity with a different use value.

Where do our productive workers get the money to buy the work clothes? By selling their labor power. When our work-clothes capitalist sells his commodity, he exchanges it for a sum of money that in the hands of the workers, represents wages income. This money realizes all three parts of the value of our work-clothes capitalist's commodity capital, including the part that represents the surplus value. It is here that our naive if well-meaning underconsumptionists begin their analysis.

According to them, our capitalist can only sell his commodity work clothes at their full value and realize a profit because the workers are receiving incomes in the form of wages. If wages rise–or the rate of surplus value falls– our work clothes capitalist will indeed incur rising labor costs. However, the rise in wages will enable workers to buy more work clothes. Therefore, the rise in wages will be not only in the interest of the workers but also of the capitalist.

What the underconsumptionists forget is that not all commodities are produced for the consumption of the working class. Of the five possible uses of a commodity that we examined above, it turns out that only the first – supporting already employed workers – and the second – supporting newly hired workers or workers whose hours of labor have been extended – are actually consumed by the workers. The other three categories are either productively or unproductively destined for the consumption of the capitalists or other consumers of surplus value.

For example, take the example of a capitalist who produces Gulfstream luxury jets that can only be purchased by capitalists – not every capitalist but only the richest capitalists. This fellow realizes all three portions of his commodity's value – constant capital, variable capital and surplus value – by exchanging his commodity against money that represents *only* surplus value realized in money form–profit.

To such a capitalist, the higher the rate of surplus value – or the lower wages are – the greater will be the expansion of *his market* since the higher the rate of surplus value and the rate of profit, the more capitalists will be able to afford his expensive Gulfstream jets. Even our naive if well-meaning underconsumptionists will have to concede that the Gulfstream capitalist is not going to be any ally of the working class.

And then there are the capitalists who produce commodities that function as means of producing other commodities – raw materials, auxiliary materials such as electricity, builders of factory buildings, and machine producers. These capitalists produce commodities that are purchased only by other capitalists. Some of the market for these capitalists is provided by replacing existing machines. But another part of the market is provided by adding to the existing means of production.

Just as is the case with our Gulfstream capitalist, the market for these fellows will expand fastest when the rate of profit is highest, or what comes to the same thing, when the workers are most exploited. For them, the more the workers are exploited and the higher the rate of profit the higher their profits should be. More bad capitalists!

Now, let's return to our work clothes-producing capitalist – the "good" capitalist. Is he really an ally of the working class? First, he doesn't want to pay higher wages to *his own* workers if he can avoid it.

Also, is it true that a rise in wages will necessarily expand his market, as our underconsumptionists assume? Suppose wages fall, causing the rate of surplus value and the rate of profit to rise. If this happens, our capitalist will have more surplus value to transform into additional capital, including variable capital. If each worker is paid less, each worker will indeed have lower wages and be able to purchase fewer work clothes.

But if more workers are hired, won't our work clothes capitalist be able to compensate for the fewer clothes he sells to each individual worker by having more workers to sell clothes to? If the factories are expanding and hiring more workers, the market for work clothes will tend to expand for

that very reason. In addition, there might be more overtime, so even some of our workers, though they will be earning less per hour, will be able to buy the same amount of work clothes or even a greater amount of work clothes because they will be working longer hours.

So it is far from certain that a rise in the rate of surplus value or fall in the wages of workers will necessarily contract the market for our work clothes capitalist. Lower wages for the workers – a rise in the rate of surplus value – could just as well expand his market, though if it does, it will expand his market less than it will expand the market that produces commodities for his fellow capitalists, such as our Gulfstream capitalist does. And there is always the competitive advantage that our work clothes capitalist will gain through lowering his own "labor costs."

Equalization of the rate of profit

As virtually all schools of economic theory recognize, the rate of profit tends to equalize between different industries. If the rate of profit falls below the average in a certain sector of production, capital will flow out of that sector into other sectors where the rate of profit is higher. It might be true that in certain situations, a rise in wages by expanding the market for certain capitalists who sell their commodities to workers would more than compensate for the increased "labor costs." In this case, while the average rate of profit would fall due to higher wages, the rate of profits of those capitalists that sell to the workers might rise despite their own higher labor costs.

But in such a situation, the higher rate of profit earned by the capitalists that sell directly to workers will be only *temporary*. Capital in such a situation will flow out of industries that produce commodities for capitalists and into industries that produce commodities only for workers. This is highly desirable from the viewpoint of workers, and it is what the trade unions quite rightly fight for. But it won't be so good for the work clothes capitalist. Our fellow will likely find a competitor or two setting up a business to challenge him. He will be forced to lower his prices, and his profit will, at the end of the day, fall to the new lower average rate of profit. A good outcome for the workers but a bad outcome for him!

So it begins to look as if even our "good" work clothes capitalist will not be much of an ally after all.

Who buys the growing mass of commodities produced by capitalist industry?

As we have seen, a huge and growing portion of the total commodity product is purchased by the capitalists themselves, a point overlooked by underconsumptionists who wonder who buys the commodities when the consumption of workers is so constricted by capitalist exploitation.

As Marx pointed out, workers are always overproducers from their viewpoint. They can never buy back more than a fraction of the total quantity of commodities they produce. However, this does not mean that the capitalists can never find markets for the growing mass of commodities they produce. If the capitalist could not find such markets, capitalism would not only not experience periodic crises of generalized overproduction; it would not exist at all.

Capitalist consumption breaks down into two parts: commodities designed for personal consumption and commodities that replace and increase the existing means of production. The portion of the surplus value that is destined to be consumed productively breaks down into two parts. One part of this surplus value will be transformed into new constant capital – raw materials, auxiliary materials, and fixed capital – while another portion will be transformed into additional variable capital to be used to hire additional workers as well as expanding the number of hours of work available to the already employed workers.

Even the part of the surplus value that is converted into new variable capital – labor power – will be consumed *only* by the industrial capitalists. However, when the capitalists purchase the labor power of workers with a sum of money, this enables the workers to live and, as Ricardo put it, "reproduce their race [class]." The capitalists are forced to allow the workers to live because without the class of workers, there would be no surplus value.

The defenders of capitalism argue that the higher the rate of surplus value – they, of course, do not use this terminology – and consequently the rate of profit, the more jobs will be created. When capitalist politicians talk about "jobs, jobs, jobs," they really mean profits, profits, profits! We must always remember that only part of the surplus value that is converted into new capital is variable capital. In fact, an increasing portion of the surplus value that is converted into new capital takes the form of constant capital, which does not create jobs. So "jobs, jobs, jobs" not only means "profits, profits, profits," it means not so many new jobs and more accumulation of constant capital. So a more accurate capitalist slogan would be "profits, profits, accumulate, accumulate!"

So it seems that the capitalists can find markets after all for the ever-growing mass of commodities they produce. While the ability of capitalists and their co-consumers of surplus value to consume unproductively may be limited to a certain extent – though we should never underestimate the ability of the rich and super-rich to engage in purely personal or unproductive consumption – their ability to consume *productively* appears to be unlimited. Attempting to explain crises by appealing to the physically limited capacity of the capitalist class to consume won't do.

Sismondi's argument that the contradiction between capitalism's drive to increase production is limited only by the availability of exploitable resources (labor power on one hand and raw material on the other) and, therefore inevitably leads to periodic general gluts of commodities appears to be intuitively correct. The real-world history of capitalism since Sismondi's day demonstrates that it experiences a more or less severe crisis of generalized overproduction at quasi-regular intervals of about seven to 11 years.

The business cycle, as our modern bourgeois economists call it, or trade cycle, has resisted all attempts by governments to stamp it out. Governments and economists have periodically announced that the business cycle has finally been abolished or at least rendered harmless. It can be said with little exaggeration that such an announcement is one of the best indicators that a major new crisis of the generalized overproduction of commodities is not far off.

However, when we examine the arguments of the underconsumptionists closely as to why these periodic "general gluts" occur, their case seems to melt away. Clearly, something is missing in their arguments, but what is it?

CHAPTER 2
Profit Squeeze

Basic formula of capitalist production

The basic formula of capitalist production is M—C...P...C'—M'. [1] Industrial capitalists begin with a sum of money M. They must then find on the market the elements of productive capital – both constant capital (factory buildings, machinery, and raw and auxiliary materials) and variable capital (labor power), the only commodity that produces surplus value. The productive capital, both constant and variable, is represented by C.

Next, the industrial capitalist must bring the elements of C together in the act of production, represented by the letter P. During the production process, the capital of the industrial capitalist is expanded through the absorption of surplus value. Marx called this the "self-expansion of capital," or in some translations, the "valorization" of Capital.

Remember, the actual "self-expansion of capital" comes from the variable capital alone. When the production process has been completed, the capitalist possesses a sum of commodities that have a greater value than either M, the money capital, or C, the commodity elements of the productive capital that the industrial capitalist started with.

This increase in value, the surplus value, is represented by the prime sign. Marx called C' (the produced commodities that contain surplus value but have not yet been sold) commodity capital. These commodities must then be sold at their values if the industrial capitalist is to fully realize the surplus value contained within them in money form.

If this is done successfully, the industrial capitalist will possess a sum of money — M'— equal to the money the industrial capitalist started out with, plus an additional sum that represents the surplus value realized in money form – profit.

1. *Capital*, Volume II, Chapter 1: The Circuit of Money Capital https://www.marxists.org/archive/marx/works/1885-c2/ch01.htm

Notice how we find money at both the starting point of the formula and the termination point. Here we assume that all goes well and that there are no crises. But, in fact, crises are possible at each point in the process.

For example, it is possible the capitalist will not be able to find all the necessary elements of C on the market. Perhaps there are shortages of some elements of constant capital, or there might not be enough workers with the necessary skills. That is, there may be a shortage of certain types of skilled labor such as carpenters, bricklayers, or fitters.

Something might also go wrong in the production process, P, itself. [2] Finally, for some reason, it might not be possible to successfully complete the phase C'—M'. The capitalist owners of the commodities might not find buyers at all, or if they do, they might have to sell at prices so low that the surplus value cannot be fully or even partially realized.

Insufficient production of surplus value

The theory of underconsumption that we examined in the preceding chapter has put the emphasis on the C'—M' transition. In contrast, the profit-squeeze schools see the source of crisis in either the M—C phase or the P (production) phase. As I have already noted, the industrial capitalist might not be able to find enough labor power of the necessary skills at prices – that is, wages – low enough to produce a sufficient amount of surplus value to make carrying out production worthwhile.

The problem might also arise in the P phase. The resistance of the workers to capitalist exploitation at the "point of production" – for example, a strike or slowdown such as "work to rule" – might result in little or no surplus value being produced. In either case, a crisis will result.

Let's assume that the industrial capitalist cannot find enough labor power of the right type that is necessary to produce a particular kind of commodity. In this case, our industrial capitalist will not be able to fully transform the initial M to C successfully. Our industrial capitalist might then decide to hold onto their M for the time being. If the shortage of labor power affects only one or at most a few lines of production, our industrial capitalist might turn into a money capitalist for now and lend out the surplus M to other industrial capitalists through the credit system. But if the shortage of labor power affects all branches of capitalist industry, this will not work. Money will then be hoarded.

2. This is actually quite common in agriculture. Frost, drought and flooding often considerably lower agricultural production and can cause it to fail altogether.

As a secondary phenomenon, the widespread hoarding of money will give rise to both an apparent shortage of money on the one hand and an apparent generalized overproduction of commodities on the other. What appears as a generalized overproduction of commodities will really be a generalized shortage of the commodity labor power, the sole source of surplus value.

The essence of the crisis, therefore, will not be a problem of realizing surplus value but of producing surplus value. With this kind of crisis, if the shortage of labor power is removed, both the production and the realization of surplus value will again proceed smoothly. In Volume III, Chapter 15 of *Capital*, Marx even gave a name to this type of crisis. He called such a crisis the "absolute overproduction of capital." [3]

Could the cyclical crises that have marked capitalist production since 1825 be, in essence, crises of the absolute overproduction of capital? According to this theory, during the period of cyclical upswing and boom, the demand for the commodity labor power grows faster than the supply. As the boom goes on, the demand for labor power outruns the supply at existing wages. An "absolute overproduction of capital" occurs when new investment fails to increase the amount of produced surplus value.

Such a crisis may take the form of a shortage of money on one side and a generalized overproduction of commodities relative to money on the other. As the downturn takes hold, production will slump, workers will be laid off, and unemployment will soar. The general shortage of the commodity labor power will, therefore, disappear. Capitalist production will again become profitable, leading to an economic recovery that will last until, once again, the demand for the commodity labor power outruns the supply of labor, leading once again to a new absolute overproduction of capital and a new crisis.

Here, we have a cyclical movement. Since the size of the potential working-class population is growing, each cycle will reach a higher level of production before the crisis breaks out, just as happens in the real concrete industrial cycles that have occurred in the world capitalist economy since 1825.

Class-struggle theory

Another possibility is that the crisis begins during the P phase. As demand for labor power rises, workers more and more resist their exploitation by capital at the point of production. Increasingly, they refuse to produce surplus value for the bosses. As the amount of surplus value produced

3. *Capital*, Volume III, Chapter 15, Section 3, Paragraph 3. https://www.marxists.org/archive/marx/works/1894-c3/ch15.htm

shrinks, a crisis will sooner or later break out. Again, the industrial capitalists will react by hoarding money M so the crisis will appear to be a crisis of the generalized overproduction of commodities relative to a shortage of money. But in essence, in this case, the crisis arises from the class struggle between the working class and the capitalist class.

Could the periodic crises of capitalist production be rooted in this struggle? Those who give an affirmative answer sometimes call it the class struggle theory of crisis. In this way, two of Marx's main ideas, the class struggle and the periodic economic crises under capitalist production, are integrated.

Bell and Cleaver and the class-struggle theory of crises

Peter Bell and Harry Cleaver presented a version of this theory in a lengthy article that first appeared in 1982 in the Journal of Research in Political Economy, Volume 5. It was reprinted in The Commoner, Autumn 2002.[4] Before I take up the Bell and Cleaver article (which has many interesting quotes and facts about the evolution of Marx's economic ideas), I want to make the following observations.

First, the class-struggle theory of crises and demand for workers outrunning the supply are related concepts. During a period of mass unemployment, workers will tend to be far more submissive to the demands of the bosses on the factory floor than will be the case during a period of acute labor shortages. Given a situation of mass unemployment, the shop foreman, acting as a representative of the industrial capitalist, will threaten workers resisting capitalist exploitation by explaining that there are many other people out there who would like their jobs.

But if there is a general shortage of labor, it is the workers who can threaten to quit. If the shortage of labor is severe enough, workers will quickly find other jobs, perhaps with better pay and better working conditions. Indeed, under these conditions, many industrial capitalists will attempt to lure workers working for other capitalists by offering better pay and conditions. The workers will be in a good position to offer resistance to capitalist exploitation on the shop floor, thereby tending to undermine the production of surplus value.

Skilled and unskilled labor

Skilled workers are in a position to take advantage of the cyclical upswings to a much greater extent than unskilled workers. As a general rule, workers

4. Marx's T*heory of Crisis as a Theory of Class Struggle,* Peter Bell and Harry Cleaver. https://files.libcom.org/files/cleaver05.pdf

spend money, time, and effort learning a skill only if they have reason to expect considerably higher wages over their working lifetimes. For example, plumbers might be in great demand, and wages offered for this type of skilled labor will then rise. As a result, many young people will learn the plumbing trade. The number of plumbers offering their labor power on the labor market might then begin to exceed the demand for their type of skilled labor power at the prevailing wage. The wages of plumbers will then fall.

As a result, fewer people will be interested in entering the plumbing trade, and the number of workers with that particular skill will decline. In time, the demand for plumbing labor power will begin to exceed the supply, and the wages of plumbers will again increase. Therefore, as a general rule, shortages of skilled labor appear during economic upswings. If such shortages did not occur during the favorable stages of the industrial cycle, over time, the wages of skilled labor would fall to the minimum received by unskilled labor. There would be no economic incentives for young people to learn special skills, and the supply of skilled labor would dry up.

In this way, in the long run, the law of value tends to set the supply of each type of skilled labor equal to the demand of the industrial capitalists for each particular type of skilled labor power. The "reserve army of unemployed" – unemployed workers who can be drawn into production as the capitalists need them – tends to keep a lid on the wages of unskilled workers. Therefore, an economic upswing has to last much longer for the growing demand for labor power to raise the wages of unskilled workers. However, if the upswing lasts long enough, even the wages of unskilled labor will rise.

The more workers are organized into strong labor unions, the better they will be able to take advantage of favorable conjunctures in the labor market. Rising wages reduce the problem of "underconsumption," but only by striking at the very heart of capitalist production, the production of surplus value.

Indeed, this is one of the leading objections to the underconsumption theory.

But in the real world, the more wages rise, the closer is the crisis. It does no good for the industrial capitalists to sell their commodities at their values if the rate of surplus value falls to zero. There can be no question of realizing surplus value that is not produced. Where there is no production of surplus value, there can be no realization of surplus value in money form or profit. And where there is no profit, there cannot be in the long run capitalist production.

The labor market today is international

Today, we have to remember that the labor market is increasingly international. Whenever the domestic labor market shows signs of tightening, capitalist governments weaken, remove or do not enforce restrictions on immigration.

Nowadays, many tasks can even be "outsourced" over the Internet. In the real world, long before an absolute overproduction of capital occurs, a crisis of the *relative* overproduction of commodities and capital breaks out. It would take an economic boom lasting for several decades, maybe more, before anything like an absolute overproduction of capital would develop under today's conditions.

While even today, shortages of skilled labor create problems for the industrial – and other – capitalists during upswings in the industrial cycle, unskilled workers can always be turned into skilled labor through on-the-job training or automation, and a deepening of the division of labor can replace skilled labor with unskilled labor.

Therefore, there is a real problem with the attempt to reduce crises to an insufficient supply of labor power. It's been a long time since anything like a generalized shortage of unskilled labor has been observed on today's globalized labor markets. Was the labor market all that tight in the period immediately preceding the economic crisis that began in August 2007, for example?

A critique of Bell, Cleaver, and the class-struggle theory of crisis

Bell and Cleaver divide the work of Marx into two periods, the first in the 1840s and early 1850s, when, following Engels, Marx saw a generalized overproduction of commodities as the primary cause of crises. The second period begins in 1857 onward, when: "Whereas before, overproduction was the unique and only superficially understood theory of crisis," now overproduction was "both fully analyzed and allocated a much more limited role in Marx's theory." (Peter Bell and Harry Cleaver: "Marx's Crisis Theory as a Theory of Class Struggle," The Commoner, No. 5, p. 5)

But are Bell and Cleaver correct? Did Marx shift from an "overproduction" theory of crises to a "class struggle theory of crises" around 1857?

Stimulated by the economic crisis that broke out in the second half of 1857 in the United States and quickly spread to Britain and Europe, Marx returned to his economic studies with renewed vigor. He spent the fall and winter of 1857-1858 filling a series of notebooks that, many years after his death, were published under the title of the *Grundrisse*. [(5)]

It was in this period that Marx made his most important economic discovery. The capitalists, Marx now realized, do not buy the "labor" of the workers as the (bourgeois) economists held. Rather, they buy the ability of the workers to work – the *labor power* of the workers. The amount of labor that it takes society to produce a given quantity of the commodity labor power measured in terms of time is quite different from the amount of value-creating labor also measured in terms of time that workers are required to perform for a capitalist once they have sold their labor power. The difference between the amount of time that workers perform for the capitalist once they have sold their labor power and the quantity of labor necessary to reproduce their ability to work for a given quantity of time once it becomes embodied in commodities is what Marx called surplus value.

Therefore, starting in 1857, Marx saw clearly for the first time that surplus value will be produced even if all commodities, including the commodity labor power are sold at their values. From that point onward, Marx insisted that if you cannot explain surplus value – profit when realized in money – on the assumption that all commodities, including labor power, sell at their value, you cannot explain surplus value at all.

In these notebooks, Marx made many additional breakthroughs in his theory of value and money that carried him far beyond the Ricardian theory of value. The most important of these was the distinction between concrete labor, which produces use values, and abstract labor, which is the very substance of value once it becomes embodied in commodities. The *Grundrisse notebooks* are, therefore, considered to mark the beginning of Marx's mature economic writings.

Marx's later published works, *A Contribution Towards a Critique of Political Economy and Capital* itself, were based on the notebooks of 1857-1858. There is no doubt that the winter of 1857-1858 marked a major transition in Marx's economic thought. As regards economic theory, it was the most creative period of his life.

This does not mean that Marx discarded all his views on economics he had held before 1857. For example, did Marx change his view, expressed in the *Communist Manifesto*, that the general overproduction of commodities was the primary cause of the capitalist economic crises "that by their periodical return put the existence of the entire bourgeois society on its trial, each time more threateningly"?

5. *Grundrisse. Foundations of the Critique of Political Economy* (Rough Draft) https://www.marxists.org/archive/marx/works/1857/grundrisse/

As I pointed out in the introduction to this work, there is no sign of such a shift in Engels' description of cyclical crises as crises of the overproduction of commodities in *Anti-Duhring*, which was written in 1877 near the end of Marx's lifetime. Is it possible that Marx came to have a radically different explanation of the periodic economic crises that characterize the capitalist mode of production than his closest friend, Frederick Engels?

Bell and Cleaver versus Marx

Bell and Cleaver themselves provide evidence that Marx had not changed his view that the cyclical crises of capitalism are crises of overproduction when he wrote Volume I of *Capital* by quoting the following from that work:

"It is these absolute movements of the accumulation of capital which are reflected as relative movements of the mass of exploitable labor-power, and therefore seem produced by the latter's own independent movement. To put it mathematically: the rate of accumulation is the independent, not the dependent, variable; the rate of wages, the dependent, not the independent variable." (*Capital*, Volume I, Chapter 25: "The General Law of Capitalist Accumulation")

Bell and Cleaver are clearly bothered by this evidence that Marx had not changed his fundamental view on the nature of the periodic economic crises that marked the history of capitalist production from 1825 onward. They write: "While constantly cited by orthodox Marxists to show the limitation on the potential power of wage struggles, this passage seems totally one-sided. Capital accumulates and sometimes the pace of that accumulation induces rises in wages, sometimes their fall. In contemporary terms, the rise and fall of wages are determined by the changing industrial demand for labor." (p. 56)

What Bell and Cleaver see as "one-sided" is simply the application of the law of value to wages.

During the boom, the accumulation of capital accelerates, and the demand for labor power increases, making possible a rise in wages and a temporary fall in the rate of surplus value. Then, when the cyclical crisis comes, the rate of accumulation drops or even goes negative, the demand for labor power plummets, wages fall, and the rate of surplus value rises once again.

While some crises are preceded by significant falls in the rate of surplus value, this is not always the case. For example, there is no evidence that there was a significant fall in the rate of surplus value in the period preceding the crisis of 2007-2009.

Bell and Cleaver, however, believe that it is the rise in wages and the growing resistance to capitalist exploitation on the shop floor that causes the rate of accumulation of capital to drop, which causes the crisis, and not a general overproduction of commodities. The apparent generalized overproduction of commodities is the result of the crisis, according to Bell and Cleaver, not its underlying cause. Marx, on the other hand, saw declines in capital accumulation as a consequence of cyclical crises of overproduction.

Bell, Cleaver, and Say's law

Bell and Cleaver seem to be looking for an alternative explanation for crises than the one based on Marx because they don't see how such a general glut of commodities can develop. "But," they write, "if the expansion of capital based on absolute and relative surplus value strategies results in a growth of points of exchange, and in the expansion of money available to buy the output, there is no reason to think that money will be less than the value of the commodities to be sold." (p. 43) Here Bell and Cleaver are flirting dangerously with Say's law. Why, for example, will the supply of money increase in such a way that there will always be enough "available to buy the output"?

Is it simply a question of the monetary authority issuing money in just the right quantities? When he was a professor of economics at Princeton, Ben Bernanke was inclined toward this view. But starting in the summer of 2007, Bernanke, who was by then chairman of the Federal Reserve Board, found out in practice that things are not so simple. Later in this work, we will examine the economic laws that actually determine the quantity and value of money.

Are crises victories for the workers?

Bell and Cleaver write: "For workers, the most important thing about capitalist crisis is that it is, for the most part, the consequence of their struggles. The rupture of accumulation by struggle is a moment of conquest." (pp. 58-59) Like, for example, the later part of 2008 when unemployment on a global scale began to soar as millions of workers lost their jobs? I am afraid few workers would agree that the soaring rate of unemployment caused by a crisis is a "conquest." [6]

Aren't the spokespeople for big business complaining that "excessive demands" of workers are driving the economy into crisis? By resisting these "excessive demands," the spokespeople for business explain, they are doing

6. The crisis of 1929-32 in Germany led straight to the victory of Hitler and the greatest defeat that the modern working class had suffered up to that time. This crisis was anything but a victory for the working class.

all in their power to avoid economic crisis. Bell and Cleaver agree with these arguments. The only difference is that they see economic crises as victories for the workers, while most people, including workers, certainly do not welcome the arrival of economic crises.

If the weight of scientific evidence supported Bell and Cleaver's view that the defensive struggles waged by the working class under capitalism are the primary cause of the periodic economic crises that affect the capitalist economy, we would have to accept the evidence no matter what the political implications.

But does the evidence really support this? To be fair to Bell and Cleaver, they wrote these words during the deep recession of the early 1980s, which represented the final stage of the prolonged stagflation crisis that had affected the global capitalist economy during the 1970s. The decades preceding the 1970s had indeed seen huge gains for the workers, at least in the advanced capitalist countries, in terms of both wages and social insurance.

However, this was not the case during the period that preceded the crisis of 2007-2009. On the contrary, those decades saw a steady retreat on the part of the workers of both the advanced – imperialist – countries and the underdeveloped countries. Indeed, the most important political development of these years was the counterrevolutionary destruction of the planned economies of the Soviet Union and the East European countries. This represented the greatest defeat suffered by the workers' movement in its history.

If the class-struggle theory of Bell and Cleaver is correct, shouldn't these defeats have "removed" the crisis? Indeed, for several decades during the so-called Great Moderation, the spokespeople for the ruling capitalist class pointed to the relatively limited nature of economic crises during those years to make exactly this point.

To use their language, the victory of "free market" policies and the defeat of socialism, by which they meant the concessions the capitalists had granted to the working class in the post-World War II years, had ushered in a period of great capitalist prosperity with only very mild and increasingly infrequent recessions. The capitalist spokespeople predicted that capitalist prosperity would last as long as the capitalists were successful in resisting any return to a "socialist" policy of again granting concessions to the workers.

Then came the events of 2007-09.

CHAPTER 3
The Falling Rate of Profit

Is the Falling Rate of Profit the Key to Periodic Economic Crises?

Among Marxists today, the tendency of the rate of profit to fall is perhaps the most popular explanation for capitalism's cyclical economic crises, with underconsumption a distant second. In its more naive forms, this theory leaves out the question of *realizing* surplus value altogether.

Supporters of the falling rate of profit school point out that during the boom phase of the industrial cycle, technological progress, competition between industrial capitalists, and – especially – competition between industrial capitalists and the working class combine to force the industrial capitalists to increasingly substitute machines (dead labor, constant capital) for living labor (variable capital). This is all the more true as the boom nears its peak when the conditions are most favorable for the working class in the labor market.

More and more of the surplus value consumed productively by the industrial capitalists is transformed into constant capital, and less and less is transformed into variable capital-labor power. The result is a rise in the organic composition of capital and a fall in the rate of profit.

To make things worse for the industrial capitalists, the forces that tend to counteract the fall in the rate of profit and transform it into a mere tendency are more or less paralyzed during the boom. The strong demand for labor power makes it very difficult, if not impossible, to increase the rate of surplus value. If anything, the rate of surplus value may even fall, as the profit-squeeze/class-struggle school emphasizes.

In addition, the devaluation of the elements of constant capital is essentially neutralized by the strong demand for the commodities that make up constant capital – both constant fixed capital and constant circulating capital. Even if the values of these elements fall, their prices won't fall as long as demand exceeds supply at existing prices, which will be the case as long as the boom lasts.

As far as the industrial capitalists are concerned, the quantity of constant capital is always measured in terms of price. They neither care nor know what the actual labor value of their constant capital is. And it is not only the monetary value of fixed capital that grows. Booms tend to lead to a rise in the prices of raw and auxiliary materials, which make up the elements of constant circulating capital – for example, the price of oil.

The result is a further rise in the value of constant capital – in terms of prices that, to a certain extent, are independent of the changes in underlying values. As a result of the rise in the organic composition of capital during an economic boom, the falling-rate-of-profit theory holds that the rate of profit on the total social capital begins to fall rapidly. Sooner or later, the rate of profit falls so low that the industrial capitalists can no longer find new fields of investment that yield an adequate rate of profit. The falling-rate-of-profit school holds that the fall in the rate of profit, therefore, leads to an over-accumulation of capital. Industrial capitalists began to slash new investments, and the whole process of capital accumulation soon grinds to a halt.

Instead of making new productive investments, the industrial capitalists either hoard money or engage increasingly in financial speculation, including in the stock and bond markets. As productive investments decline, overproduction of commodities relative to money appears in Department I, the department of production that produces means of production. It then spreads to Department II, the department of production that produces the means of consumption. The crisis now appears to be a crisis of the general overproduction of commodities relative to money. But, according to the falling-rate-of-profit school, it is actually *a crisis of the low rate of profit*. The rate of profit is too low to maintain the normal process of expanded reproduction of the capitalist economy.

A problem for the falling-rate-of-profit school

Here, I should note a problem with the falling-rate-of-profit school of crisis theory. Most, if not all, capitalist crises since 1825 have tended to begin in the consumer goods sector – Marx's Department II – especially residential construction. Other durable consumer goods industries, such as the auto industry, which became important during the 20th century, also tend to turn down before the rest of the economy does. Recoveries also tend to begin in the industries that produce items of personal consumption, including residential construction.

The movement of the industries that produce means of production responds to changes in the industries that produce means of consumption with a lag. This is the opposite of what the falling rate of profit, as well as the profit-squeeze/class-struggle schools, would predict.

The crisis of 2007-2009 provides a good example.[1] It began in the U.S. residential construction industry as residential construction in the United States peaked in 2006. As this crisis deepened over the following year, loans for so-called subprime mortgages began to dry up, and home prices began to fall.

However, the Department I industries such as steel, other metal-producing industries, mining, and energy continued to boom until the fall of 2008. Indeed, companies in these sectors, especially energy, were making the highest profits in the entire history of capitalism through mid-2008. It wasn't until August 2008 that the crisis in residential construction and auto, as well as related industries, finally spread to the steel, metal, and energy industries.

What causes the upturn in the industrial cycle, according to the falling-rate-of-profit school?

As the boom turns into a slump, workers are laid off, and prices – at least in crises before World War II – begin to fall. Once again, the rate of surplus value begins to rise and thus offsets the fall in the rate of profit brought on

1. The system of paper money in the form of the dollar standard that was in effect during the crisis of 2007-09 exaggerated this effect. During the first phase of the crisis, which lasted from August 2007 to July 2008, many capitalists expected that the U.S. Federal Reserve System would respond to the crisis by rapidly increasing the quantity of U.S. dollar-denominated token money.

   The industrial capitalists – industrial corporations – fearing that their cash reserves were about to be sharply devalued, moved to increase their investments in constant capital before prices of the commodities that make up constant capital soared. This abrupt increase in the demand for and the prices of the means of production occurred just as the demand for items of personal consumption produced by Department II was falling dramatically in the case of houses.

   However, contrary to widespread expectations fearing a new 1970s-style "Great Inflation," the U.S. Federal Reserve Board did not significantly increase the quantity of U.S. dollar-denominated monetary tokens before September 2008. As the realization that "the Fed" was not increasing the quantity of its dollar monetary tokens starting in August 2008, industrial investment began to implode as fears of runaway inflation abruptly gave way to fears of deflation and depression. The "mild recession" affecting only Department II was transformed into the "Great Recession" that hit Department I with devastating effect.

   Then, in September, a full-scale financial panic erupted, beginning with the bankruptcy of the Lehman Brothers investment bank. The Fed responded by more than doubling the quantity of its dollar-denominated monetary tokens within a few months, beginning the era of "quantitative easing." However, the crisis increased the demand for the U.S. dollar as a means of payment and means of hoarding. The tendency for crises to break out in Department II and then spread to Department I – especially in credit-sensitive areas such as residential construction has been observed, if to a lesser degree, under the gold standard as well. This is a problem for the falling-rate-of-profit theory of crisis, which would predict the opposite.

by the rise in the organic composition of capital. Under crisis conditions, the labor market once again shifts against the sellers of labor power and back in favor of the buyers of labor power – the capitalists. The prices of the elements of constant capital – both fixed and circulating – fall, lowering the value of the constant capital in terms of money, which reflects the previous declines in labor values.

Perhaps, it is sometimes suggested by the falling-rate-of-profit school, industrial capitalists become somehow "reconciled" to a lower average rate of profit and are willing to accept a lower rate of profit on a larger mass of capital. Recovery begins and gradually builds up to a new boom as expanding industries react to one another. The fall in the rate of profit resumes and ends in a new crisis.

As is the case with the profit-squeeze/class-struggle school, the falling-rate-of-profit school sees the increase in the rate of surplus value achieved by the industrial capitalists during and immediately after the crisis as the key to the recovery. The falling-rate-of-profit school implies that industrial capitalists can keep the expansion going as long as they can increase the rate of surplus value sufficiently to offset the rise in the organic composition of capital.

The industrial capitalists might achieve this through successful union-busting campaigns or by finding new sources of exploitable labor power.

This is exactly what occurred during the closing decades of the 20th century. For example, the People's Republic of China was opened once again to widespread capitalist foreign investment after the victory of the "reform" faction of Deng Xiaoping in 1978. Then, beginning with the rise to power of Mikhail Gorbachev in 1985 and finishing up under Boris Yeltsin, who rose to power in 1991, came the dismantling of the planned economies of the Soviet Union and Eastern Europe. For the first time since 1917, capital could again exploit workers across almost the entire globe.

Marx on the falling rate of profit and overproduction

Marx wrote in Chapter 15, Volume III of *Capital*: "The rate of self-expansion of the total capital, or the rate of profit, being the goad of capitalist production (just as self-expansion of capital is its only purpose), its fall checks the formation of new independent capitals and thus appears as a threat to the development of the capitalist production process. It breeds over-production, speculation, crises, and surplus-capital alongside surplus-population."[2]

2. *Capital* Vol. III Part III, The Law of the Tendency of the Rate of Profit to Fall. Chapter 15. Exposition of the Internal Contradictions of the Law https://www.marxists.org/archive/marx/works/1894-c3/ch15.htm

This passage is often quoted by those who trace the periodic economic crises of capitalism to the tendency of the rate of profit to fall due to the growth in the organic composition of capital. Marx says the fall in the rate of profit "breeds" overproduction and crises. But he doesn't say that overproduction is identical to a fall in the rate of profit caused by a rise in the organic composition of capital. To Marx, the periodic capitalist economic crises are crises of the generalized overproduction of commodities, not crises of the "low rate of profit."

How does a fall in the rate of profit "breed" overproduction and crises? Marx does not explain it here. Indeed, if he had, he would have had to dive into crisis theory, which is exactly what he did not want to do at that point in *Capital*.

But I think we can say this much: The lower the general rate of profit, the greater must be the magnitude of capital, where the fall in the rate of profit is compensated for by the growth in the mass of profit. Large capitals imply huge factories that can very quickly increase production and thus rapidly flood the market, leading to gluts and crises.

Profit and the profit of enterprise

Also, profit proper – as opposed to rent – is the sum of interest plus the profit of enterprise. The industrial capitalists "earn" in addition to the interest appropriated by the money capitalists – all industrial capitalists are also money capitalists, though not all money capitalists (owners of money capital) are industrial capitalists (owners of productive capital) – an additional profit that Marx called the profit of enterprise. The only reason that industrial capitalists take the greater risk of engaging in industrial production as opposed to acting as mere money capitalists is the prospect of appropriating this additional profit. This implies that it isn't so much the rate of profit as such but the *profit of enterprise* that is the real motive for the production of surplus value.

Suppose the rate of profit is 25% and the rate of interest is 5%. Then, the profit of enterprise is 20%. But if the rate of profit were to fall to, say, 7%, without a fall in the rate of interest, the profit of enterprise will be only 2 %. And if the general rate of profit falls to 5%, while the rate of interest remains at 5%, the profit of enterprise falls to zero. The motive to produce surplus value disappears, and the industrial capitalists begin to turn increasingly into money capitalists.

This point is often overlooked by Marxists, though John Maynard Keynes was highly aware of it. Indeed, it is central to his *General Theory of Employment, Interest, and Money*, first published in 1936. This book forms the foundation of Keynesian economics.

Before we explore this question, we will first have to examine what exactly determines the division between interest and profit. In my opinion, no crisis theory can be anywhere near complete if it does not explain this division.

Unfortunately, this question has traditionally been ignored by Marxists. It obviously has implications for the "financialization" phenomena that has developed since the 1970s, which drew the attention of Paul Sweezy [3] in the final years of his life. However, the examination of this question belongs to a future chapter and cannot be dealt with here.

Bill Jefferies' fruitful mistake

Bourgeois economists like to sneer that Marxists have predicted 100 of the last 10 recessions. Marxists can answer that bourgeois economists, with very few exceptions, have predicted exactly zero of the last 10 recessions. This shows that even the most superficial "vulgar" Marxism is superior to present-day "orthodox" marginalist bourgeois economics.

Bourgeois economists, whether Keynesians or neo-liberals, claim that capitalism would be crisis-free if only the right policies were followed. For example, after every recession, the bourgeois economists generally "explain" that if only the Federal Reserve System – or other central banks – hadn't "tightened" so much, or if the Wall Street bankers hadn't been so "greedy" or "reckless," or if only there had been more regulation, there would have been no crisis. The bourgeois economists then praise the bankers, the corporations, the governments, and the central banks for following correct policies that will avoid the mistakes of the past – until the next crisis arrives, catching our (bourgeois) economists by surprise once again.

Marxists, on the other hand, especially during periods of extreme reaction that dominated world politics from 1978-1979, [4] hoped that an economic crisis would radicalize the workers and lead to a new era of upsurge for the workers' movement. They scan the horizon for signs of an approaching economic crisis, much like Marx and Engels did in the 1850s. Frequently, Marxists predict the approach of a crisis long before it actually arrives – though, in the end, the crisis always comes.

3. Paul Sweezy (1910-2004) was a Marxist economist, political activist, publisher, and founding editor of Monthly Review, a socialist magazine.

To his credit, the British Marxist Bill Jefferies [5] rose above this often superficial "crisis mongering" based more on wishful thinking than on a scientific analysis of the capitalist system and its crises. When the first stage of the global economic crisis of 2007-09 began in August 2007 with the initial credit market freeze-up centered around the market for subprime mortgages in the United States, the question was posed: Is the world on the brink of a new major worldwide capitalist economic crisis?

Most Marxists answered in the affirmative, while bourgeois economists claimed that world capitalism would "probably" escape with only a "slowdown" or, at worst, a mild recession with a new expansion beginning in the second half of 2008 would remain largely confined to the United States.

When the crisis began, Jefferies, basing himself on the view that it is fluctuations in the production of surplus value and in the rate of profit calculated in terms of values not prices, that determine the alteration of boom and crisis, expressed the view that a major worldwide recession *would not occur*. Any downturn that grew out of the U.S. subprime mortgage crisis and the resulting credit market disturbances, Jefferies predicted, would be a minor one and would soon give way to a renewed vigorous capitalist expansion.

Jefferies reasoned that the last few decades have seen huge defeats for the working class worldwide. As a result of these reactionary developments, vast numbers of workers, especially in the People's Republic of China, but also in the former Soviet Union and Eastern Europe, that were outside the sphere of capitalist exploitation have now been transformed into surplus-value producers, both for the emerging native capitalists of these regions and Western and Japanese corporations.

4. The year 1978 saw the rise to power of Deng Xiaoping, which represented a sharp turn to the right in the politics of post-revolutionary China. The following year saw the electoral victory of the British Conservative Party under the extreme right-wing Margaret Thatcher, who defeated the more moderate "Tory Wets" to become the leader of the Conservatives in 1975. In 1980, Ronald Reagan was elected President of the U.S., defeating the "moderate" Democratic U.S. President Jimmy Carter. Five years later, Mikhail Gorbachev was elected the General Secretary of the Central Committee of the Communist Party of the Soviet Union.

   The cumulative effect of the rise to power of such right-wing leaders not only represented a sharp shift to the right in their respective countries but in world politics as a whole. This shift to the right reflected a change for the worse in the balance of forces between the capitalist class and the working class that occurred after the end of the post-World War II economic boom that occurred between 1968 and 1973.

5. Bill Jefferies was the leader of a small British Marxist group that has since dissolved. Between 2006 and 2013, they put out a Permanent Revolution magazine. Back issues can be found at the website https://www.marxists.org/history/etol/newspape/permanent-revolution-group/index.htm

These developments have affected not only the workers in the former Soviet Union, Eastern Europe, and China but also workers throughout the world. Everywhere, the trade unions have been weakened, and the workers' political parties have been pushed back. Both the rate of surplus value and the number of workers who are available for exploitation by private capital have greatly increased.

Jefferies explained that these developments have been a powerful offset to the long-term tendency of the rate of profit to fall, and it's hard to disagree with him there. With this huge increase in the quantity of cheap labor power, the industrial capitalists have far less incentive to replace living labor with machinery, which slows down if it does not reverse the rise in the organic composition of capital. These events are indeed a powerful example of Marx's "counteracting influences" that turn the law of the falling rate of profit into the tendency of the rate of profit to fall.

Based on this rise in the rate of profit in terms of values, Jefferies predicted that a major new economic crisis – or series of crises – would not occur until a combination of the growing demand for labor power combined with a recovery of the workers' movements from the disastrous defeats at the end of the 20th century again puts downward pressure on the rate of surplus value. This will, in turn, stimulate a renewed growth in the organic composition of capital. Then and only then will a renewed fall in the rate of profit lead once again to a new era of crises and revolutionary opportunities. But with the workers' movement still reeling in 2007, it would take, Jefferies assumed, several more decades before major economic crises would again be possible.

We now know that Jefferies was wrong about the crisis of 2007-09. Far from being a minor crisis, it turned out to be – in its impact on industrial production and employment, its universal sweep and effect on world trade – the worst crisis since 1929-33. And again, contrary to Jefferies' forecast, the recovery from this crisis proved to be painfully slow. But exactly where was the flaw in Jefferies' logic? Jefferies' mistaken economic forecast points to what I believe to be the greatest weakness of the falling-rate-of-profit crisis theory, as well as the profit-squeeze/class-struggle theories.

While underconsumption theory looks only at the problem of *realizing* surplus value, the insufficient surplus value theories look only at the problem of *producing* surplus value. If the crisis problem could be reduced to the problem of producing surplus value, I believe Jefferies' economic prediction would have proven correct.

Jefferies was, of course, correct in noting that the rate of profit is the driving force of capitalist production. But he forgot that produced surplus value is not yet *profit*. Before surplus value can become profit, it must be realized in money form. If the surplus value is not realized in the form of money, as the underconsumption schools point out, there is no profit, no matter how much surplus value is produced. This is what I believe Jefferies overlooked.

As Jefferies explained, the possibilities open to the industrial capitalists of producing surplus value vastly increased during the years leading up to the 2007-09 debacle. But what about the realization of the great mass of surplus value that was being produced in the lead-up to the events of 2007-09?

To the industrial capitalists, it is not the rate of profit in terms of values but the rate of profit in terms of prices – or what comes to the same thing, in terms of money – that matters. We know from the law of the labor value of commodities that prices are determined by values – but only in the final analysis. Marx had pointed out already in his early book *The Poverty of Philosophy* when he wrote that prices tend to equal values only by constantly not equaling them.

The process by which prices are ultimately brought into line with values is a complex one, and we will have to examine this closely as our investigation proceeds. Jefferies' failure to grasp the relationship between value and price was, in my opinion, the root of his mistaken economic forecast.

Underconsumptionists and followers of the "Monthly Review School," [6] such as Monthly Review's editor John Bellamy Foster, share my opinion on this point. But as we saw in an earlier chapter, there are also big problems with underconsumptionist theories. Perhaps something other than "underconsumption" – the inability of the workers to buy back the entire mass of commodities they produce – lies behind the problem of realizing the value and surplus value contained in commodities produced under capitalism.

6. The "Monthly Review School" refers to a school of economic thought associated with the U.S. socialist magazine Monthly Review, which has been published monthly since 1949. It was founded by the renowned U.S. Marxist economist Paul Sweezy. Other writers associated with the Monthly Review School include Paul Baran, Samir Amin, Harry Magdoff, Harry Braverman, and Monthly Review's current editor, John Bellamy Foster. In addition to Marx, the school was heavily influenced by John Maynard Keynes and Michal Kalecki and was sometimes referred to as "Keynesian-Marxist." For an assessment, see "The Monthly Review School" at https://critiqueofcrisistheory.wordpress.com/responses-to-readers-austrian-economics-versus-marxism/the-monthly-review-school/

CHAPTER 4
Production and Reproduction

The capitalist mode of production and, indeed, all economic systems involve not only production but reproduction. What is the difference between production and reproduction? Let's take any factory – for example, a garment shop that specializes in belt production. In order to produce the belts, the boss – industrial capitalist – needs workers, a building, raw materials in the form of leather, electricity to run the shop's machines and provide lighting, and so on. The industrial capitalist then must combine these forces of production to produce the belts. This is an example of production.

What would happen, however, if the machines and tools used by our belt manufacturer were not replaced when they wore out, the building crumbled and was not repaired or replaced, additional leather was not available when the existing supply was exhausted, the electricity failed, and the workers' labor power was not renewed when their ability to work was exhausted?

Belt production would cease. Of course, some of these inputs would last longer than others. Generally, the human organism cannot work much longer than a 24-hour shift before it fails. In the long run, the maximum workday allowed by human biology seems to be around 16 to 18 hours.

On the other extreme, a building will continue to function even without repairs for many months and can last virtually indefinitely if it is periodically repaired. If repaired, the building is replaced little by little rather than all at once. Both methods are used in the real reproduction process. The factory building must be continually repaired, and eventually, it is torn down and replaced by a new factory building, perhaps one much better suited to the new level of technology.

The same is true of machinery, though machines rarely last as long as buildings. In the course of their lifetimes, a machine must occasionally be repaired, but eventually, it has to be scrapped and completely replaced. For production to cease, however, we don't have to wait for all the inputs to be

exhausted. Production will cease as soon as the first necessary input fails – for example, human labor power.

Suppose the boss was to keep the workers working around the clock. Within a day or so, human physiology would cause the workers to collapse at their workstations, and production would cease.

A failure of electricity would also bring the factory to a grinding halt.

Suppose that, for some reason, the machines necessary to produce the belts could not be replaced. Production might continue for many years – especially if we allow for repairs – but eventually, the machines will fail. At this point, production would also cease.

Three cases of reproduction

So any system's economic production must also, of necessity, be a process of reproduction. There are three possible cases of reproduction:

First, the forces of production might be in decline. As the workers' labor power, the raw and auxiliary materials, and the stock of fixed assets are used up, they are only partially replaced.

Second, the economy might be just reproducing itself – it is neither expanding nor contracting. As labor power, raw and auxiliary materials, and fixed capital are used up; they are exactly replaced but not expanded. This Marx described as simple reproduction.

Third, there is the case of expanded reproduction – the number of workers, the amount of raw and auxiliary materials, and the stock of fixed capital are expanding.

According to Marx, capitalism is a system of expanded reproduction and can only exist as expanded reproduction. However, in Volume II of *Capital*, where he dealt with the question of reproduction, Marx began with simple reproduction.

Why simple reproduction when, according to him, capitalism can only exist as a system of expanded reproduction? Marx pointed out that any system of expanded reproduction of necessity contains simple reproduction within it. It is not possible to understand expanded reproduction without first grasping the laws of simple reproduction.

Marx's assumptions in dealing with reproduction

Marx treated the whole question of reproduction, both simple and expanded, in Volume II of *Capital* before he developed the concept of prices of production [(1)] or the tendency of the rate of profit to fall due to a rising

organic composition of capital. These he dealt with in Volume III. Therefore, just as he had throughout Volume I, Marx assumed that commodities sell at prices that are directly proportional to their labor values. Bringing in prices of production at this point would only complicate things without changing anything of essence, so Marx only dealt with them after he had dealt with the problem of capitalist reproduction.

Marx also left out any qualitative changes in the forces of production. In Marx's models of simple and expanded reproduction, there are no changes in the organic composition of capital and, therefore, no tendency for the rate of profit to fall.

The abstraction might seem strange since Marx and Engels emphasized how competition among the industrial capitalists and between the industrial capitalists and the working class forces the industrial capitalists to increase the power of their productive forces. Why did Marx leave out such an important feature of capitalism in his analysis of reproduction?

Again, this is an example of Marx's method. Marx was abstracting – leaving out – some of the most important features of capitalist production in order to isolate and reveal the essence of the process of reproduction, both simple and expanded.

Later on, other Marxists worked into their reproduction models a rising organic composition of capital and, thus, a falling rate of profit. These models became a subject of much controversy during the first part of the 20th century and played a crucial role in the "breakdown" debate. We will examine this question in a later chapter.

1. Competition has a tendency to equalize the rates of profit among equal quantities of capital in equal periods of time. This means that what the classical economists called natural price and what Marx called the price of production – the price that society has to pay the capitalists for a given commodity of a given use value and quality – will not reflect its labor value but will be modified by the length of the relative turnover period of the variable capital involved relative to other branches of production as well as its relative organic composition of capital.

   Since only variable capital creates surplus value – profit – if the prices of commodities sold at their value – or direct price – the rate of profit would be lower in sectors of production where either the turnover of variable capital was below the average – for example, the case of fine wines aged in old chests – or the organic composition of capital was above the average. In the case where the turnover of variable capital was higher than average or the organic composition of capital was lower than average, the rate of profit would be above average.

   Since capital under the pressure of competition flows from sectors of industry where profits are below the average level to sectors where they are above average, competition transforms the direct prices into price of production. Market prices that reflect the ever-changing relationships between supply and demand, therefore, fluctuate around prices of production – or production price for short – rather than direct prices.

In this chapter, we will start by examining simple reproduction with Marx's assumptions. Under these assumptions, there is only simple reproduction: commodities sell at prices directly proportional to their labor values, and there is no change in the methods of production and the organic composition of capital or the rate of surplus value. The rate of profit, therefore, remains unchanged. There is no accumulation of capital. The size of the total capital remains unchanged, neither expanding nor contracting.

Marx also assumed that there are only two classes: industrial capitalists on one side – non-industrial capitalists are abstracted – and productive workers on the other side – workers who don't produce surplus value are also abstracted. The model assumes pure capitalism – there are no non-capitalist modes of production.

Marx reduced this pure capitalist economy to the following two equations. [2]

I. 4,000c + 1,000v + 1,000s = 6,000 means of production

II. 2,000c + 500v + 500s = 3,000 articles of consumption

The first equation represents the production of the means of production, consisting of all fixed capital and raw and auxiliary materials used up.

The second equation represents items that are produced for personal consumption, both luxury goods consumed only by the capitalists and necessary goods consumed both by the workers and the capitalists. Since there is only simple reproduction, all the profits of the capitalists are spent on consumer goods, both necessities and luxuries. The workers spend all their incomes – wages – on necessities.

The equations assume one period of reproduction; the exact length is arbitrary; let's assume it is a year. We assume that the constant capital (4,000c + 2,000c = 6,000) is consumed in the course of a year and must be replaced – reproduced – within the same year. Therefore, if the economy is to be reproduced, the output of Department I must equal cI + cII, which yields the equation cI + cII = cI + vI + sI. That is, the total output of Department I in a year must exactly equal the constant capital used up in that year.

Also, the total value of consumer goods produced in a year, 3,000 according to Marx's figures, must equal the total consumption of the workers employed in both departments of production plus the total consumption of the capitalists of both departments. Therefore 1,000vI + 1,000sI + 500vII + 500sII = 2,000cII + 500vII + 500sII = 3,000, the total production of consumer goods in a year.

2. *Capital* Volume II, Chapter 20: Simple Reproduction. Part 1, The Formulation of the Question https://www.marxists.org/archive/marx/works/1885-c2/ch20_01.htm

According to Marx's example, half of the consumer goods are consumed by the workers and the other half by the capitalists. The rate of surplus value is exactly 100%. The workers work half the time for themselves and half the time for the capitalists. The production and consumption of consumer commodities adds up to 3,000. The 3,000 represents some unit of abstract human labor measured in terms of time. Whether the unit of labor time is hours, days or months doesn't matter.

The same is true of all the arithmetic values used in the formula. They represent quantities of abstract labor measured in terms of some unit of time. Abstract labor – value – is always measured in terms of time. Indeed, if we wished, we could dispense with the arithmetic examples and use algebraic values instead. Here, notice that 6,000, to use Marx's arithmetic example, does not represent the total value of means of production in Department I but rather the total value of the means of production that are actually used up or consumed productively in the course of a year.

A source of crisis

Here, we already see a possibility of a crisis in the process of simple reproduction. Suppose a machine that represents a value of 100 of some time unit of abstract human labor lasts 10 years. Assuming it loses its value at a steady rate across its lifetime, it will lose a value of 10 every year. However, because of the nature of its material use value, it can only be replaced all at once. Assume that of the 6,000 in the annual output of Department I, half represents machines. Assume that these machines last 10 years and lose value at a steady rate. This will mean that machines used throughout the economy will lose a value of 3,000 every year.

What would happen if all the machines had to be replaced at the same time? For nine out of 10 years, the machine-producing industry would lie idle, its workers unemployed. But in the 10th year, the machine-building industry would have 30,000 in orders. Now, that's a boom and bust cycle for you!

To avoid cyclical swings in the machine-building industry, exactly 10% of all the machines in terms of value must be replaced on an annual basis, no more and no less. In the real world, this is, of course, extremely unlikely, and indeed, the machine-building industries are extremely prone to sharp cyclical fluctuations in the course of the industrial cycle. One thing that might come to the rescue of the machine-building industry during the nine out of 10 years that there are no orders to replace the existing machines

would be expanded reproduction. But here, we are assuming that there is no expanded reproduction.

Many economists, including Marx himself and John Maynard Keynes, saw in the periodic replacement of fixed capital a material basis for the length of the industrial cycle, which runs about ten years. So already, on the basis of simple reproduction, we have discovered a source of potential crisis.

How is cII realized?

During the late 19th century, Russian populists argued that capitalist industry could never develop in Russia because the world market was already used up and it would be impossible for Russian industrial capitalists to actually realize their surplus value.

The early Russian Marxists strongly disagreed with this analysis and used Marx's reproduction formulas to prove that Russian industrial capitalists could fully realize the value and the surplus value embodied in their commodities as long as certain proportions between the two departments of capitalist production were maintained. They drew the conclusion that the question of markets pointed to by the populists would be no barrier to the development of capitalism in Russia.

The young Lenin, one of the Marxist participants in this debate, observed that the real problem in simple reproduction is not the realization of the surplus value but of the constant capital in Department II – the branch of production that produces items of personal consumption – or cII. Under conditions of simple reproduction, the capitalists of Department II, consume their surplus value unproductively in the form of means of personal consumption. In order to do this, of course, they must trade among themselves – the producers of fine wines, for example, with the producers of luxury automobiles. But all this represents trade *within* Department II.

Similarly, the capitalists of Department I consume – productively – within their department, cI. Again, they have to trade among themselves, exchanging a drill press for screwdrivers, for example. This is trade within Department I. However, this is of no concern as far as Marx's diagram is concerned since it is really concerned only with the exchange between the two departments of production, not the exchanges within them.

The production of cII, remember, like the entire output of Department II consists of consumer goods, both necessaries and luxuries as far as their use values are concerned. Using Marx's example, having sold the commodities represented by 500vII and 500sII within Department II, Department II is

stuck with an excess of 2,000cII, which cannot be sold within Department II. Notice that this surplus is *not surplus value* but rather the portion of the commodity capital of Department II that contains the value of the constant capital used up in the annual production of Department II. Who will buy this surplus production that cannot be bought by either the workers or capitalists of Department II?

Department I had no problem consuming cI, but how does it consume vI and sI? Remember, the material use values represented by the symbols vI and sI, like all production of Department I, consists only of means of production. These commodities are completely unsuited for personal consumption. The industrial capitalists of Department I cannot pay their workers in drill presses and lathes, nor can they consume steel mills and oil refineries.

Fortunately for them, Department II is stuck with a surplus of consumer goods, both necessities as well luxuries fit only for the consumption of the "beautiful people." If all is to go well within the limits of simple reproduction, the value of the surplus of consumer articles in the hands of the capitalists in Department II will exactly match the surplus of commodities – both in terms of use values and values – that cannot be consumed by the capitalists and workers of Department I.

So the two departments make a trade. The Department II capitalists send the consumer goods that neither they nor their workers can consume, within the limits of simple reproduction, to the capitalists and workers of Department I. In return, Department I provides the capitalists of Department II with the means of production that replace the means of production used up by Department II during its annual production.

Translated into the concise language of algebra, we get the most important equation:

cII = vI + sI.

Many possible crises in the process of simple reproduction

This is the equation that unlocks the secret of simple reproduction. Of course, many things could go wrong and could become elements of crisis. First, the value cII – measured in terms of hours of labor – on the left side of the equation must precisely equal the value on the right side, vI + sI. If it does not, we actually have an inequality in terms of algebra and, in the real world, unequal exchange and disequilibrium.

Suppose, for the sake of illustration, cII in value terms was greater than vI + sI. Department II would then not fully realize the value of its commod-

ities in terms of the use values of the commodities of Department I. There would be a crisis of overproduction in Department II coinciding with an under-production of commodities in Department I. The industrial capitalists in Department I would tend to realize super-profits, but the industrial capitalists in Department II would realize less than the average rate of profit.

The same would be true in the converse situation, cII < vI + sI. We would have under-production of consumer goods and overproduction of producer goods. Then, it would be the turn of the industrial capitalists in Department I to make less than the average rate of profit and for the capitalists of Department II to make super-profits.

Proportionality must be in terms of both value and use value

Above, I assumed disproportionalities in terms of values but not in terms of use values. Suppose there was perfect proportionality between cII and vI + sI in terms of value, but there were disproportionalities in use values. For example, if Department I failed to produce the necessary raw materials or machinery to continue production of consumer goods at the prevailing level, we would see a physical decline in consumer goods production.

Similarly, if there was a shortfall in production of use values in Department II – for example, not enough food is produced because a harvest failure such as occurred in 1816, "the year without a summer" – there would be widespread hunger among the workers in Department I as well as Department II, and a rise in money wages combined with falling real wages, leading to lower profits for the capitalists of both departments. Therefore, if the process of reproduction is to proceed smoothly, there must be perfect proportionality in terms of both *values and use values* between the two departments of production as well as within them.

Money and reproduction

Most Marxists, when analyzing simple as well as expanded reproduction, leave out money. However, especially when it comes to crisis theory, this is a grave error. How can money be integrated into the diagram of simple reproduction?

In Chapter 3 of Volume I of *Capital*, Marx explained that the existence of a special money commodity makes a generalized overproduction of commodities possible. In the first three chapters of *Capital*, Marx explained that the commodity-value relationship of production requires a value form. This value form is exchange value.

The essence of exchange value is that the value of one commodity – the relative form – is measured in terms of the *use value* of another commodity – the equivalent form. Once commodity production reaches a certain stage of development – long before labor power becomes a commodity giving birth to capitalist production – a universal equivalent emerges. This universal equivalent is the independent form of exchange value. That is, the money commodity measures the values of all other commodities in terms of its own use value.

All forms of wealth under the capitalist system are measured in terms of the use value of the commodity that serves as the universal equivalent. The existence of a universal equivalent – money – is the reason why Say's law of markets is invalid. While it is true that, strictly speaking, it is impossible to have generalized overproduction of all commodities, it is perfectly possible to have a generalized overproduction of commodities other than the money commodity relative to the universal equivalent – the money commodity.

Many Marxists – especially those of the Second International era through the middle of the last century – as well as some bourgeois economists have attempted to explain crises in terms of a disproportionate production between Department I and Department II. These Marxists tended to ignore the question of money or even, in some cases – for example, Rudolf Hilferding (1877-1941) developed a theory of money that was actually incompatible with Marx's theory of value and money. [3]

In his classic work, "*Finance Capital,*" Hilferding imagined that money merely reflects the value of the commodities that it circulates. Not surprisingly, Marxists such as Hilferding had difficulty seeing the periodic economic crises that capitalism experiences as crises of the generalized overproduction of commodities. Instead, they tended to see crises as arising from the overproduction of some commodities backed up by a shortage of other commodities, as allowed for by Say's law.

The bourgeois economists of the Austrian School[4], who openly flaunt their support of Say's law, attribute crises to an overproduction in Department I backed up by an underproduction in Department II. The Austrians specifically deny that crises are crises of generalized overproduction. So, according to the Austrians, capitalist crises do not violate Say's Law.

Marxists who support the underconsumption theory of crises – for example, Paul Sweezy, in his 1942 book "*Theory of Capitalist Development*" – attribute crises to an overproduction of commodities in Department II.

However, if crises arise from a generalized overproduction of commodities relative to the money commodity, shouldn't such a crisis involve an overproduction in both Department I and Department II?

3. Rudolf Hilferding was one of the leading Marxist economists of the pre-1914 Second International. Born in Austria and trained as a medical doctor, he eventually moved to Germany. His work "*Finance Capital*," https://www.marxists.org/archive/hilferding/1910/finkap/, first published in 1910, is considered a Marxist classic and greatly influenced Lenin's 1916 pamphlet *Imperialism the Highest Stage of Capital*.

Within the pre-war Second International, Hilferding adhered to the Marxist center, whose chief representative was Karl Kautsky (1854-1938). In the split within the international movement that grew out of World War I and the Russian Revolution within the international workers' movement, Hilferding supported the Social Democratic tendency in opposition to the Communist International. He later served as Minister of Finance in the Weimar Republic and was murdered by the Nazi government in 1941.

It was in "*Finance Capital*" that Hilferding first put forward a non-Marxist theory of money, though in a qualified way. He claimed that a pure paper money system was possible where the state-issued paper monetary tokens would directly reflect the value of commodities rather than a quantity of the use value of a money commodity, in practice, a definite quantity of gold, measured in terms of some unit of weight.

He qualified this by saying that such a pure paper money system could not last for any period of time because gold continued to function as the main means of payment in the world market. This implies that under the post-Bretton-Woods dollar system, which Hilferding did not live to see, that paper money directly reflects the value of commodities rather than representing gold. Many of today's Marxists stubbornly defend this view, which, as we will see later in this work, leads to the view that cyclical crises are something other than the crises of the generalized overproduction of commodities.

Kautsky highly praised Hilferding's book and only gently criticized Hilferding's mistakes on monetary theory in *Finance Capital*. However, in 1912, Hilferding published in the German socialist publication Die Neue Zeit an article, "Geld und Ware (Money and Commodities)," which, far from correcting the errors made in monetary theory in *Finance Capital*, deepened them.

Hilferding claimed that under the then prevailing international gold standard, where the central bank stands ready to buy and sell gold at a fixed mint price – that is, gold bullion minted into coins of a given weight or exchange for a fixed quantity of banknotes – that the central bank was fixing the value of gold itself. Therefore, according to Hilferding, the value of gold, instead of being determined by the quantity of socially necessary labor to produce it as is the case with all other commodities, the value of gold is instead determined by the "monetary authority."

This strikes at the very foundation of Marxist value theory.

Kautsky, therefore, felt compelled to answer Hilferding in an article "Gold, Paper Money and Commodity," https://www.marxists.org/archive/kautsky/1912/xx/gpcc.htm , which even today – perhaps we should say especially today – should be read and studied very carefully by all people who are interested in the Marxist critique of political economy.

Lenin, though he largely based his own pamphlet on imperialism on *Finance Capital,* still made note of Hilferding's errors, pointing out that "In spite of the mistake the author makes on the theory of money, and in spite of a certain inclination on his part to reconcile Marxism with opportunism, this work gives a very valuable theoretical analysis of 'the latest phase of capitalist development,' as the subtitle runs." https://www.marxists.org/archive/lenin/works/1916/imp-hsc/pref02.htm

Money as a means of accumulation

According to Marx, one of the functions of money is that it is a medium of accumulation. Marx saw a definite connection between the miser of old, with his unlimited drive to accumulate gold coins in his money chests, and his successor, the industrial capitalist, with his unlimited drive to increase industrial production without limit. In both cases, we have the accumulation of wealth in the form of exchange value – measured in terms of the use value of the money commodity – without limit.

Money and simple reproduction

However, in this chapter, we are not examining expanded reproduction, which involves the expanded reproduction of capital and thus the accumulation of capital, but rather simple reproduction, which precludes the accumulation of capital. If we are to be consistent – as Marx was – we must abstract not only the accumulation of real capital – productive capital plus commodity capital – but the accumulation of money capital as well. How, then, can we work in money within simple reproduction?

To do this, Marx made an assumption that seems very strange to us today. He assumed that money as currency consists only of circulating full-weight gold coins.

In Marx's day, Britain was on the gold coin standard. Under this system, the Bank of England was required by law to exchange for every banknote equal to or larger than five pounds that were presented by a bearer for payment an equivalent quantity of full-weight gold sovereigns. However, even then, gold coins represented a relatively small portion of the circulating media. In addition to circulating gold coins, which were used largely in retail trade, there were lower denomination token coins made of silver or cheaper base metals, banknotes, and checks drawn on checkable bank deposits. Today, gold coins circulate only in the shadowy world of illegal transactions.

4. The Austrian school of marginalism developed in direct opposition to the Austrian Social Democracy. It differs from other marginalist schools in its preference for verbal arguments as opposed to mathematical ones. While the more mathematical marginalists speak in mathematical language to their fellow economists, the Austrians seek to reach a larger audience.

   These economists like to express sympathy for socialists and then go on to explain even mild social reforms will actually hurt the workers and the poor at best and, at worst, will lead to "serfdom." Well-known Austrian economists include Ludwig von Mises (1881-1973), who tried to prove a socialist economy is impossible because it could solve "the calculation problem," Frederick Von Hayeck (1926-1995) whose "*The Road to Serfdom*" (1944) claimed that social reforms would inevitably lead to "serfdom" and the U.S. economist Murray Rothbard (1926-1995) who wrote a book on the Depression claiming it was caused by government intervention.

However, there were good reasons why Marx made the assumption that currency consists only of full-weight gold coins in building his model of simple reproduction.

Marx assumed that a portion of the circulating gold coins would fall below their standard weight in the course of a year or whatever the reproduction period was. In the days when gold (and silver) coins formed at least a portion of the currency, the coins had to be withdrawn from circulation when, due to wear and tear or clipping, they fell below a certain standard weight. If governments did not withdraw these "light" coins from circulation, the currency would depreciate against gold (or silver) bullion – uncoined money metal. The resulting currency devaluation would lead to inflationary price rises in terms of the light or depreciated coinage.

Indeed, from the invention of coined money about 2,500 years ago until the World I-Depression era, when gold coins were finally withdrawn from large-scale circulation, the circulation of underweight coins was a frequent source of currency crises and inflation, much like the inflationary over-issuance – "quantitative easing" – of paper money is today.

What department of production produces money material?

Marx used the term "money material" to describe the physical substance of the commodity that functions as money – assumed to be gold bullion that plays no non-monetary role. This raised the question of what department of production should the production of money material be assigned to in Marx's two-department scheme.

Gold, in its monetary role, functions as the commodity that, in its own use value – weights of gold, also known as prices – measures the values of all other commodities. When gold also functions as a circulating medium, it acts as a monetary token representing itself in circulation, neither in its role as a measure of value nor as a circulating medium does gold function as either a means of personal consumption or a means of production.

However, when gold does not function as money – for example, in objects of art, dentistry, or electronics – it is a raw material. Gold bullion also functions as a raw material for the production of gold coins, gold coins being a form of monetary token. Therefore, Marx placed the production of gold bullion that is used for monetary purposes along with the gold to be used for non-monetary purposes in Department I, the department that produces the means of production.

Marx further assumed that all the monetary gold produced above and beyond the gold that would be used to replace the light coins in circulation would be used for non-monetary purposes.

Rosa Luxemburg, who was one of the few Marxists after Marx who did not ignore money when dealing with reproduction, argued that monetary gold, since it is strictly neither a means of production nor a means of personal consumption, should be placed in a separate Department III – the department of production that produces money material. Marx chose instead to stick to the simplicity of his two-department reproduction scheme.

But why did Marx assume that all the newly produced gold, less the gold that would function as raw material for non-monetary purposes, would be produced in exactly the amount that would replace the coins grown light in circulation? This was the only assumption Marx could make if he was to stay within the limits of simple reproduction. If the gold mining industry were to produce an insufficient amount of gold to replace the coins in circulation, there would be a shortage of currency that would disrupt circulation and, therefore, (simple) reproduction.

If, on the other hand, the gold mining industry were to produce an additional quantity of monetary gold above and beyond that necessary to replace the coins grown light in circulation, we would no longer have simple reproduction. Why is this so?

Remember, in simple reproduction, there is no accumulation of capital. But if the gold industry were to produce a quantity of monetary gold that exceeds the gold that is necessary to replace the coins grown light in circulation, we would have the accumulation of one form of capital: money capital. And to the extent we have an accumulation of capital, we are passing from simple reproduction to expanded reproduction. In simple reproduction, an increase in the means of production or the means of consumption is not allowed. Neither is an increase in the quantity of money.

CHAPTER 5
Disproportionality

Disproportionality was a popular crisis theory among Marxists of the Second International era that preceded World War I – from Engels' death in 1895 to 1914. It is less popular among Marxists today, at least judging from the Internet, where the seemingly incompatible "not enough" surplus value or "too much" surplus value/underconsumptionist theories are fighting it out.

The various disproportionate production theories attribute crises to improper proportions among the different branches of production. If they do nothing else, these crisis theories raise the question of how the law of value regulates the distribution of social labor among various branches of production under the capitalist mode of production.

Disproportionality and the anarchy of production

The insufficient surplus value families of crisis theories can be divided into subgroups, such as profit squeeze, class struggle, and falling rate of profit brought about by the rising organic composition of capital. Likewise, the disproportionality school can be divided into two broad subgroups. One can be called the anarchy of production theory. The other emphasizes the disproportions between the two great departments of production, Department I, which produces the means of production, and Department II, which produces the means of (personal) consumption.

In this chapter, we will examine the anarchy of production. The necessary proportionality between Departments I and II involves the question of reproduction, which we will begin to examine starting with the next chapter.

Capitalist production is unplanned and anarchic. Each producer – industrial capitalist – works for their own account. Indeed, the key question that political economy had to answer once it became a science was how,

despite the anarchy, the system achieved viable proportions among the different branches of production.

Each branch of production depends on other branches for essential inputs. A garment factory, for example, needs cloth, thread, sewing machines, electricity, and buildings. Indirectly, it also depends on the production of means of subsistence for its workers. Otherwise, there would be no labor power and, therefore, no surplus value.

Another example is that of computer manufacturing. Computers need circuit boards, circuit boards need chips, and chips need silicon and other metals. The industries that produce these inputs need their own raw and auxiliary materials.

Any modern economy is a complicated system of inputs and outputs. All branches of production depend on the production of the means of subsistence in the proportions adequate for the (re)production of labor power. Therefore, for production to continue, commodities must be produced in the proper proportions both in physical terms as well as, under the capitalist system, in terms of value.

Slight disproportionality will lead to crises in production. Beyond slight disproportionality, production and, with it modern society would disintegrate completely.

Law of value regulates proportionality through anarchy

Classical political economy realized that what was really involved was the need to assign the labor available to society at any given time in the proper proportions among the branches of production that produce the different material use values that are necessary to reproduce that society. This led the classical economists to the law of labor value.

Adam Smith, in his famous work "*The Wealth of Nations*," first published in 1776, explained that the fluctuations of market prices around what he called natural prices regulate production in a capitalist economy. Smith, therefore, distinguished between market prices, which are the prices you pay for commodities, and the axes around which the market prices of commodities fluctuate.

Suppose a commodity such as shoes is produced in insufficient quantities. If shoes sell at their natural price or value, demand will exceed supply. Therefore, the market price of shoes will rise above the natural price of shoes – the rise in market prices being the market's way of reducing demand

to supply. However, a consequence of the rise of the market price of shoes above the natural price will be that the rate of profit that is yielded by capital invested in shoe manufacturing will now exceed the average rate of profit.

This rise in the rate of profit above the average rate of profit for capital invested in shoe manufacturing signals the capitalists that they are deploying an insufficient amount of society's available supply of labor in the manufacture of shoes. Since each industrial capitalist is driven by the mutual pressure – competition – that they exert on one another to make a super-profit above and beyond the average rate, a growing number of capitalists will pour their capital into the shoe-manufacturing business.

Existing shoe manufacturing enterprises are expanded and new ones are established. As word spreads among unemployed workers that the shoe factories are hiring, they seek employment in the shoe manufacturing industry.

Eventually, too many shoes will be produced, and a crisis of overproduction will develop in the shoe-making industry. Shoe production now exceeds sales at existing prices, and inventories of unsold shoes begin to pile up. At this point, the shoe manufacturers must cut prices to levels below their natural price or value. Now, capital invested in shoe-making will yield a rate of profit below the average rate or even losses.

The existing shoe-making establishments curtail their output. A portion of the existing shoe-making factories close down for good, with their owners either going bankrupt or otherwise going out of business. A portion of the workforce engaged in shoe production is laid off and forced to seek employment in other industries that are hiring, where the rate of profit is above the average rate.

Eventually, shoe production falls below the demand for shoes at the existing market price. The price of shoes stops falling and starts to rise. The market price of shoes rises from below the natural price to above the natural price. Shoe production becomes not only profitable but super-profitable, and the cycle repeats.

The ever-changing conditions of supply and demand explain the fluctuations of market prices around the natural prices of commodities, but what determines the natural price itself? The answer that classical economists found, an answer that was developed most consistently by David Ricardo, [(1)] was that value, or natural price, was determined by the quantity of labor that is socially necessary to produce a commodity of a given use value and quality under the existing conditions of production.

Contradictions in the classical theory of value and price

Classical political economy made no distinction between what Adam Smith called natural price and value. Smith's successors sometimes substituted the term "cost of production" or "price of production" for Smith's natural price. Marx, after some hesitation, finally settled on the term "price of production."

This term is superior to "cost of production" because it distinguishes between the cost to the capitalist – the cost price – and the cost to society of the commodity – the price of production. The difference between the price of production and the cost of production is the profit. And behind profit, we know, lurks surplus value, the labor performed free of charge by the working class for the capitalists, landowners, and other exploiters.

In Volume III of *Capital*, Marx explained how commodity values are transformed into prices of production. A commodity sells at a price that directly expresses its value when the commodity whose value is being measured and the quantity of money material that measures this value in its

1. Adam Smith was already well aware of what is called today the "transformation problem." The "transformation problem" refers to the contradiction between the view that the exchange value or natural prices of commodities are determined by the quantity of labor that is, on average, necessary to produce them and the tendency of competition to equalize the rate of profit between the various branches of production so that capitals of equal size earn equal profits in equal periods of time.

   Smith denied the existence of constant capital, reasoning that if you go back far enough, all capital could be reduced to what the 20th-century economist Piero Sraffa (1898-1983) called "dated labor." Therefore, according to Smith, all capital is in the final analysis of what Marx called variable capital. However, Smith was well aware that capitals in different branches of production had different turnover periods.

   Smith's "solution" to the transformation problem was to assume that the determination of exchange value by the quantity of labor socially necessary to produce a given type of commodity applies only to simple commodity production.

   Under capitalist production, a different law must determine exchange value. Smith wavered in exactly what the law that determines exchange value under capitalism was. In some places, he said it was the "labor commanded" – the amount of variable capital that it could purchase – by a commodity that determined its exchange value, and in other places, he assumed that a commodity's exchange value could be determined by adding up the three types of revenues – wages, profits, and rent – that are paid out of the proceeds its sale.

   Ricardo, though not unaware of the "transformation problem," was guided by his extremely logical mind to always seek simple, logically consistent answers. He thus upheld the view that the exchange value of commodities was determined solely by the quantity of labor socially necessary to produce commodities not only under simple commodity production but under capitalism as well. He admitted that he could not explain the apparent contradiction between his law of labor value and the equalization of the rate of profit brought about by competition but believed that the answer would eventually be found. See "The Disintegration of the Ricardian School" in Marx's Theories of Surplus Value: https://www.marxists.org/archive/marx/works/1863/theories-surplus-value/ch20.htm

own use value is produced on average by equal quantities of abstract human labor. Anwar Shaikh [2] calls such prices direct prices.

Marx explained that the value of a commodity must always take the form of exchange value. The exchange value form means that value is not directly measured in terms of a quantity of abstract human labor – though that is the essence of value – but rather in terms of the use value of another commodity – the form of value.

A great deal of confusion, however, has been generated by the claim made by bourgeois economists that as a result of the demise of the Bretton Woods System between 1968 and 1973, the paper U.S. dollar has replaced gold in all its monetary functions, including its most important one – the universal measure of the value of commodities. Unfortunately, this claim has been accepted by many Marxists. In light of this situation, I think that it is necessary to replace the term "a commodity selling at its value" with the more precise term of a commodity "selling at its direct price." In this way, we keep in mind the distinction between value measured in terms of some unit of time and price – the form of value measured in terms of some measure of the weight of gold. The use value of gold is measured by some unit of weight.

Saying that a commodity sells at its direct price is, in my opinion, superior to the more traditional terminology of saying that a commodity sells at its value.

In Marxist economics, the term value always refers to a specific quantity of abstract human labor which is measured in some unit of time. However, we cannot carry around a quantity of abstract human labor in our pocket, nor for that matter, can quantities of abstract human labor be stored in the vaults of Fort Knox.

Value must always take the form of exchange value that is expressed in the use value of another commodity. In a capitalist economy, this means that the value of commodities must be expressed in terms of the use value of the money commodity. For example, the exchange value of commodities must be expressed in a quantity of gold bullion in terms of a unit of weight. Once a money commodity emerges, exchange value becomes price. Price being a specific quantity of gold – assuming gold is the money commodity – measured in terms of some unit of weight. Therefore, at any point in time, price represents a definite quantity of abstract human labor measured by some unit of time.

2. *Marx's Theory of Value and the 'Transformation Problem,'* Anwar Shaikh

MELT a common mistake

In pricing commodities, money functions as money of account. It is not physically present. Let's assume that a pair of earphones has a price of 20 U.S. dollars. A common mistake that Marxist economists make is to assume that the value of the $20.00 is determined by the value of the earphones. According to this flawed reasoning, it is assumed that if the earphones represent x amount of hours of labor, the $20.00 also represents x amount of hours of labor. This faulty view is called the monetary equivalent of labor or MELT. If that were true, the price of earphones would always equal the value of the earphones.

But in reality, the $20.00 represents a counter-value to the value of the earphone that is potentially unequal to the value of the earphones. Indeed, Marx stressed in many places that price and value are almost never equal. If the quantity of abstract labor represented by the earphones is equal to the quantity of abstract labor represented by the gold that the $20.00 represents on the open market, then the price of earphones equals the direct price of the earphones.

Therefore, it is perfectly possible, and indeed, it is almost always the case for the quantity of abstract human labor represented by a commodity and the quantity of abstract human labor represented by its price to be unequal. If this were not the case, commodity production, in general, and capitalism in particular, would be impossible since capitalism is nothing but generalized commodity production where labor power itself is a commodity. As we have seen, it is only through the deviation of the *value of the prices* of commodities from the *value of commodities* that make it is possible for the industrial capitalists who work for their own private account to "know" when "too much" of the total labor available to society is being applied to produce a given type of commodity and when too little is being applied.

A variant of MELT is to imagine that the prices of individual commodities can differ in their values while the value of the sum of prices must at all times be equal to the value of the commodities. Commodities as a whole, therefore, act as a kind of collective counter-value to a specific commodity. This view is also false. It is perfectly possible for the sum of the values of the total quantity of commodities to differ from the sum of the total values of all prices.

When we say a commodity sells at its direct price rather than the more traditional expression of a commodity sells at its value, we are reminding ourselves of these facts. A commodity sells at its direct price when the hours

of abstract human labor necessary to produce a given commodity with a given use value and quality under the prevailing conditions of production is equal to the value of the quantity of money – a given weight of gold bullion – that it sells for.

Different types of prices

As we will see, direct price is only one type of price. In addition to the direct price, we have prices of production that are defined as the prices that commodities must sell at if capitals of equal size are to realize equal profits in equal periods of time. Then, there are market prices, which are the prices at which a given commodity actually sells. There are monopoly prices that make it possible for some favorably situated capitalists to make an additional profit above and beyond the average profit.

It would be only by the rarest exception that the price of production or market prices will equal the direct price. What all these prices have in common is that they are comparing the quantity of abstract labor that a given type of commodity represents with the quantity of labor that a given weight of gold bullion represents.

If commodities sold at their direct prices, this would mean that branches of industries with above-average organic compositions of capital or with above-average turnover periods of their variable capital – like fine wines that have to be aged over many years in oak barrels – will yield to their owners in a given period – say a year – a below-average rate of profit.

The converse will be true in those industries that have a below-average organic composition of capital or faster-than-average turnover periods for their variable capital. Therefore, there appears to be a contradiction between value – Smith's natural price – being determined by the quantity of labor that is socially necessary to produce a commodity under the given conditions of production and the tendency of competition to equalize the rate of profit among all branches of production so that capitals of equal values earn equal profits in equal periods of time.

If rates of profit are to be equalized among the various branches of production, prices of production in branches of production with a higher-than-average organic composition of capital or a slower-than-average period of turnover of variable capital must exceed direct prices. Conversely, those industries with a below-average organic composition of capital or a faster-than-average turnover period of their variable capital, must have prices of production that are below their direct prices.

Because it failed to distinguish between prices of production as a form of value and value itself, classical political economy was unable to solve this apparent contradiction between the determination of the value of commodities by the quantity of labor socially necessary to produce them and the tendency of competition to equalize the rate of profit.

In fact, prices of all kinds, including prices of production, are different than values. Values are definite quantities of abstract human labor embodied in commodities measured in terms of some unit of time. Prices of all kinds, market prices, cost prices, and prices of production are measured in terms of the use value of the commodity that serves as money – for example, a weight of a precious metal such as gold. This confusion between value and price of production was one of the factors that led to the dissolution of the Ricardian school, as Marx explained in his *Theories of Surplus Value*.

To solve many problems in economic theory, especially the nature and the origins of surplus value, it is necessary to either calculate directly in terms of values – quantities of abstract human labor – or in terms of direct prices. "I repeat," Marx explained, "therefore, that normal and average profits are made by selling commodities not above, (Marx's emphasis) but at *their real values* (emphasis Marx's)." Or using our preferred terminology at their *direct prices*.

Also, notice that one commodity, the money commodity, has no price. The money commodity measures in terms of its own use value the value of all other commodities. Its value, in turn, is measured successively by the use value of all other commodities. The money commodity, therefore, has an *expanded relative form of value*, as Marx called it in Chapter Volume I of *Capital*, but it does not have a price.

In contrast, all schools of vulgar economics begin not with the assumption that prices equal direct prices but rather with the assumption of equal rates of profit in equal periods of time among the different branches of production – that is, that market prices, the prices you pay at the grocery store – are equal to the prices of production.

Illusions created by the equalization of the rate of profit and the transformation of values into prices of production

The transformation of values and direct prices into prices of production gives rise to a series of illusions. It seems to the capitalists and their vulgar economists that constant capital creates surplus value, just like variable

capital. Ricardo's opponents used the inability of either Ricardo or his supporters to explain the apparent contradiction between the law that determines the value of commodities by the quantity of labor socially necessary to produce them, on the one hand, and the tendency of competition to drive the economy to a point where capitals of equal value yield equal profits in equal periods of time, on the other, to bury the whole concept of labor value once and for all.

This was a great relief to the vulgar economists who were the hired guns of capital since the law of labor value inevitably led to the concept of surplus value as labor performed free of charge by the workers for the capitalists and other exploiters. It exposes capitalism as a system of exploitation, just like chattel slavery and feudalism before it.

If you begin with prices of production, it appears that capital, labor, as well as land, all produce value. The way was opened up for the marginalists, who claim that each factor of production produces "income" according to the value of its marginal product. The marginalists were then able to produce mathematical models that "show" how labor produces its wage, capital produces "interest," and land produces ground rent. The founders of modern marginalist bourgeois economics, the neoclassical school, then claimed that assuming free competition – no "monopolies" like trade unions, for example – no factor of production can exploit another factor of production. This is the doctrine still taught to university students today.

The debates carried out between the supporters and opponents of the Ricardian theory of value in the 1820s and 1830s still echo in our own time. Today, so-called "neo-Ricardians" – generally left-wing Keynesians – claim that Marx's solution to the transformation problem – the transformation of values into prices of production – is wrong and that the law of labor value, and with it, Marx's concept of surplus value, is invalid. The mistake of the neo-Ricardians is that they don't understand the relationship between labor value, on the one hand, and the form of value which is exchange value or price.

Essentially, the neo-Ricardians confuse Marx's perfected law of labor value with Ricardo's more primitive and contradictory version of the law of labor value. Since the neo-Ricardians don't understand Marx's law of value, they are attacking what is largely the pre-Marxist Ricardian version of the law of value as a kind of straw man. The rather misnamed "neo-Ricardians" end up repeating the arguments made by Ricardo's opponents in the 20s

and 30s of the 19th century, imagining they are demolishing Marx's law of value. Their only real advance over Ricardo's early 19th century opponents is their mathematical formalizations, which impress the "non-mathematical" public. As Anwar Shaikh showed in *The Poverty of Algebra* [3] Marx anticipated virtually all of their arguments.

To better grasp how the law of (labor) value regulates the division of labor among the various branches of production originally analyzed by Smith, let's reshape the argument in the more precise language of Marx. Unlike Smith, we must not confuse the value of a commodity – abstract human labor embodied in a given commodity of a given quality under given conditions of production – with its value form – the amount of money material measured in the appropriate use value that it exchanges for under "average" market conditions. The latter is the price of production of the commodity, not its value.

Suppose a particular commodity is produced in less than the quantity necessary for the reproduction of capitalist society – not, of course, the absolute needs of every individual member of society, which is a different thing entirely. The market price will rise above the price of production. The capitalists in that branch of production will realize a super profit, a rate of profit above and beyond the average rate of profit.

These super-profits will attract additional capital, just as Smith explained. Capitalists, driven by the pressure of competition to seek the highest possible rate of profit, crowd into the given branch of production. Production of the commodity in question will then increase until the market price drops to and then below the price of production.

Once the market price falls below the price of production and remains there for a while, capital begins to flow out of that branch of production towards branches of production where market prices exceed production prices. In the real world, capital is always moving from branches of production where profits are below average – or sometimes even negative – to branches of production where prices are above the price of production and profits are above average. Individual capitalists are not seeking the average rate of profit; they are seeking to maximize their profits. However, the individual capitalists as a whole, over time, can only make the average rate of profit.

Law of value works through minor crises

It should now be clear that capitalist production can only exist through constant overproduction and underproduction among the various branch-

3. *The Poverty of Algebra*, Anwar Shaikh

es of production. A situation where capitalist production is in equilibrium, where market prices of all commodities coincide with their prices of production, *never* occurs in practice.

It is extremely rare for any market price to coincide with its price of production. Indeed, to compute what the price of production of a given commodity is, we have to assume that all its inputs, as well as the means of substance that are consumed by the workers who produce inputs for that particular commodity, all sell at their own prices of production. Instead, capital is constantly flowing from branch to branch, flowing out of branches that are experiencing overproduction – which is made known to the capitalists by its below-average rate of profit (or even outright losses) – and toward branches that are experiencing underproduction, which expresses itself to the capitalists as branches of industry where the profit rate is above the average. Workers are being laid off in industries where market prices have fallen below the price of production and are being hired in other branches of production where market prices have risen above the price of production and super-profits are being made.

We see that crises of overproduction are indeed necessary for the very existence of capitalism. But these crises of overproduction are partial crises, the kind of crises that are allowed even by Say's law. These *partial* crises of overproduction are accompanied by offsetting partial underproduction of commodities that set in motion the flow of capital from branches of production with below-average rates of profit to branches of production with profit rates above the average.

Over time, production is kept on average in line with the actual needs of capitalist society for material use values produced in proper proportions – needs that are themselves in constant flux so that an appropriate distribution of the total quantity of labor measured in terms of time among the different branches of production is achieved.

The problem for crisis theory is to explain how these partial crises of overproduction, without which capitalism could not exist, relate to the crises of *generalized* overproduction that break out at quasi-regular intervals once capitalism achieves a sufficient level of development.

The industrial cycle can be empirically divided into the crisis that marks the end of one industrial cycle and the beginning of another that gives way first to the depression or stagnation phase, then to average prosperity, and finally, the phase of boom that precedes the next crisis. During the phase of average prosperity, capitalist production will present a picture of overpro-

duction crises in some branches offset by underproduction – super profits – in other branches. It is at this point in the industrial cycle that market prices are closest to production prices, though even then, they will never completely coincide.

During the boom phase that follows average prosperity, market prices rise above the prices of production in most branches of production so that the rate of profit averaged across industries is above the long-term general rate of profit.

Under boom conditions, older high-cost factories will tend to make the average rate of profit, postponing their eventual closure, while new state-of-the-art factories make super-profits. After the next crisis, these newer factories become the new norm, making only the average rate of profit, while the older factories make losses and are shut down.

It is important to realize that the concept of the average rate of profit doesn't simply mean a mathematical average of the individual rates of profit of the industrial capitalists engaged in various branches of production at any given point in time. To arrive at the average rate of profit, individual rates of profit must be averaged across a series of both good and bad years to include an entire industrial cycle.

Partial and general crises of overproduction

One thing that should be kept in mind is that the capitalists don't realize that a disproportion in production exists until it is signaled through changes in prices, and what really interests them is relative rates of profit. Such signals don't appear until the disproportion in production has already started. Therefore, industrial capitalists are always responding after the fact to the ever-changing demand for the commodities they produce.

While most of the commodity dearths and gluts that emerge from the daily anarchy of capitalist production are minor, it must be remembered that minor is a relative concept. If you are a shoe worker who is laid off due to a "minor" overproduction of shoes, the crisis may not be so minor to you and your family. In addition, when the anarchy of capitalist production interacts with the forces of nature, crises of disproportionality may no longer be so minor. They can take on a character that shakes capitalist society to its foundations.

Raw materials prices and economic fluctuations

In Volume III of *Capital*, Chapter 6, Marx discusses the important role that changes in raw materials production and prices play in economic fluctuations. Indeed, one theory of crises stresses the periodic underproduction

of raw materials relative to finished goods. In the concrete history of industrial cycles, high prices and shortages of raw materials relative to finished goods are signs of an approaching general crisis.

Agricultural raw materials

In industry, a rise in market prices above the prices of production, assuming a certain amount of excess capacity exists, which is often the case, will lead quickly to an increase in production. However, the same isn't true in agriculture. The natural conditions of production in agriculture generally dictate that the planting occurs at a specific time of year. Decisions by the farmers on how much of a given crop they attempt to produce, therefore, are made at planting time.

If market prices then rise due to an unforeseen rise in demand, it might take as much as a year before production can be increased. During that year, a sharp rise in the price of agricultural raw materials such as cotton could put severe pressure on the profits of the industrial capitalists who use cotton as a raw material – for example, the spinners who use cotton as a raw material to manufacture cloth. This also applies to agricultural products that enter directly into workers' consumption.

For example, if after the planting season for grain has passed, an unexpected industrial boom begins, the industrial capitalists will expand the number of workers employed. This will increase the demand for food, for which grain is a raw material, causing food prices to rise. But there will be no opportunity to increase grain production until the following planting season.

Such a rise in grain prices will drive up food prices in general – grain is also used to feed cattle and is, therefore, a raw material in meat and leather production. Rising food prices put upward pressure on money wages, even if real wages remain unchanged or even fall. The rise in money wages, in turn, squeezes industrial capitalists' profit margins.

In addition, unlike in manufacturing, the conditions of production in agriculture are dependent on weather conditions that vary considerably from year to year. Even if farmers plant the right amount, bad weather – for example, a drought or a spring frost, or untimely rains – might lead to a considerable shortfall in crops across the board, both of which enter into the wages of workers and those that function as industrial raw materials.

One historical example was the disastrous potato blight that hit Ireland in 1846. This not only led to widespread famine and depopulation on the island but also caused violent price fluctuations. First, a great rise in agri-

cultural prices led to speculative demand that drove prices even higher as merchant capitalists bought up food commodities and withheld them from the market, waiting for prices to rise still higher. The speculation was then followed by a price crash when the better harvests of 1847 led to the realization by the capitalist merchant speculators that prices had peaked, causing them to suddenly dump all their hoarded commodities at once on the market with the hope of selling off their inventories before prices fell even more.

This dragged down many commercial houses engaged in the trading of agricultural commodities. The bankruptcy of these houses and the credit crisis that it helped cause played an important role in the economic crisis that hit Britain in October 1847 and then spread around the world, leading to the revolutions of 1848 in many European countries.

Disproportionate production in the extractive industries

In the extractive industries – mining, oil, natural gas, and so on – the levels of production are determined not simply by the immediate decisions made by the industrial capitalists on a day-to-day basis as prices and profits fluctuate. Levels of production also depend on long-term exploration for new supplies of ores, oil, coal, and natural gas, which are created by the processes of nature, not human labor.

If raw material prices are low for a prolonged period – which is usually the case in the wake of major economic downturns – exploration budgets are cut. Then, if demand for mineral and energy raw materials suddenly rises due to the onset of an economic boom, it is difficult to quickly increase production sufficiently to meet the suddenly expanded demands of industry. The result will be soaring raw materials prices, which means super-profits for the raw materials producers but cuts into the profits or even wipes out the profits of large sectors of capitalist industry.

Eventually, the super-profits – profits above the average rate of profit – in the extractive industries lead to big increases in the exploration budgets for new sources of raw materials, as well as the application of new technology to find additional sources of raw material or make better use of existing sources – for example, digging deeper mines.

This rush of investment and exploration, however, tends to hit the market just as demand for these raw materials is peaking or past its peak, leading to a collapse of prices and profits in the extractive industries once again. This then leads to cuts in long-term exploration budgets of industrial capitalists in these branches of production. These successive swings of over- and un-

der-investment in raw and auxiliary materials production have major impacts on economic activity across the board.

In addition, there is always the danger that the depletion of mines, oil wells, sources of natural gas, and so on can lead to disproportionate production. Suppose that due to the depletion of oil fields, the production of oil is peaking. Society will have to find other ways to produce energy – either tar sands, coal, hydroelectric, nuclear fission (or maybe in the future nuclear fusion), biomass, solar, wind – whatever will yield the highest rate of profit to the industrial capitalists.

However, huge amounts of capital are tied up in oil refineries. Try as you will, an oil refinery cannot be used as a nuclear power plant, to generate energy directly from the sun, or to serve as a wind farm. If the movement of prices and profits indicates to the industrial capitalists that the depletion of the world's oil fields has proceeded so far that drilling oil is no longer profitable, a major crisis for those industrial capitalists will occur.

If this happens, oil refineries will lose their material use value, oil refining, and therefore no longer function as capital. They will have to be scrapped, and these industrial capitalists will lose huge amounts of capital and face the strong possibility of bankruptcy. In the event of major bankruptcies among oil refinery owners, their creditors might very well be dragged down with them. If these creditors are major banks that function as pivots of the credit system, the crisis could spread to the sphere of credit, affecting many other branches of industry and commerce.

The effects of oil field depletion might not end there. The shortage of oil and the consequent rise in the price of gasoline would cause consumers to shun the kind of gasoline-consuming monsters traditionally favored by the Detroit-based auto manufacturers.

This is exactly what we saw during the inflationary 1970s and again during the speculative surge in oil prices that preceded the 2008 crash. Much of the value of the capital invested in factories that produced these gasoline-guzzling machines had to be written off. Many factories had to be closed down, and their workers laid off. The crisis for the automakers affected many other branches of production that depend on them for customers, such as auto parts makers.

A concrete historical example

Let's examine how a major economic crisis can emerge from disproportionate production. Instead of giving an abstract example, let's examine an

actual historical crisis, the one that followed the Napoleonic wars – called by Marx the anti-Jacobin wars – in the years after 1815.

This economic crisis sparked a great debate about the possibility of a general glut of commodities between Sismondi and Malthus on one side and Say and Ricardo on the other. After years of war and high military spending, England's victory in the world war that followed the French Revolution led to a sudden and considerable curtailing of military spending.

Factories that had been manufacturing arms and uniforms suddenly found themselves without orders. On top of this, there was a run of disastrous weather caused by a drop in global temperatures that is believed by scientists today to have been caused by the eruption of Mt. Tambora in Indonesia in April 1815, which temporarily reduced the sunlight reaching the earth's surface.

The year 1816 has gone down in history as the year without a summer. Crops failed throughout North America and Europe due to abnormal rains and summer frosts. Though 1816 was the worst year, bad weather and crops continued for some years. The disastrous weather led to real famine in Europe and North America, sometimes called "the last great subsistence crisis in the Western world"[4] if you overlook the Irish potato famine of 1846.

The world capitalist economy was, therefore, hit by two major shocks. The end of the prolonged period of war meant that too much of society's available labor was deployed in the war industries compared to the quite different needs of capitalist society in "peacetime." At the same time, there was a massive underproduction of agricultural commodities due to disastrous weather. People had to pay a lot more for food and, therefore, had a lot less money left over to spend on commodities produced by other industrial capitalists.

The result was that commodities piled up in warehouses unsold. Workers faced layoffs not only in war industries caused by the outbreak of "peace" but also in other industries because the "price-shocked" population could no longer afford to buy what was being produced. Peace, famine, and depression marched hand-in-hand.

It was in the middle of these disturbances that Sismondi published his *Nouveaux Principles*, in which he expressed the belief that capitalism was producing "general gluts" of commodities.

4. See the book with this title, The Last Great Subsistence Crisis in the Western World, John D. Post, Johns Hopkins University Press, 1977.

Ricardo on the crisis

According to Ricardo, the post-1815 economic crisis was caused by a "sudden change in the channels of trade" brought about by the end of the prolonged war.

This crisis was caused by what bourgeois economists today call "external shocks." For example, the unseasonable summer rains and frosts would have led to major crop failures even if another mode of production than capitalism had been in place. Crises such as this are not only not general overproduction crises – in 1816, it was a general overproduction of manufactured items and a general *underproduction* of agricultural commodities. In addition, this crisis involved accidental factors such as unusual weather patterns caused by a volcanic eruption, combined with the end of the prolonged world war that followed the French Revolution.

The end of the war brought about a "sudden change in the channels of trade," as Ricardo put it. In any pre-capitalist mode of production, a major crisis would also have occurred due to massive crop failures. Even for a socialist economy, a natural disaster affecting large areas of the globe, such as occurred in 1816, might be a challenge. Therefore, Ricardo and Say were able to claim against Sismondi and Malthus that in the absence of "an external shock" to the economic system, a general economic crisis or glut of commodities could never occur.

But the quasi-regular succession of what began with the crisis of 1825 and continues down to the present day implies that most crises since then are not mere accidents but rather arise from some regular recurring pattern that arises from *within* the capitalist economy. Even in the absence of outside shocks, capitalism still experiences crises of the general overproduction of commodities at about 7- to 11-year intervals. Therefore, these periodic crises of general overproduction are not accidents, though all real-world crises are influenced by accidental factors.

The crisis of 1825 was a new type of crisis

If we look at the concrete history of business and trade before 1825, we find years of bad trade and high unemployment were generally accompanied by bad harvests. When the harvest was bad and food prices were high, most people, except for the very rich, simply didn't have the purchasing power to buy manufactured commodities that they had bought in good years when food prices were low.

While the trend line of business was far from smooth, and years of recession and higher-than-usual unemployment occurred, the fluctuations were tied to alterations of good and bad agricultural years. Early capitalism's economic crises were not caused by a general overproduction of commodities but rather by an underproduction of agricultural commodities. They can be traced back to causes external to the capitalist economy, such as bad weather causing crop failures.

The crisis of 1825 versus the crisis of 1815-1816

The crisis of 1815-16, which is the last of the "old type of crisis," was traceable to the sudden reduction of military spending at the end of the Napoleonic war, followed by the 1816 "year without a summer" and the resulting harvest failures. In contrast, the crisis of 1825, according to Wikipedia, "has been referred to as the first modern economic crisis *not attributable to an external event*, (emphasis added –SW) such as a war, and thus the start of modern economic cycles." If we can find no external cause for the crisis, it must be internal to the capitalist economic system.

Though changing levels of production and prices of agricultural commodities and other raw materials continued to play an important role, drops in industrial production were observed at the end of both World War I and World War II that were clearly associated with the end of wartime military spending, crises from 1825 onward are not so closely associated with harvest failures. Instead, the new type of economic crisis follows periods of exceptional prosperity – booms – in capitalist industry.

Crises, both crises of overproduction of some commodities backed up by crises of shortages of other commodities, occur on a virtually daily basis under the capitalist mode of production and appear to be random, accidental events. Indeed, without these daily partial gluts and partial dearths, the law of value could not function, and therefore, capitalism could not exist at all. Even Say admitted as much.

But how do general crises of overproduction emerge as part of a regularly recurring pattern from the anarchy of production? Many Marxists have tried to answer this question by looking not at the accidental daily gluts and dearths of particular types of commodities but rather at the relationship between the two main departments of production as defined by Marx – Department I, which produces the means of production, and Department II, which produces the means of consumption. This brings us to the question of reproduction.

CHAPTER 6
Expanded Reproduction

According to Marx, the capitalist mode of production can, in the long run, exist only as a system of *expanded* reproduction. However, expanded reproduction can only take place if certain proportions are maintained between Department I, which produces the means of production, and Department II, which produces the means of (personal) consumption. These proportions must be maintained in terms of both use value and value.

Marx's basic assumptions

Marx developed his tables of expanded reproduction in Volume II of *Capital* from the tables of simple reproduction. As with simple reproduction, Marx assumed that society consists of only two classes: industrial capitalists and productive of surplus value workers. As was the case with the tables of simple reproduction, the rate of surplus value is 100%. The workers work half the time for themselves and half the time for the industrial capitalists.

The tables of expanded reproduction deal only with the capital used up in the annual reproduction process plus the newly accumulated capital. The ratio of $^5/_6$ constant capital to $^1/_6$ variable capital is preserved. In the tables, the capitalist economy is allowed to grow in size but remains qualitatively unchanged. We have a dynamic equilibrium of economic growth. Marx assumes that half the surplus value is transformed into new capital – that is, capitalized. The other half is consumed unproductively by the capitalists.

Here is a big difference between expanded and simple reproduction. In simple reproduction, the capitalists consume all the surplus value unproductively. The existing capital is reproduced, but there is no accumulation. In the tables of expanded reproduction, Marx introduced accumulation of capital in the framework of reproduction. He developed the following set

of equations. The first equation represents Department I and the second Department II. [1]

5,000Ic + 1,000Iv + 1,000Is = 7,000

1,430IIc + 285IIc + 285IIs = 2,000

Let's start with Department I. There is 5,000 worth of constant capital consumed and 1,000 worth of variable capital. Since the rate of surplus value is 100%, the surplus value is also 1,000. Adding these numbers together, we get a total annual output of 7,000 means of production. Half of the surplus value of 1,000 will be accumulated, transformed into new capital during the next annual cycle, and half will be consumed unproductively by the capitalists.

The second equation represents the production of Department II, the means of consumption. The constant capital that will have to be replaced is 1,430, the variable capital is 285, and the surplus value is 285.

To preserve the existing ratio of constant to variable capital required by his method, Marx had $^5/_6$ of the newly created capital in Department I ($^5/_6$ x 500) transformed into constant capital and ($^1/_6$ x 500) accumulated as new variable capital. This comes to about 417 new constant capital and 83 in new variable capital.

Since only variable capital produces surplus value and the rate of surplus value is 100%, the surplus value produced by Department I will rise in the next annual reproduction cycle from 1,000 to 1,083. This calculation is straightforward. The real problem is, how much does Department II have to increase its production to maintain the conditions of expanded reproduction?

Now, the 5/6th of the 500 in surplus value to be converted into new constant capital remains within Department I. That leaves $^1/_6$ of 500 of the surplus value accumulated by Department I as additional variable capital. This comes to 83 in new variable capital. However, this new potential variable capital is made up of commodities whose material use values consist of means of production.

The workers of Department I cannot be paid in means of production; they must be paid in means of consumption. To obtain the necessary means of consumption, Department I must enter into exchange with Department II. The problem that must be solved is how much does the constant capital of Department II have to expand to maintain the equilibrium between Department I and Department II. The key to the solution is the equation cII = vI + sI. Simple reproduction is contained within expanded reproduction.

1 *Capital*, Volume II, Chapter 21: Accumulation and Reproduction on an Extended Scale, Part 2, III. Schematic Presentation of Accumulation,

The second equation, which represents the production of the means of consumption, has 1,430 of constant capital; 285 of variable capital;[(2)] and, since the rate of surplus value is 100%; 285 in surplus value. We, therefore, have a total annual production of 2,000 means of consumption before expanded reproduction begins.

Notice that IIc has a value of 1,430. However, Iv has a value of 1,000 and Is also 1,000. Now, here is where simple reproduction is contained within the expanded reproduction. Following Marx's assumption, divide 1,000 by two to get half of what is consumed unproductively by the capitalists of Department I. Remember, the entire output of Department I consists of use values that are totally unsuitable for personal consumption.

Here, we notice an inequality. Department I is overproducing by 70 relative to the needs of simple reproduction, as illustrated by the expression 1,430cII < 1,000vI + 500sI. Department I needs an additional 70 in terms of means of personal or unproductive consumption for the capitalists of Department I. Department I will also need an additional 83 in terms of means of consumption – wages – for the additional workers it must hire.

But before the exchange takes place with Department II, the 83 exist only in the form of means of production totally unsuitable for consumption by the newly hired workers of Department I. So, Department I will need a total of 70 (increased unproductive consumption for the capitalists of I) + 83 (for wages for newly hired workers of I) in consumer goods. To meet this additional demand for consumer goods from Department I, Department II must, in the next annual cycle of reproduction, increase from 1,430 to 1,583.

So in the next year – or whatever the reproduction period is – cII has to rise from 1,430 to 1,583. Now, what about the next term in the second equation, 285vII? Like in Department I, there is $^5/_6$ constant capital for every $^1/_6$

2 The sub-department of Department II that produced means of consumption for the workers doesn't directly produce variable capital. What it does produce is the value that is embodied at first in the means of consumption but then is transferred to the worker's ability to work when it's consumed by the workers.

This transfer involves two processes. One involves the ability of the current generation of workers to keep on working. The second allows the current generation of workers to raise a new generation of children who are in the process of forming the labor powers that will produce surplus value in the future. The labor power of the workers becomes variable capital only after it has been sold to the industrial capitalists and put to work, both replacing its own value and, most importantly, from the viewpoint of the capitalists producing surplus value.

However, the value that makes up variable capital is indeed produced by the workers who produce the means of personal consumption destined to be consumed by the (productive of surplus value) workers.

variable capital. To maintain this ratio, Marx calculated 20% of 1583 (1/6 is 20% of 5/6), which he rounded down to 316.

The additional variable capital (316 – 285), or 31, is deducted from sII just like the additional 153 in cII is. Since the rate of surplus value is 100%, this means that sII will also be 316 in the next reproduction cycle. Therefore, production of means of consumption must rise from 2,000 to 2,215 (2,000 + 153 + 31 + 31).

Marx continued the calculation through year – or production period – four, the results of which are reproduced below.

Year 2: 5,417c + 1,083v + 1,083s = 7,583 and 1,583c + 316v + 316s = 2,215

Year 3: 5,869c + 1,173v + 1,173s = 8,215 and 1,715c + 342v + 342s = 2,399

Year 4: 6,358c + 1,271v + 1,271s = 8,900 and 1,858c + 371v + 371s = 2,600

As previously indicated, Marx kept the organic composition unchanged in the above calculations. If we add a rise in the organic composition of capital, certain basic laws of motion of capitalist production arise.

If vI is allowed to grow more slowly in percentage terms compared to cI, which will be the case if the organic composition of capital is rising in Department I, all other things remaining equal, cII will also have to grow more slowly if the proportionality between Departments I and II is to be maintained. A rising organic composition of capital means a fall in the rate of profit, the rate of surplus value remaining unchanged.

Since the organic composition of capital can be expected to rise over time, we would expect that Department I – the production of means of production – will grow faster than Department II – the production of means of consumption – and the rate of profit will fall assuming the rate of surplus value remains unchanged.

For reasons of method, Marx did not extend his tables in Volume II to illustrate these laws. He didn't introduce the tendency of the rate of profit to fall based on the rise in the organic composition of capital until Volume III.

Only after he had written Volume III could Marx have produced tables that would illustrate expanded reproduction with a rising organic composition if he was to remain true to his method. As far as is known, Marx never actually developed tables illustrating expanded capitalist reproduction with a rising organic composition of capital. However, he provided future generations of Marxists with all the necessary tools to do so.

The tables of expanded reproduction and crisis theory

As with the case of simple reproduction, if things are to proceed smoothly, proportionality must be maintained in both value and use-value terms.

There are plenty of opportunities for things to go wrong here and for crises of various types to develop in the reproduction process. Since capitalist production is not planned production but develops through competition and anarchy, such crises and disturbances are not only possible but inevitable.

Money and expanded reproduction

Again, the great majority of Marxists who have dealt with reproduction, whether simple, expanded with an unchanged organic composition, or expanded with a rising organic composition of capital and a falling rate of profit, have ignored the question of money. As we have seen before, as long as we abstract money, we remain stuck in the world of Say's law. There can be no general overproduction of commodities.

We can have an overproduction in Department I relative to Department II or an overproduction in Department II relative to Department I. But as long as we leave out money, we cannot have a general overproduction of commodities in both Department I and Department II.

For example, Department II might consume the value of its fixed capital for a while at a rate faster than Department I is producing replacement fixed capital. This is possible because, while the value of fixed capital is steadily consumed more or less, the use value of the fixed capital must be replaced all at once. Therefore, if Department II consumes the value of fixed capital at a pace faster than Department I can replace its value and use value; the point will be reached where Department II will find it is unable to fully replace its used-up fixed capital, let alone expand it. This would certainly produce a crisis in the reproduction process.

But this crisis would not be a crisis of generalized overproduction. Rather, it would be a crisis of the underproduction of elements of fixed capital relative to the demand for fixed capital from Department II. This would cause production to fall in Department II as the fixed capital of Department II physically wears out – that is, Department II would have overproduced relative to its supplier, Department I. This is the sort of crisis allowed by Say's law.

Marx, however, did not abstract money. In the case of simple reproduction, Marx assumed that the gold-producing and refining industries produced just enough gold to replace the gold that was lost due to the wear and tear of the circulating gold coinage. With expanded reproduction, this level of gold production would not be sufficient. It would be necessary – using Marx's assumption that currency consists only of full-weight gold coins – that the annual gold production not only cover the replacement of the wear

and tear of circulating gold coins but additional gold must be produced – after deducting the rising quantity of gold that is used for non-monetary purposes – to circulate the rising quantity of commodities produced in both Department I and Department II.

This would be true unless there is a preexisting surplus of gold coins on hand – a reserve fund. Even in this case, expanded reproduction would sooner or later require the production of additional gold for coins once the surplus gold coins have been fully absorbed into circulation as expanded reproduction continues.

Today, gold coin currency is largely limited to underworld or illegal transactions. In modern capitalism, bank-created credit money – checkbook money based on the legal-tender paper currency created by the monetary authorities known as central banks – functions as the circulating media. This was largely true even in Marx's time, though gold coin currency played a considerably larger role than is the case today.

In modern currency systems, it seems that the state and its "monetary authority," along with the commercial banks, always create enough currency to ensure that the needs of expanded reproduction for additional means of circulation can be fully met.

Therefore most later Marxists simply abstract the question of the production of money material when dealing with either simple or expanded reproduction. Before we can answer the question of whether we can ignore the question of the production of money material when dealing with expanded capitalist reproduction, we will have to examine Marx's theory of money and currency, which is found not in Volume II of *Capital* but at the very beginning of Volume I. This will be the subject of the following chapters.

Expanded reproduction and the evolution of Social Democracy

As the Marxist movement gradually assimilated Volume II of *Capital* in the early years of the last century, crisis theories based on disproportionalities between the two departments of production became widespread. This was the era of the Second International before World War I and the Russian Revolution. In this era, virtually all Marxists, including Vladimir Ilyich Lenin and other future leaders of the Russian Revolution, called themselves "Social Democrats."

Unlike in the years after the Russian Revolution, the term Social Democrat did not necessarily mean reformist. In those years, while some Social

Democrats were indeed reformists, others like Lenin and Rosa Luxemburg, active in both the Polish and German Social Democratic movements, were revolutionaries – communists in later terminology. In addition to the revolutionary wing on the left, represented by Lenin and Luxemburg, on the right were "revisionists" such as the German Social Democrat Edward Bernstein, who was already openly reformist. A broad "center" also wavered between the two poles. This center, which included such figures as Karl Kautsky, Rudolf Hilferding, and Otto Bauer, made valuable contributions to Marxist theory, especially in the field of economics, but tended toward reformism in practice.

This period, outside of Russia, was not yet revolutionary. In Western Europe, as well as the United States, these years were somewhat like the first 25 years after World War II, when great capitalist prosperity prevailed. In addition, monopoly capitalism/imperialism, with its super-exploitation of the rest of the world, had become dominant. Consequently, revolution did not seem to be on the immediate agenda.

Prosperity meant that there was a great and growing demand for the commodity labor power. This encouraged the rapid growth of the workers' movement in Western Europe and, to a lesser extent, even in the United States, both at the labor union level and the level of the Social Democratic parties of the Second International. These parties were making great gains in elections, and a Social Democratic majority in the German Reichstag, or parliament, seemed to be only a matter of time.

The "progressive" but not revolutionary political atmosphere in the regions lying to the west of the czar's empire encouraged both the development of Marxist theory on one hand and reformist practice on the other. These were the conditions that gave rise to the centrist current in the international Social Democracy.

It is true that disproportionalities between the departments of production – as well as disproportionalities within them – can give rise to crises of various kinds. However, such crises can be seen as mere accidents. Therefore, the more reformist-leaning Social Democratic theoreticians held out the hope that as capitalism became more "organized" through the growing power of the banks, trusts, and cartels, the anarchy of production that marks capitalism would grow less intense.

The result would be, the reformists hoped, that crises would become milder as capitalism was gradually transformed into a planned economy

through a process of evolution, not revolution. This, combined with the growth in the power of parliaments and the growing number of Social Democrats elected to parliaments, would mark a gradual evolutionary transition from rule by the exploiting capitalist minority to the socialist working-class majority. Like capitalist exploitation itself and ignoring the growing super-exploitation of the oppressed countries, the reformists expected that crises, wars, and revolutionary uprisings would simply fade away.

Marx's reproduction formulas and the breakdown theory

As explained above, Marx carried out his calculations over four periods of expanded reproduction. But, in principle, the reproduction formulas can be continued to infinity as long as the rules of expanded reproduction are adhered to. Here, capitalism appears as an economic system without limits, even if accidental disproportions result in crises along the way.

The reformists within and around international Social Democracy were delighted. They thought they had won a great victory over the revolutionary wing of the Social Democracy with the help of Marx himself! The reformists believed that Marx had proved that capitalism could, in theory, last forever! And he had done so in a much more convincing way than the bourgeois economists themselves!

In this period, tendencies arose within Russian Marxism influenced by the reformist and centrist currents west of the Russian Empire. The first Russian Marxists had split with the Russian Populists on the issue of whether capitalism could develop at all in Russia.

The Russian Marxists used Marx's reproduction tables to prove that capitalism could and indeed would develop in Russia. As long as the proper proportions were maintained between Department I and Department II, all the value and surplus value produced by the capitalist economy could be realized. The problem of adequate markets – though perhaps not entirely without frictions and the occasional crisis – would be solved by maintaining the correct proportions between Department I and Department II. As capitalist industry continued to grow in Russia and capitalist relations spread in agriculture, the Russian Marxists felt vindicated.

The Marxist majority of Russian Social Democracy in those years, though divided on other questions, did not believe that Russia was on the eve of a socialist revolution but instead a bourgeois democratic revolution. The revolution approaching in Russia would sweep away the czarist autocracy and

feudalism and thus provide far better conditions for the further development of Russian capitalism and the development of the workers' movement. Only after Russian capitalism had reached a high degree of development would the transition to socialism in Russia be on the agenda.

Bourgeois Russian Marxism

Marx, therefore, appealed not only to early representatives of the Russian proletariat but also to certain representatives of the rising bourgeoisie. These bourgeois Russian Marxists converted Marx into a prophet of capitalism. [3] Many representatives of the developing bourgeois Russian intelligentsia believed Marx had proven in Volume II of *Capital* that capitalism could expand without limit. Hadn't Marx shown that markets would not be a problem as long as the correct proportions of production were maintained? And that the correct proportions of production would arise through the normal process of capitalist competition?

Though there would be inevitable crises along the way, the bourgeois "Marxists" argued, in the long run, the limits of the market were the same as the limits of production. Though Russia's capitalist development was belated relative to that of Western Europe, the U.S., and even Japan, that would not be a problem. There would be plenty of markets to go around for all the capitalists, both old and new.

These bourgeois Russian Marxists were sometimes called "legal Marxists" since they adapted to czarist legality. Mikhail Tugan-Baranovsky, a liberal Ukrainian economist who was close to Russian legal – or bourgeois

3) All the great revolutions of history have always appealed to the idealism of the masses of people who are involved in the revolution. They believe that a truly just society – however "just" is imagined in the given epoch – will be realized at last. But capitalism, with its division of society into ultra-rich capitalists and the far more numerous masses of the very poor, is not the type of society that revolutionary-minded people of any epoch would consider a just society. This is where "bourgeois Marxism" stepped in, not only in Russia but in many other countries as well, that passed through bourgeois revolutions over the last century.

The bourgeois Marxists explain that Marxism proves that since the material conditions for a socialist society do not yet exist in a country, they must be created. And the means of creating them, the bourgeois Marxists explain, is capitalism. Therefore, capitalism is the immediate aim of their revolution. That creating the conditions for the growth of capitalism is supposed to be the material foundation for socialism. However, it will take a period of generations before capitalism can create the material foundations for socialism, especially in a "backward" country. Therefore, socialism can't be realized, they say, until you and your children, maybe even grandchildren, are long dead. Until then, why not enjoy capitalism?

Such "bourgeois Marxism" melts away very rapidly as soon as the working class raises its head, and "way too early" struggles against capitalist exploitation lead to the struggle for socialism in the here and now.

– Marxism, used Marx's reproduction tables to prove that capitalism in general and Russian capitalism, in particular, had a bright future ahead of it. It didn't matter how much capitalism expanded or even how high the organic composition of capital rose as long as the right proportions were maintained between Departments I and II. Just as Say and Ricardo had explained a century before, supply would create its own demand.

Rosa Luxemburg sounds the alarm

Rosa Luxemburg was alarmed. In her struggle against the German "revisionists," Luxemburg had depended heavily on a view widely shared in the early German Social Democracy that capitalism had a built-in tendency toward economic collapse. In *Reform or Revolution*, Luxemburg had foreseen a declining phase of capitalism that would set in when the ability of the world market to expand was finally exhausted.

Reform or Revolution, the first edition published in 1898, was written during a lull in worldwide capitalist crises. Luxemburg pointed out that the early crises – the ones from 1825 to 1866 plus the Panic of 1873 – had been preceded by major expansions of the world market. But she predicted the crises that would mark the declining phase of capitalism would occur against the background of a world market that would increasingly be losing its ability for further expansion.

As time passed, the new markets that the capitalists needed would become fewer and fewer. When *Reform or Revolution* was published, Luxemburg and the Social Democrats outside Russia were largely unaware of the reproduction tables in Volume II of *Capital*. But when Luxemburg did become aware of them, she was indeed alarmed.

Marx himself emphasized that no social order disappears until it has fully developed the productive forces that it was adequate for. For example, feudalism didn't give way to capitalism because capitalism was a "better," more democratic, and "just" system. It died because the productive forces arising from the late Middle Ages onward could less and less be confined within the narrow limits set by feudal agriculture and guild production.

The tendency of the rate of profit to fall and the historical limits of capitalism

But didn't the fall in the rate of profit brought about by the rise in the organic composition of capital prove that capitalism would eventually have to give way to socialism? Luxemburg was not convinced by this argument.

As we have seen, the fall in the rate of profit is accompanied by a rise in the mass of profit. Capitalists are compensated for the fall in the rate of profit by the growth in the size of their capitals. Despite the fall of the rate of profit, profits appropriated by the capitalist class keep growing. Luxemburg didn't see how the fall in the rate of profit would lead to the end of capitalism before, as she put it, "the sun burned out."

In her *Accumulation of Capital*, first published in 1913, Luxemburg tried to find a flaw in Marx's tables of expanded reproduction. She claimed in the *Accumulation of Capital* that she had proven that expanded reproduction could not take place in a closed system where every person was either an industrial capitalist or a productive worker. These, remember, were indeed Marx's assumptions in both his tables of simple and expanded reproduction.

Expanded capitalist reproduction, Luxemburg held, was only possible because of the existence of simple commodity production, which existed side by side with the capitalist system. As simple commodity production continued to decline, it would be only a matter of time before the world market would indeed be exhausted, just as she had assumed in *Reform and Revolution*. Capitalism would then have reached the point where all the productive forces that are adequate for it had been developed. The material basis would have then been fully laid for the inevitable transition to socialism.

Few of her fellow Marxists, including most famously Lenin,[4] found her arguments convincing. This seemed to leave the fall in the rate of profit as the only built-in barrier to capitalism's ability to develop the productive forces after all. But then what would prevent capitalism from lasting until "the sun burned out"?

The centrist Social Democrat Otto Bauer offered his own tables of expanded reproduction. His tables featured a rising organic composition of

(4) Russian Marxism was born in a country where capitalism was struggling to get established. The main opponents on the left of the early Russian Marxists were the populists. The Russian populist economists attempted to prove that capitalism could never be established there because there would not be sufficient markets. The populist economists pointed out that the world market was already divided between the existing capitalist powers. Russian capitalists might be able to extract surplus value from the working class, but they would never be able to realize it in the form of monetary profit on the market. The Russian Marxists found in Marx's tables of expanded capitalist reproduction a powerful weapon in their struggle against the populists.

In Germany, where Luxemburg was based, there was no question that a powerful, highly-developed capitalism was possible, and the German capitalists were successfully realizing the surplus value embodied in the commodities that their workers produced. In Germany and other highly developed capitalist countries, the question was not whether capitalism was possible but how long it could last and what, if any, were its ultimate limits.

capital and a fall in the rate of profit. Like Marx, Bauer's tables covered four periods of reproduction. During these four periods, Department I grows faster than Department II, and the rate of profit falls. Yet the rate of accumulation of variable capital and with it full employment is maintained.

Bauer accomplished this by having his capitalists gradually increase the part of the surplus value that is accumulated compared to the part that is consumed unproductively. This seemed to prove that the gradual fall in the rate of profit that would be expected as the organic composition gradually increased would never lead to the collapse of capitalism.

The ink of Luxemburg's *Accumulation of Capital* had barely dried before World War I broke out. Three years later, revolution broke out in Russia, and contrary to the expectations of virtually all Russian and Western Marxists – with the exception of Leon Trotsky(5) – a revolution brought the working class to power, and the Russian Revolution assumed a socialist character.

For a while, it looked as though the Russian Revolution would sweep throughout Europe and beyond. Workers' soviets – soviet is Russian for council – covered Germany in 1918. It seemed that Germany would supplement the Russian Revolution with a powerful revolution of its own. Unlike in Russia, in Germany with its highly developed and centralized industry, conditions were far more favorable for the establishment of a socialist society. Under these conditions, the whole breakdown controversy raised by Rosa Luxemburg seemed rather academic.

But after 1923, European capitalism seemed to be entering into a new stage of stabilization. The following year, Nikolai Bukharin, then considered the leading theoretician of the now-ruling Soviet Communist Party and the Communist International, launched a renewed attack on Luxemburg's "breakdown theory."

Due to the failure of the German revolution to materialize in 1923 despite the French occupation of the Ruhr – Germany's industrial heartland – and the accompanying infamous hyperinflation that year, reaction was in

(5) Leon Trotsky foresaw the possibility that the Russian working class could capture political power in the course of a bourgeois democratic revolution in Russia and would, once in power, be obliged to take socialist measures such as nationalizing the means of production and organizing a planned economy. This is Trotsky's famous (or in some circles infamous) theory of "permanent revolution." However, Trotsky never expected the working class could hold power for very long unless the workers of the advanced capitalist countries conquered political power and joined the workers of the former Russian empire in socialist construction. If this did not happen, Trotsky believed socialist construction in backward Russia could not succeed, and capitalism would inevitably return.

the air not only in Germany but within the Soviet Republic. In 1924, Joseph Stalin declared the policy of "socialism in one country" with the support of Bukharin. Indeed, some sources credit Bukharin with originating this slogan, which was to become closely associated with Stalin's name. In this context, Bukharin launched his attack on Rosa Luxemburg's breakdown theory.

Like earlier Russian Marxists, including Lenin, Bukharin believed that a pure capitalist society consisting only of capitalists and workers would be able to fully realize the value and the surplus value of the commodities it produced as long as the correct proportions of production were maintained.

In 1929, however – which happened to be the year that the super-crisis of 1929-33, the Great Depression, began – Henryk Grossman reopened the breakdown debate. Though obviously very sympathetic to Rosa Luxemburg's attempts to prove that capitalism had an objective economic limit, Grossman agreed that her attempt to prove it in *The Accumulation of Capital* had failed. However, Grossman did not accept Luxemburg's claim that the tendency of the rate of profit to fall was no threat to the existence of capitalism – at least before the "sun burned out."

He did this by simply extending Bauer's reproduction tables, which appeared to show that capitalist expanded reproduction could go on forever, even in the face of a rising organic composition of capital and a falling rate of profit. Grossman showed, on the contrary, that Bauer tables would indeed break down if the calculation were extended for a sufficient number of cycles. The breakdown controversy was reopened.

Before we can return to the "breakdown" question raised by Luxemburg and Grossman, we have to complete the analysis of capitalist reproduction, both simple and expanded. We have to examine what Marx called the independent value form – money. We cannot assume that exchanges between Department I and Department II, or within them, are carried out through barter.

The form of value – Money

Introduction: Do crises originate in the real or the monetary economy?

In the wake of the Great Depression, progressive economists played down the importance of monetary policy as opposed to fiscal policy. Instead, the progressive economists of the New Deal and post-New Deal eras saw the source of capitalist economic instability in either the instability of private investment or its chronic insufficiency. Progressives gave little weight to the importance of what is called monetary policy – the policies of the central bank. Instead, progressive economists emphasized the importance of fiscal policy. Fiscal policy refers to the central government's taxation, spending, and borrowing policies. This view is supported by the belief that economic crises such as the one that led to the Great Depression arise in the sphere of production and not in circulation.

There were two reasons for this stance by progressive economists, which continues to the present day. One was that policies favored by the left, such as public works and public housing, must be carried out by the central government, not the central bank. The second reason was that between the end of the super-crisis of 1929-33 and the 1970s, capitalism experienced an unusually long period of financial stability. During this period, there were relatively few bank failures and nothing like the chain reaction banking panics that had played such an important role in the crises of the 19th century, the crisis of 1907, or the bank runs of 1931-33. It was widely assumed among left- and right-wing economists alike that with the weakening and finally the total abandonment of the gold standard, combined with government-sponsored bank deposit insurance, old-time financial banking panics had been banished for good.

In contrast to the progressives, economists on the right, such as Milton Friedman, claimed that the source of capitalist instability lay in the banking-monetary sector, the sphere of circulation. The "real sector" of the

capitalist economy was stable, the right-wing "anti-New Deal" economists insisted. As long as the central bank maintained financial banking stability, the profit-driven private industrial sector would not only maintain prosperity and "full employment" but would be the solution to all social problems. Therefore, the right-wing economists argued that there was no need for the central government to spend money on public works or public housing to stabilize the economy. All that was needed was a correct policy by the central bank. Called "monetarist" in the 1970s, these economic views are now called neoliberal.

Friedman claimed that capitalist crises are the result of violent fluctuations in the quantity of money. According to Friedman, except for these purely monetary fluctuations, the capitalist system is extremely stable. Friedman and his supporters hold that as long as the "monetary authority" – such as the U.S. Federal Reserve System – keeps the rate of growth of the quantity of money on a slow and stable path – something well within their power, according to Friedman – cyclical fluctuations and crises would all but disappear.

In the 30 years preceding the crash of 2008, Friedman's "neoliberal" claim that capitalism was a stable economic system had dominated university economic departments and policy-making circles in Washington, London, and elsewhere. This claim of capitalist stability is sometimes called the "Washington Consensus."

The crisis of 2007-09 brings a resurgence of Keynes

However, with the panic of 2008, the views of John Maynard Keynes staged a dramatic comeback. Keynes was considered – and still is by many – to have been the leading (bourgeois) economist of the 20th century, at least before the rise of Friedman's influence during the final decades of the 20th century.

We will be examining and criticizing the views of Keynes throughout this work because Keynes has not only influenced bourgeois economic thinking from the late 1930s onward but also influenced many Marxists.

Who was John Maynard Keynes?

Keynes had begun as a student of the English liberal – in the European, not American, sense – economist Alfred Marshall. Marshall was a pioneer of English marginalist economics. According to the marginalists, material use values – or objects of utility – acquire "economic value" because of their scarcity relative to subjectively determined human needs.

The marginalist theory of value dominates university economics departments down to the present day. The marginalist theory of value contrasts sharply with classical theory and Marx's theory of value, which holds that commodities have value because they are created by human labor and are exchanged for other commodities that are also products of human labor but have different use values.

Marginalists are divided into the Austrian school and the more mathematical neoclassical school. Many right-wing amateur economists prefer the Austrian school associated with such figures as Ludwig von Mises and Frederick von Hayek, but most university economists are neoclassicals.

Marshall and adherents of other schools of marginalism also believed, just like Milton Friedman did, that capitalism is a stable economic system. Like Friedman later on, Marshall also believed that as long as markets were "free" – with no "monopolies" such as trade unions – the system had a strong tendency toward full employment of both workers and machines. As a student of Marshall, the young Keynes believed, like his teacher, that capitalism tended toward stability and "full employment."

However, Keynes, confronted by Britain's chronic unemployment crisis that began with the post-World War I recession of 1920-21, which was further intensified by the infamous crisis of 1929-32, began to move away from the view that capitalism is a stable economic system with a strong tendency toward "full employment." In his *General Theory of Employment, Interest and Money*, first published in 1936, Keynes concluded that capitalism was a highly unstable system.

To this extent, Keynes, late in life, had come to agree with Karl Marx. Left to its own devices, Keynes now conceded, capitalism was prone to violent swings from boom to deep depression. Even worse, Keynes feared that capitalism was tending to sink into a more or less permanent state of mass unemployment that could prove its undoing.

Despite these conclusions, Keynes never became a socialist, though many socialists have been strongly influenced by Keynes's views on capitalist instability and tendency toward chronic mass unemployment, or "secular stagnation." Instead, Keynes remained a supporter of capitalism in general and British imperialism in particular. To his dying day, Keynes believed that through a skillful application of "stabilization policies," the capitalist system could maintain an "approximation" of full employment.

Keynes versus the classical economists and Marx on class

One thing that strikes a reader of Keynes coming from a Marxist background is how far Keynes goes to avoid the mention of the social classes that characterize a capitalist society. In this, Keynes is not only in sharp contrast to Marx but also Marx's economic predecessors, the classical bourgeois economists. Indeed, it was the classical economists, especially Adam Smith, who developed what today is considered the "Marxist" analysis of the classes of capitalist society.

According to Smith, there are three classes in (capitalist) society. The owners of capital (frequently called stock in Smith's time) receive the profits of capital, the owners of land receive the rent of land, and the workers live off the wages of their labor. Therefore, when it comes to the analysis of class, Marx was merely Smith's pupil.

Adam Smith's successor, David Ricardo, also used Smith's three-class analysis of (capitalist) society. This classical Marxist approach to class contrasts with Keynes's approach in the "*General Theory*," where he talks about "households" and "entrepreneurs." Households might be poor – proletarian – or they might be very rich – capitalist. This was a fine way of dodging the question of class!

According to Keynes, "households" save some of their "income" – no distinction between wages, profits, and rents – and the rest is spent on consumer goods. Entrepreneurs, on the other hand, carry out "investments."

Keynes divided the total spending in a capitalist economy into three parts. One part is spent by "households" on consumer goods, a second part is spent on "investment" by entrepreneurs, and a third part is spent by the government.

It is the part of the total spending represented by the "investment" of the entrepreneurs that, according to Keynes, is dangerously unstable. Sometimes, the "entrepreneurs" are carried away by their "animal spirits," investment soars, and the economy booms.[1] But if profits prove less than expected, the "entrepreneurs" become dejected, investment plunges, and the economy spirals into a deep recession. Therefore, unlike Friedman, Keynes is generally seen as locating the cause of capitalist crises in the real economy, not the money economy.

(1.) A summary of Keynes on Animal Spirits can be found on Wikipedia at https://en.wikipedia.org/wiki/Animal_spirits_(Keynes)

Keynes, therefore, came to advocate large-scale deficit spending by the government during periods of economic recession or stagnation and higher-than-average unemployment. If the spending by the "entrepreneurs" is inadequate to maintain an approximation to "full employment," he argued, the government should make up the difference through increased spending.

This spending, Keynes stressed, should be financed by borrowing. If the increased government spending is financed by current taxes on the "entrepreneurs" or "households," the latter will be forced to reduce their spending accordingly. In that case, the increased spending by the government will be matched by reduced spending by entrepreneurs and households, and there will be no net stimulus.

According to Keynes, while such deficit spending should ideally be for useful public works, the most important thing in a "stimulus package" is the spending itself, not whether it is useful. Indeed, Keynes noted that during World War I, when deficit spending was being carried out on an immense scale, there was no problem with unemployment! The implication was clear. Spending on war just as much as on useful public works can be equally viable ways of combating economic depression and mass unemployment.

Contrary to what is commonly believed, Keynes was not the first bourgeois economist to advocate large-scale government spending to combat economic stagnation and unemployment. Long before Keynes, the English clergyman and economist Thomas Robert Malthus, much admired by Keynes, advocated just this kind of government spending during the economic stagnation and widespread unemployment after the world war that followed the Great French Revolution. Malthus argued that large-scale unproductive expenditures by landlords, clergy, as well as the government would be necessary to combat capitalism's tendency toward "general gluts" – a general overproduction of commodities.

In contrast, David Ricardo, Jean-Baptiste Say, and other economic liberals denied that "general gluts" of commodities were even possible in theory and thus opposed "stimulus packages," which they saw as simply squandering the wealth of the nation.

A key difference between Keynes and Marx

Keynes had come to agree with Marx that capitalism was an unstable economic system. But in contrast to Marx, Keynes thought that prompt action by the capitalist government would be able to compensate for the natural instability of capitalist investment and thus largely eliminate both

cyclical economic crises and mass unemployment within the framework of capitalist production. Therefore, according to Keynes, there was nothing fundamentally wrong with capitalism that a correct policy on the part of the government and the "monetary authority" could not fix.

Deficit spending and 'crowding out'

The liberal economists who oppose Keynesian-style "stimulus packages" claim that the more the government borrows, the more that investment by the industrial capitalists and consumers will be "crowded out." Since these economists hold that "full employment" of both workers and machines is the natural state of a capitalist economy, they believe that any output that the government or its dependents consume comes out of production that would be used "more efficiently" by the private sector.

This argument, however, assumes that "full employment" is the normal state of a capitalist economy. But what if it isn't? The Belgian Marxist economist Ernest Mandel pointed out that there is much idle plant and equipment during an economic recession, not to mention massive numbers of unemployed workers.(2) Under these conditions, the extra demand created by deficit spending would not absorb output otherwise destined for the private economy but rather stimulate additional output that would otherwise not have been produced at all.

The well-known American Marxist economist Paul Sweezy, the founder of the Monthly Review school, also praised Keynes for realizing that capitalism did not tend toward "full employment" and, in fact, had a growing need for massive government spending to make up for the chronic weakness of private investment. Therefore, where the right-wing economists see a zero-sum game, Keynes and Marxist economists such as Mandel and Sweezy see the possibility of additional output made possible by the creation of additional demand. Or, as "Keynes' Law" puts it, demand creates its own supply.

The concrete history of capitalism gives more than adequate refutation in practice to the economic liberal claim that capitalism tends toward "full employment." As far as the "real economy" is concerned, the views of Keynes, Mandel, Sweezy, and many other economists rest on solid ground.

But what about the monetary side of the economy? Could deficit spending lead to crowding out private investment and spending due to a shortage of money or credit?

(2) Ernest Mandel, "The Generalized Recession of the International Capitalist Economy," 1974. https://www.marxists.org/archive/mandel/1974/12/generalized_recession.htm

Keynes himself realized that it was not enough to simply look at the "real economy." The monetary economy had to be considered as well. If insufficient money is available for lending, government deficits will raise long-term interest rates. The government will be able to borrow, but the private capitalists will be cut off – or crowded out. In Marxist terminology, there would be a danger that the average long-term rate of interest will rise above the average rate of profit, reducing the profit of enterprise to less than nothing. If this happens, capitalist investment will collapse and thus offset the effects of the "stimulative package." In contrast to many of his followers, Keynes was acutely aware of this danger.

Closely related to this is that if the government deficit rises too quickly and interest rates on long-term government bonds either fail to fall or fall much more slowly than they would without the increased deficit spending, mortgage rates and rates on loans for consumer durables, in general, might stay higher longer, postponing or at least weakening the recovery in the durable consumer goods industries. Durable consumer commodities such as houses and automobiles are generally purchased on credit and depend on the availability of long-term loans.

Therefore, if the quantity of money is insufficient, a situation can arise where the government, the industrial capitalists, and would-be homeowners and purchasers of other durable consumer goods are all competing for a limited amount of credit.

However, Keynes thought the danger of such a purely monetary "crowding out" could always be overcome by the "monetary authority," such as the Bank of England or the U.S. Federal Reserve System. Keynes claimed that during periods of high unemployment among workers and machines, there would be no danger of inflation since production could always be quickly increased to meet any increase in "monetarily effective demand." Doesn't inflation arise because the demand for commodities cannot be fully met at existing prices? Demand is then reduced to the level of supply by raising prices – inflation.

This, indeed, is the "common sense" view. However, in the 1970s, a situation arose where prices were rising much faster than they had during the generally prosperous years of the 1950s and 1960s, but there was much more unemployment of workers and machines than there had been during the 1950s and 1960s.

Friedman versus Keynes on monetary policy

Using what amounted to a "common sense" analysis of money, Keynes believed inflation does not happen in times of substantial unemployment. Only when "full employment" makes it impossible to increase production further in the "short run" does the extra demand created by deficit spending and expansionary monetary policies by the central bank manifest itself through increases in prices and money wages rather than an increase in the supply or commodities.

When it came to "monetary policy" – the attempts by the central banking systems of the capitalist countries to control the rate of growth of the quantity of money and manipulate interest rates – Friedman advocated a slow and, above all, steady and thus predictable growth in the money supply. Friedman reasoned that since the "real economy" was "remarkably stable," all that was necessary to ensure its stability was to make sure that the monetary side of the economy was equally stable.

What Keynes and Friedman had in common

The differences between Milton Friedman and John Maynard Keynes, though real, should not obscure what these bourgeois economists had in common. Both men hated socialism and supported the continued rule of the capitalist class. They both also believed that given correct policies by the governments and the "monetary authorities" – even if they differed on exactly what these policies should be – crisis-free capitalism could be achieved. To explore whether capitalism can be stabilized through fiscal policies as progressive economists hold, or through monetary policies alone like the right-wing economists hold, or through some combination of the two, such as Keynes himself believed, or cannot be stabilized at all, we have to explore the relationship between the real economy and money.

CHAPTER 7
How money emerges out of the simple exchanges of commodities

In Chapter I, Volume I of *Capital*, Marx presents the following equation of exchange: 20 yards of linen = one coat

For example, say I have produced 20 yards of linen. Under the prevailing conditions of exchange, I can barter the 20 yards of linen for exactly one coat of a given type. The equal sign assumes that, in some sense, 20 yards of linen are the same as one coat. But exactly what is being equated here?

First, we see that both linen and coats are useful things, objects of utility, or, as the classical economists called them, use values. Each use value is measured in a unit that is appropriate for it – in the case of linen, length. Marx used the old-fashioned English units of length yards – still used today in the United States.

On the right side of the equation, we have one coat. The unit of measure of coats is each individual coat. We can divide the linen, within certain limits without destroying its use value. But we cannot divide the coat in half without destroying its use value. So, the individual coat is our unit of measure. We could have one coat like we have above, two coats, 100 coats, and so on. The units that measure the two use values are quite different.

Second, the two use values are qualitatively quite different. No matter how much linen I have, I don't physically have a coat. The reverse is also true. Coats cannot physically be reduced to linen. Yet the two are being equated. They must in some sense be *qualitatively* the same. The quality that they share, according to Marx, is that they are both products of human labor.

But the labor, the actual skills, necessary for the production of linen on one hand and coats on the other are quite different. An hour of the labor of one person differs quite a bit from an hour of labor of another person.

Indeed, no two hours of labor performed by the same person are identical. A garment worker might work much more efficiently when they are fresh than later in the day when they are tired. If forced to work 10 hours a day, for example, not only will they work slower, they will be far more likely to make mistakes. Indeed, every person who has ever worked at all can testify to the truth of these observations.

Human labor as such versus particular types of human labor

Here we have to make an abstraction. We've got to leave out every feature of a particular act of human labor – the exact skills of the workers, whether the labor was performed at the beginning or the end of the workday, whether the workers had had a stimulating cup of coffee just before the labor was performed, whether the workers were in good or bad health, happy or sad. What we get is labor in the abstract, or labor as the logical class: human labor.

This, however, is not a mere mental exercise. Commodity exchange actually performs the abstraction. All particular characteristics of human labor are stripped away, leaving only what is common to all human labor.

It is abstract human labor that creates value, as opposed to concrete labor, which produces use values. What is being equated through the process of commodity exchange is not concrete labor but abstract human labor, even though the measuring unit of both is some unit of time, whether seconds, minutes, hours, days, months or years.

No two units of concrete human labor measured in terms of time are alike. They are qualitatively different and therefore cannot be quantitatively compared. In contrast, abstract human labor is homogeneous. It can in principle be divided into an infinite number of smaller units without losing its qualitative properties.

However, the abstract human labor embodied in commodities is not a physical substance visible to the eye, even through a microscope. We cannot actually see it in the linen or the coat. It is, rather, a social substance. It is this common social substance that is being equated in the equation 20 yards of linen = one coat. Therefore, while concrete labor creates use values – real wealth – it is abstract human labor that creates value. The very substance of value is nothing but abstract human labor.

Now, how do we measure the value of a commodity in everyday life? Is it in units of abstract human labor measured by the clock? Exactly how much abstract human labor was contained in the cup of coffee you bought this

morning? You do know that you paid a dollar, a euro, or sixty pence for it. The value of commodities is never measured directly in terms of hours of labor.

But why not? Indeed, many reformers over the decades have suggested just that. Why can't we just issue currency that represents a unit of labor? For example, a one-minute note, a one-hour note, an eight-hour note, and so on. For example, why not pay a worker in an eight-hour note after the worker has performed a standard eight-hour workday?

Actually, we would have to pay the worker in a four-hour note, assuming the rate of surplus value is 100%. If that were done, the exploitation would not be hidden but would be obvious. There is also the problem, of course, that we would be measuring the worker's concrete labor here, not abstract labor. But doesn't, on average, eight hours of concrete labor amount to eight hours of abstract labor?

What makes such "labor money" schemes completely impossible is the very nature of a commodity economy. Commodity producers are independent producers performing their labor for their own private accounts. They have no idea what their fellow commodity owners are producing, let alone what the broader needs of society are. In earlier chapters, we have seen that production must be carried out in certain proportions. If it is not, production completely breaks down, and with it human society itself. How are the correct proportions among the various branches of production achieved and maintained under a commodity system where there is no central organ that consciously organizes the labor of society?

The first commodity exchanges were more or less accidental exchanges of products between different communities. But over time, one community – in effect an independent commodity producer – would not accept a ratio of commodity exchange – for example, 20 yards of linen for one coat – unless they knew that it took more or less the same amount of labor on average to produce 20 yards of linen as it takes to produce one coat.

Suppose I represent the community – the independent individual commodity producer, which can just as well be a collective as an individual worker – that produces linen. I will measure the value of my commodity linen by the use value of the coat. Marx called the linen – a commodity whose value in this example is to be measured by the use value of the coat – the relative form of value, and he called the coat that measures the value of the linen the equivalent form of value.

Value, then, must take the form of exchange value. The exchange value of 20 yards of linen, according to Marx's example, is one coat. Notice that the exchange value of the linen is measured in terms of the *use value* of the coat. Here for reasons of simplification, we will assume that the amount of (abstract) labor that it takes to produce commodities remains unchanged.

Now suppose, for some reason, that the coat producers fail to produce a sufficient quantity of coats. After all, there is no central authority of any kind telling them what to produce. How would I, a linen producer, know that not enough coats are being produced? I will know because I will now need more linen to obtain a coat.

Perhaps my 20 yards of linen will only exchange for one-half a coat. But half a coat is useless both in terms of use value and therefore in value terms, too. Therefore, if I, as a linen producer, want a coat, I will have to work for twice the amount of time. I now need to produce 40 yards of linen to "buy" a single coat.

I will be tempted to shift to the coat trade. As a coat producer, I will have to work only half the time to obtain the linen I need. Perhaps I am too old to learn a new trade, but my children will shun the linen trade for the coat trade. Coats are now "hot," not linen. Eventually, too many coats will be produced, causing the "price" of linen in terms of coats to soar. Now it will be linen's turn to be hot while the coat trade suffers from overproduction and hard times.

Through recurrent "mistakes" by the commodity producers, first producing too much of commodity x relative to commodity y and then producing too much of commodity y relative to commodity x, a balance is maintained over the long run. It is precisely through competition – or the mutual pressure of one commodity producer on another – that the correct proportions of production are achieved and maintained over time. This is what Adam Smith called the "invisible hand," and Marx called the "law of value."

The differentiation of the real economy and money economy in embryo

The 20 yards of linen has both a use value and an exchange value – in Marx's example, the exchange value of the linen is one coat. Here in the simplest form of barter, we see in embryo the polarization of the economy into a "real economy" and a "money" or "financial" economy. Just like every cell in the human body has the complete genetic blueprint of a human being, the division between the "real" and the "monetary" economy is built into the simple commodity, the cell of capitalist production.

But in the simplest commodity exchanges, we see this differentiation between the real and monetary economy only in an embryonic form. To linen producers, the coat is the equivalent of their commodity. The reverse is also true. From the viewpoint of the coat maker – or coat-making community – it is the coat that is the relative form of the commodity and the linen that is the equivalent form. But isn't money nothing but the universal equivalent for commodities as a whole?

As commodity exchange evolved from occasional accidental exchanges toward a broader system of commodity production and exchange, one commodity or at most a few emerged as the universal measure(s) of value. It became the special function of the money commodity to measure in terms of its own use-value the exchange values of all other commodities. This indeed is the basic function of money.

In the simple equation of exchange of 20 yards of linen = one coat, the coat functions as the measure of value for the linen producer in terms of its own use value, and the linen functions as the measure of value for the coat producer in terms of its use value. Why can't all commodities be both the relative form of the commodity – the commodity whose exchange value is to be measured – and the equivalent form of value at the same time?

Not all commodities can be money

Suppose all commodities could function as equivalents – in effect, all commodities would be money. I assume "price" is simply the exchange value of a commodity measured in terms of the use value of an equivalent commodity. I go into a coffee shop and ask the owner for my morning coffee. Naturally, I need to know what the "price" of coffee is today. The owner says that in terms of linen, it is such and such a length, while in terms of coats, it is a fraction of a coat of a given quality and another fraction of a coat of another quality, and so forth, while in terms of shoes, it is a such and such fraction of a shoe, while in terms of laptop computers it is ...

Well, you get the idea. If n represents the total types of commodities produced, then each commodity would have exactly n — 1 "prices." If linen and coats were the only types of commodities, this would work, but in a system of complex commodity exchange, not to speak of capitalism, where virtually everything is a commodity, this simply won't do.

But the problem can be easily solved if we use only one commodity as an equivalent rather than all commodities. For example, if the general equiva-

lent for commodities was linen, the store owner might say that the price of a cup of coffee is ¼ inch of linen.

This is, of course, much closer to reality and is at least conceivable. Indeed, the name of the British currency, the pound sterling, derives from the fact that once upon a time, the pound sterling represented an actual pound of the commodity sterling silver bullion. And the use value of sterling silver is measured in terms of weight – for example, pounds in old-fashioned English weights.

Originally, commodities that played the role of general equivalents were those that were the main form of wealth of the given society and epoch. For example, in the Homeric poems, wealth is measured in terms of cattle. Cattle were indeed an early form of what Marx called money material, the physical material of the use value of the commodity that acts as the universal measure of value. Some societies even measured the exchange value of commodities in terms of slaves. In this case, the enslaved workers not only produced the surplus product for the exploiting non-workers, they served as money material!

But as commodity production and exchange developed further, neither slaves nor cattle made very good money. Slaves can only be divided so far. A half a slave is a dead man or woman, not a slave. Slaves and cattle aren't durable but live only a certain number of years. Enslaved humans generally had quite short lifetimes.

As commodity production and exchange developed, a universal equivalent emerged whose main use value was its monetary function.

We will not bore the reader with a "history of money" and list all the commodities that have served as the money commodity at one time or another. We will simply say that generally, metals – first copper, then silver, and finally gold – have served this purpose. Over thousands of years, however, it is the precious metal gold that has emerged as the main money commodity. Why has gold proven over time to be such a good money?

First, gold is quite rare in the earth's crust, much rarer than silver, which has also been widely used as money throughout history. Since the late 19th century, silver has dramatically fallen in value – it now takes far less labor to produce a given quantity of silver than it took a century ago – but gold has held its value much better.

No matter how much mining and refining technology advances, at the end of the day, you need an ounce of gold in the ore to produce an ounce of refined gold.

Compared to silver-containing ores, most gold ores contain only tiny amounts of gold. Therefore, even when huge masses of labor, both dead labor in the form of constant capital and living labor in the form of variable capital, are thrown into gold production and refining, only a small amount of physical gold bullion on average results. In comparison to silver, it takes a much larger quantity of abstract human labor to produce an ounce of gold.

Gold, therefore, represents a large quantity of value – abstract human labor measured in terms of time – in a small amount of use value. This makes it possible to carry pieces of gold in your pocket that represent rather large amounts of value. In addition, the high value of gold makes it very expensive when it is used as a raw material for the production of non-monetary commodities. As a result, there is a strong incentive for industrial capitalists to find cheaper alternatives when they can.

Therefore, the high value of gold greatly limits gold as a use value. This brings gold closer to the ideal money commodity whose only use value would be to serve as money material. Gold doesn't quite fit the bill; gold does have other uses, but it comes reasonably close. Why this is important will become clear in later chapters.

Gold is an element, not a compound, and can, therefore, in theory, be divided down to its individual atoms without losing its use value. This is a reasonable approximation of the infinite divisibility of the social substance that constitutes value – abstract human labor. In this chapter, I will assume, unless indicated otherwise, that gold and gold alone is the money commodity.

In addition, gold is durable. It does not tarnish and lasts for all practical purposes forever. Unlike cattle or slaves, it is, in effect, "immortal." This brings us to the second function of money – a means of accumulating wealth.

Cattle or slaves have to be maintained, and they soon perish. But gold bars or coins last forever. The misers of old accumulated wealth by constantly adding to their pile of gold coins that they stored in their money chests. Every other commodity is measured in terms of the use value of gold. When our miser needs a particular form of wealth such as food, clothing or housing, instead of wealth in its abstract form – gold – our miser simply uses some of his gold to buy the food, clothing, housing, or whatever. This brings us to the third function of money, money as a means of purchase or money as currency.

Money as currency

The most well-known function of money is that of currency. Indeed, this is the everyday meaning of the term "money." Ask a child what money is, and he or she will answer it's what you use to buy things. Ask a professional economist who has earned a PhD through years of study, and you will get the same answer.

In terms of Marxist value theory, however, currency is nothing but the representation of money in the sphere of circulation. Today, when we think of currency, at least in the United States and the many other countries where the U.S. dollar circulates, we think of pieces of green paper with pictures of dead U.S. presidents and perhaps small coins, made of cheap metals, called pennies, nickels, dimes and quarters plus the occasional half dollar and dollar coins.

If you live in the European Union, where the euro is the currency, the color and pictures on the paper are different, and coins have different images stamped on them. But as is the case in the land of the dollar, you have pretty slips of paper with various images and numbers indicating the number of euros the note represents.

Once upon a time, however, currency consisted largely of coins made of precious metals such as silver or gold. Going back to before the invention of coinage, the money commodity functioned simply as the measure of value. A linen producer might have no direct idea how much my 20 yards of linen are worth in terms of coats. But if I, as a producer, know that 20 yards of linen are worth 50 head of sheep, and one coat of a given quantity is also worth 50 head of sheep, I know that I should demand one coat of that quality in exchange for my 20 yards of linen. Sheep, for reasons that should be obvious to the reader, though they can function as a measure of exchange value, make a lousy currency. Try carrying around 50 head of sheep in your pocket!

But I can carry around pieces of gold. As a child – or even a modern bourgeois economist of the Friedman school – can explain, I might not need a coat when I sell my 20 yards of linen. Or worse, no commodity owner who happens to possess 50 head of sheep worth of commodities may want 20 yards of linen.

But if instead of living in a society that uses sheep as money, I live in a society that makes use of gold as money, I have an easy solution. I can always sell my 20 yards of linen for a piece of gold of a weight that represents the exchange value of 20 yards of linen. I can then use the piece of gold to purchase not only a coat but any commodity whose price equals the weight of the gold piece.

Modern bourgeois economists call this the double coincidence of wants. In the absence of money, two commodity owners will not be able to make an exchange unless both need for the use value of the commodity that the other possesses.

However, economists reason once you have money, this problem is solved. All that is necessary for the exchange to take place is for one of the two parties in the exchange to own a definite sum of money, while the other party must possess a commodity whose utility is desired.

It is true that the double coincidence of wants problem has to be solved before occasional commodity exchanges developed into a continuing process of commodity circulation —C—M—C. But before you can have a representative of the universal equivalent as means of circulation – for example, gold coins representing gold bullion – you need the universal equivalent – for example, gold bullion – that the means of circulation – gold coins – will represent in circulation.

Coined money

But how do I know that a given piece of gold really contains the amount of gold – measured in terms of weight – that I think or hope it does? And how would the seller know? This problem can be solved if I find a reliable person to stamp a given piece of gold – or whatever metal, perhaps copper in ancient times – that serves as the money commodity, and therefore certify that it really contains a given amount of metal of a given quality. I will now have a reliable currency.

It is best if the person that certifies that the pieces of gold or other money metal is not engaged in commodity production. If they are, the temptation to cheat is simply too great! Who then is our trustworthy person? Such a person is not usually an individual person but the state. The state, generally, is not a commodity producer but does have an interest in maintaining a stable and reliable currency in the broader interest of the ruling class.

True, the state isn't all that reliable. The history of coinage – currency – is also the history of the depreciation of currency. Permanent inflation, therefore, begins not long after the invention of coinage 2,500 to 3,000 years ago. Inflation has been going on for a long time!

Still, at least in thriving epochs, when money material is abundant, it will be in the state's interest to maintain the actual metallic value of the coinage. Therefore, the history of coinage is the history of permanent inflation interrupted by periods when governments maintained stable currencies.

The last such period was during the international gold standard, which prevailed from about the 1870s to 1914 when World War I broke out. A brief, half-hearted attempt to reestablish stable currencies – where currencies are defined in terms of a fixed quantity of gold of a given fineness – was also attempted under the Bretton Woods system, which started to operate after World War II and collapsed in the late 1960s and early 1970s. An examination of the international gold standard and the Bretton Woods system will be the subject of later chapters.

Other properties of money

As we have already seen, commodity-producing labor is divided into many private labors. How do we determine that a product of a given private labor is indeed part of social labor? Once the commodity is produced, it is put on the market at a given price. Price, remember, is a given weight of gold. In the minds of all the producers, buyers, and sellers, the commodity, in addition to its actual material use value measured in units appropriate to that specific use value, also has an exchange value. The exchange value, or price, is a weight of gold, weight being the measure of the quantity of gold as a use value.

But now comes the difficult part. The commodity must show through its sale at its price defined in terms of a given weight of gold that the private labor that was performed to produce it was indeed a part of social labor. The labor that went into the production of the commodity is therefore only indirectly social. Gold, however – or, more broadly, whatever serves as money material – represents *social* wealth.

Labor that goes into the production of money material is directly social

But what about the labor that produces the commodity gold? Unlike the labor that produces all other commodities, the labor that produces gold is directly social. Here, remember, I assume gold is the only money commodity. If clamshells were used for money, the same thing would be true of the labor that is used to collect clamshells. The labor in a given quantity of gold – let's say an ounce – doesn't have to prove it is social labor by exchanging it for gold on the market. It already is gold.

In other words, because the labor that produces gold produces the social form of wealth directly, rather than a commodity that the producer hopes will find a buyer at its actual exchange value on the market, the labor that goes into the production of money material is directly social.

Money has no price

The prices of all other commodities are defined as weights of gold. But what is the price of gold? Again, remember, our assumption here is that gold and gold alone is the money commodity. Under these assumptions, gold by definition cannot have a price. The closest that we can get to the "price of gold" is to read all commodity prices – that is, all exchange values in terms of various quantities of gold – backward. Gold has as many "prices" as there are commodities, minus gold, of course. If silver is also a money commodity, gold would have a price in silver, and silver would have a price in terms of gold.

Whatever commodity functions as money lacks the price form of value. Instead, it has what Marx called in Chapter 1, Volume I of *Capital*, the expanded relative form of value. Marx logically derives the money form by having linen's value take the form of the expanded relative form of value. In its own use value measured in terms of measurement appropriate to linen's use value – some unit of length – the value of all other commodities will assume the relative form of value. Relative to all other commodities, linen, therefore, functions as the equivalent form of value. Linen therefore becomes the universal equivalent or general form of value. The value of all other commodities is now measured in terms of some quantity-length of linen.

To get "fully developed money," all that Marx had to do was to replace dull linen with dazzling gold measured in terms of the unit appropriate for gold – a unit of weight – and rename the "general form of value" the money form of value.

The independent existence of exchange value

We have seen that a commodity is a unity of opposites. It is both an exchange value and a use value. These are the two opposite poles of its existence as a commodity. But can I hold pure exchange value separated from a specific commodity in my hand or carry it around it my pocket? Yes, I can! Exchange value is nothing but the use value of the equivalent commodity that is doing the measuring.

Exchange value expresses itself only through use value

Once the money relationship of production emerges out of simple commodity production and exchange, it is represented by the use value of the universal equivalent, the money commodity. Assuming gold is the money commodity, gold as a material use value becomes the independent form of

exchange value. I, therefore, can hold exchange value in my hand and carry it around in my pocket.

The formula of simple commodity circulation

Money as currency gives rise to the formula of simple circulation that Marx developed in the first three chapters of *Capital*: C—M—C. Commodities C are produced, sold for money M and then exchanged for another commodity with a different use value, C, that has the same exchange value as the original C. Those readers who are familiar with Volume I of *Capital* will remember that capital, whose formula is M—C—M', is not yet taken up in the first three chapters. There are only commodities and money but no capital or production of surplus value.

Money as means of accumulation or hoarding and the possibility of a general overproduction of commodities

An atom, like a commodity, is a unity of opposites. It contains both positive and negative electricity. The negative electricity is represented by electrons, which carry the negative charge. The positive electricity is represented by the protons, which reside within the nucleus. Can the contradictory poles of the atom be ripped apart? Yes, they can. Physicists call this ionization.

The poles of the commodity, use value, and exchange value, can similarly be ripped apart. Since the money relationship of production is embodied in a special commodity such as gold, it is a material use value. We have already seen that money must exist independently of the commodities whose use value it measures, just like electrons can exist independently of protons.

Therefore, just as electrons can be ripped from their "orbit" around a nucleus, so the exchange values of commodities can be ripped apart from their use values. In the simple commodity production mentioned above, the formula is C—M—C. Just because somebody has carried out the operation C—M, they are not obliged to immediately carry out the operation M—C. Unlike the case with barter, the act of selling, C—M, can be separated in time and space from the act of buying, M—C.

Suppose, for some reason, a substantial number of commodity producers wish to hold on to their gold to accumulate or hoard it. Gold, after all, functions as the abstract form of social wealth. To the extent that social wealth consists of commodities, everything is valued in terms of the money commodity gold.

If such large-scale hoarding of gold occurs, commodities will become "ionized," so to speak. Their exchange values will be ripped away from their use values. Commodities will not be able to realize, or at least fully realize their exchange values. Because they cannot realize their exchange values, the commodities will not be able to reach those who need them as use values. So they can't realize their functions as use values. This is nothing else but a description, though in the most abstract terms, of a general overproduction of commodities.

Of course, this is only the bare possibility of such a crisis. We have not explained why crises actually occur. In reality, the appearance of crises of generalized overproduction at periodic intervals does not arise under simple commodity production, C – M – C, or even early capitalism, M – C – M'.

But without understanding the possibility of the separation of the use values and exchange values of commodities, we cannot understand the essence of an actual crisis of a generalized overproduction of commodities. We inevitably fall into Say's law, which states that commodities are paid for with commodities, and therefore generalized gluts are impossible.

This is why theories of the cyclical capitalist crises that either ignore the money relationship of production or incorrectly understand it, are inevitably spoiled from the start. The whole concept of the generalized overproduction of commodities slips right through our fingers, and we find ourselves in the swamp of Say's law.

Now let's examine some other functions of money.

Money as a standard of price

Suppose we call one troy ounce of gold $50. This establishes a standard of price. A dollar will then be defined as $^1/_{50}$ of an ounce of gold. Perhaps I can go to the government mint and bring an ounce of gold bullion – bullion means uncoined metal – and the state will stamp it into a $50 gold piece.

But even if the state is not coining gold but simply defines a dollar or whatever the currency unit is as a given weight of gold, gold becomes a standard of price. For example, under the Bretton Woods system between 1944 and 1971, the U.S. dollar was defined as $^1/_{35}$ of a troy ounce of gold of a given fineness – that is, the official price of gold was set at $35 an ounce.

Token money

In circulation, gold coins become converted into symbols, or tokens, of gold. Suppose a one-ounce gold coin turns over a hundred times in a year,

realizing the exchange value of a hundred commodities whose exchange value is one ounce of gold, or $50 assuming the gold dollar is defined as $^1/_{50}$ of an ounce of gold.

In circulation, in this case, one ounce of gold represents 100 ounces of gold in the course of a year. The faster the turnover of gold coins, the fewer coins that are necessary to circulate a given quantity of commodities – measured in terms of their gold prices – in a given period of time. There is, however, a limit. No matter how fast the turnover of gold coins is, a gold coin cannot purchase two commodities at the same time.

In circulation, tiny amounts of gold wear away – like a machine made of moving parts eventually wears out – and the coins become lighter. Our $50 gold piece will now contain less than an ounce of gold. However, this does not necessarily lead to the depreciation of the gold coin.

How do we know whether the gold coin is depreciated? We know the "price" of gold bullion in terms of the gold coin. As long as our worn or "light" gold coin still exchanges for an ounce of gold bullion on the bullion market, the coin is not depreciated no matter how little gold it physically contains. The coin has now become a symbol of gold in circulation. It is worth more as a symbol of gold than if it is melted down and transformed into gold bullion.

Notice in the above paragraph that I said price when referring to the "price of gold." This is an important point. I, following Marx, have defined price as the exchange value of a commodity measured in terms of the use value of the commodity that serves as money. Assuming as I do throughout this chapter that gold is the money commodity, the price of a commodity is simply a weight of gold bullion of a given fineness. Gold itself cannot have a price. Being the money commodity, the closest we can get to the price of gold is to read all price lists backwards.

Gold appears to have a price

Yet, once gold coins are in circulation, gold bullion will appear to have a price in terms of those coins. What we have here is not price in the strict scientific sense as defined by Marx. Rather, we have an exchange rate, not unlike the exchange rate between the dollar and the euro, or the euro and the pound, and so forth. A given gold coin will exchange for so much gold bullion – the bullion is always measured in terms of weight. The exchange rate between the coin and the bullion is determined by how much bullion – gold – the coin represents in circulation.

In science, we have to be much more precise in terminology than we are in everyday life. It is a convenience to use the term "price of gold." But what the dollar price of gold indicates is the amount of gold bullion measured in terms of some quantity of weight that a U.S. dollar represents. It is not for nothing that it appears every weekday at the top of the Wall Street Journal alongside the price of oil, the stock market quotes, and the quotes on government bonds. We can use the "price of gold" only so long as we keep in mind that gold, in its role as money, does not and cannot have a price in the strictly scientific sense of the word.

It is extremely unlikely, at least for very long, that a gold coin would represent less gold on the market than the amount of bullion it contains. If it did, the gold coins would be sent to the melting pot and transformed into bullion. One of the reasons why gold is such a good money commodity is that it can easily be coined, and gold coins can easily be melted down into bullion again.

But how much gold must a circulating gold coin lose before it depreciates against gold bullion? The answer is that there isn't any limit. As long as coins are not over-issued, they can just as well be made of base metals such as copper.

They can also be replaced by pieces of green paper with pictures of dead U.S. presidents printed on them.

Token money turns out to be the same thing as fiat money. Far from being an ultramodern form of currency that arose after the end of the international gold standard, fiat money turns out to be among the oldest forms of currency in existence. It dates back almost to the invention of coined money, about 2,500 years ago, or in China, maybe 3,000 years ago. Gold as money material inevitably becomes a symbol or a token of itself in circulation.

Money as a means of payment

With the development of credit, the act of purchasing a commodity and the act of paying for it is separated. This brings us to yet another function of money, money as a means of payment. For example, you may purchase a house against a mortgage, but you then must pay for the house – plus the interest on the mortgage – over many years. Another example of money as a means of payment is the use of money to pay taxes. In this case, no commodity purchase is involved.

The development of the credit system leads at a certain stage to credit money. Credit money is an IOU or promissory note that is payable to the

bearer on demand. The promissory note can be passed from one person to another and thus function as means of payment. Today, the most well-known form of credit money is a checking deposit, which can be transferred by its owner to another person using a check or, nowadays electronically. The checking balance is a promise by your bank to pay a certain sum of money to you on demand, in effect a promissory note. Since it can be transferred to another person, it can function as a means of purchase or a means of payment.

However, it can only perform these roles as long as the bank is willing and able to pay the owner of the checking account on demand a sum of money in some other form. In times past, this would have been in gold or silver coins. Today, checking accounts are payable in legal tender token – paper – money.

If the checking account for some reason should become unpayable in some other form of money, it will completely lose its quality as credit money. Unlike a full-weight gold coin, for example, which has value because it is physically made of gold bullion – a product of human labor – the checking account depends on the credit of its issuer, the commercial bank. In these days of insured bank deposits, the checking account is also backed up by the credit of the state to the extent that bank checking accounts are insured.

A common mistake that many Marxists, not to speak of bourgeois economists, make is to describe today's paper currencies such as dollars, pounds, euros, yen and so on as credit money. In the days of the international gold standard, the pound sterling was payable to the bearer on demand at the Bank of England at the rate of five gold sovereigns per five-pound note. British law defines the gold sovereign as containing a given amount of gold of a given fineness and weight. Anybody who had gold bullion could go to the British mint and have it coined into sovereigns.

The pound notes issued by the Bank of England were a form of credit money – not token money, since in contrast to token money, such notes were payable in a certain amount of gold at the bank to the bearer on demand. In the days of the gold standard, the paper currency notes were promissory notes on either a central bank or a ministry of finance payable to the bearer of demand in a certain weight of gold – the money commodity.

For example, the five-pound note was a promissory note on the Bank of England payable in five full-weight gold sovereigns. A pound was not

defined as a paper note. It was defined as a gold sovereign of a given weight of gold of a given fineness. These promissory notes – called banknotes – were not only payable on demand at the bank but could be used as a means of purchase and means of payment in place of gold sovereigns.

But those days are long gone. The modern British pound notes, just like dollars and euros, are a form of token money, not credit money, even if they are still called "banknotes." The Bank of England is not legally liable like it once was to pay the bearer of the notes on demand in a certain sum of full-weight gold coins. Instead, the amount of gold that a pound represents is determined by the pound "price" of gold on the open bullion market, a "price" that fluctuates minute by minute.

Under the dollar standard, the "price of gold" is quoted in dollars. The "price of gold," as we have seen, is not a price at all. Instead, it is the quantity of gold bullion measured in some unit of weight that a U.S. dollar represents at a given moment in time. The lesser currencies are quoted in terms of U.S. dollars and indirectly in terms of gold through the U.S. dollar. While most countries hold the bulk of reserves in U.S. dollars – in the case of a "run" against their currencies, they can sell U.S. dollars to prop up the value of their currencies – the U.S. holds the bulk of its reserves in gold. In the event of a "run" on the U.S. dollar, the U.S. Treasury can dump gold on the market and at least momentarily prop up the value of the U.S. dollar.

For example, as of March 2015, 74% of U.S. reserves were in old-fashioned gold bullion. China, often pictured as a country that is about to replace the U.S. as the leading economic power, in contrast, had only 1% of its reserves in gold.

By this far-from-unimportant measure in 2015, China had a long way to go to catch up with the U.S. Russia had only 13% of its reserves in gold, while the chief oil monarchy Saudi Arabia had only 2% of its total reserves in the form of gold. A few other countries, mostly imperialist countries keep large percentages of their reserves in gold.

However, there is a catch. A lot of this gold is physically held in the United States, much of it in a huge vault located under the Federal Reserve Bank located near Wall Street in lower Manhattan. Since possession is $^{9}/_{10}$ of the law, if not $^{10}/_{10}$, both U.S. gold reserves proper plus a huge percentage of the gold reserves of other countries are held physically in the United States. Therefore, this foreign gold "backs" the U.S. dollar just like the gold that formerly belonged to the U.S. Treasury Department does. In turn, the U.S.

dollar "backs" the domestic countries of virtually every other country on earth. This is the "monetary" side of the U.S. world empire which enables the U.S. dollar – a token currency – to function not only as the domestic currency of the U.S. but as a world currency that represents gold in circulation on a world market-wide basis.

Dollar standard

What is the current gold value of the dollar? Just open your browser and type in www.kitco.com. Take the reciprocal of the dollar price of gold – if it is $1,500 per ounce, a dollar represents exactly $^{1}/_{1,500}$ of a troy ounce of gold.

The value the dollar represents in terms of hours of abstract human labor is the amount of abstract human labor that it takes to produce $^{1}/_{1,500}$ of a troy ounce of gold at a given moment in time. Once you know how much gold a dollar represents, you can easily calculate how much gold the dollar's satellite currencies represent – for example, the present-day British pound.

You check the current exchange rate of the pound against the dollar – how many dollars a pound represents. You then multiply that number by the amount of gold the dollar represents.

Each of the three forms of money – metallic, token and credit money – is governed by quite different laws. This is why it is important to distinguish between the token money currencies of today and the credit money currencies that prevailed in the days of the international gold standard.

For example, if the quantity of metallic money expands – all else remaining equal – the rate of interest falls, and there is a potential expansion of the market. If the quantity of credit money expands, again all else remaining equal, it will be harder for the issuers of the credit money to redeem the paper credit money for cash. For example, under the fractional reserve banking system, if the banks, through their loans, create more (imaginary) deposits while their reserves of token or metallic money remain unchanged, it will become harder for the banks to redeem their deposits if a "run" develops. Since one piece of money cannot settle two debts at the same time, at some point, an "over-issue" of credit money will lead to a general banking and credit crisis.

If the quantity of token money is increased, all else remaining equal, the result will be a depreciation of the individual currency notes and a general rise of prices in terms of the now-depreciated currency notes. For example, if we were to double the number of paper dollars – again, all other variables remaining equal – the result would be both a doubling of the dollar price of gold and a doubling in terms of dollars of the prices of all other commodities.

Some other properties of token money

Full-weight gold coins can circulate anywhere. Such coins can easily be sent to the melting pot and transformed into bullion and then into other national full-weight coins. In the days of the international gold standard, if I, a Yankee, were paid by a British importer of U.S.-produced commodities in gold sovereigns, I could take them to the U.S. mint, which would weigh the sovereigns, melt them down, and re-coin them into American gold dollars.

But the U.S. mint cannot melt down paper British pounds and reissue them as crisp green American dollars at the current rate of exchange. Therefore, Marx explained, token money generally only circulates in the area governed by the state power that, through its "monetary authority" – either the central bank or the finance ministry – issues the token money. As a general rule, the state power declares the token currency to be "legal tender for all debts private and public." It is declared illegal to refuse it as a means of payment.

However, the U.S. dollar seems to violate this law. Doesn't the dollar circulate in many other countries besides the United States? Indeed, the majority of paper dollars are circulated outside the United States. However, this exception proves the rule. The paper U.S. dollar can circulate outside the area that is formally governed by the U.S. state power because that power certainly doesn't stop at the U.S. border!

For example, when the U.S. government decided to eliminate Osama bin Laden from the ranks of the living, it was not at all deterred by the "technicality" that Pakistan, where bin Laden was living, was not legally a part of the United States. Indeed, in the legal sense, at least, Pakistan is an independent sovereign country.

On the other hand, it is hard to imagine Pakistan similarly eliminating a man wanted by its authorities for crimes against its citizens and residents who happened to be living in the United States. Just like it is hard to imagine the Pakistani rupee replacing the dollar as the main world currency. The U.S. is far more than a country; it is the seat of a worldwide empire. This is why the U.S. dollar, though it is only a form of token money, can circulate throughout the world.

In fact, in countries with strong governments, the U.S. dollar generally does not circulate. Instead, it circulates in countries with weak governments. In these countries, the political and military power of U.S. imperialism is much stronger than the weak political and military power of the local governments. It is under these conditions that the U.S. paper dollar is able so easily to push aside the weak local paper currencies.

How much fiat money can the government and its monetary authority issue?

I have mentioned the "over-issue" of fiat money. I will define fiat money as over-issued when the currency starts to depreciate. Token, or fiat, money can be considered depreciated when the price of gold bullion in terms of fiat money rises above its official value. According to the books of the U.S. Treasury and the International Monetary Fund, the official "price of gold" is $42 per troy ounce. So the U.S. dollar is quite depreciated these days! When the price of gold bullion in the "over-issued" currency rises more and more, serious inflation develops. This has all kinds of negative economic consequences that will be explored in the coming chapters.

But what determines the amount of fiat money that the state can issue before the depreciation of the fiat currency begins? The bourgeois economists and probably the great majority of Marxists agree that the amount is determined by the number of commodities in circulation. As the amount of commodities increases, more and more fiat money can be issued without fear of it depreciating.

Accepting the truth of this argument provisionally, we immediately run into a logical problem. How do we measure the number of commodities in circulation? Perhaps we should measure the amount by their use values. But commodities have the most diverse use values. And as we have already seen with linen and coats, use values that are not qualitatively the same cannot be quantitatively compared. The total amount of commodities in circulation is, therefore, a meaningless phase if we measure commodities in terms of use values.

But as Marxists, we know, unlike the modern bourgeois economists, that the values of commodities are determined by the amounts of abstract human labor necessary to produce them. Therefore, why can't we measure the total amount of value in terms of value – hours of abstract human labor? Won't that determine how much fiat money the monetary authority can issue without the currency depreciating?

Accepting this, again provisionally, we immediately run into another problem. The value of a commodity can only take the form of exchange value. And the exchange value of one commodity can only be measured in terms of the use value of another commodity. We saw that with the example of 20 yards of linen equals one coat. As we have seen, value can never be measured directly in terms of x hours of labor. Even if it could be so mea-

sured, the producers, whether simple commodity producers or industrial capitalists, would have no way of knowing whether their products meet any social need. So, no, that won't do.

It seems that the only way we can measure the total number of commodities in practice is to measure them in terms of exchange values – that is, in terms of prices. Assuming gold is our money commodity, that means measuring the amount of commodities in terms of prices defined as some weight of gold. Remember, the use value of gold that measures the exchange value of commodities is measured by weight. Logically, therefore, the prices of commodities defined in gold exist before any of the fiat money is even issued.

But what determines the prices of commodities? Well, that is an easy one for Marxists. It is value. But that gets us back to the argument that the total value of the commodities in circulation determines how much fiat money the "monetary authority" can issue. But, no, that didn't work. In the long run, we know prices tend towards equality with values but only by constantly deviating from them. So it looks as though we are stuck. Perhaps it's time to ask Marx himself how much token – or fiat – money a monetary authority can issue without the money depreciating.

Marx writes in Chapter 3 of Volume I of *Capital*: "In order that the mass of money actually current, may constantly saturate the absorbing power of the circulation, it is necessary that the quantity of gold and silver in a country be greater than the quantity required to function as coin. This condition is fulfilled by money taking the form of hoards. These reserves serve as conduits for the supply or withdrawal of money to or from the circulation, which in this way never overflows its banks." [1]

We have seen that we can always withdraw full-weight gold coins from circulation and replace them with tokens such as modern fiat money. But only if "the quantity of gold ... in a country [is] greater than the quantity required to function as coin."

In other words, the amount of fiat money that the "monetary authority" can create without the depreciation of the currency is determined not by the number of commodities in circulation but by the amount of gold – or in Marx's day, also silver – in the country. As globalization proceeds, especially regarding the U.S. dollar, it increasingly becomes the amount of gold available on the world market.

1. Karl Marx, *Capital*, Volume One, Chapter Three: Money, Or the Circulation of Commodities. Section 3 Money, A. Hoarding. https://www.marxists.org/archive/marx/works/1867-c1/ch03.htm

The gold need not be in the vaults of the central banks or the various ministries of finance. It can be in private hoards. But it must exist as a physical material reality. It is the quantity of gold measured in terms of weight that is in existence on the world market that ultimately determines how much fiat money the monetary authority or the "collective monetary authorities" of the world can issue before the "fiat money" starts to depreciate.

Money and general crises of overproduction

Under the old international gold standard, the amount of currency – in the form of credit money, not token money – that the monetary authority could issue was more or less limited by the amount of gold in the vaults of the monetary authority. But by freeing the monetary authorities from the need to redeem their currencies in gold on demand – thereby converting their credit money into fiat money – it seemed that the monetary authorities should always be able to create enough money to prevent a general overproduction of commodities relative to money.

If business threatens to slump, shouldn't the monetary authority under fiat money systems be able to create enough money to enable business to keep running smoothly?

Both Keynes and Friedman believed fiat money was key to preventing crises of general overproduction

Both John Maynard Keynes and Milton Friedman reasoned this way. They knew that under the gold standard, the amount of money that the monetary authority could create was limited by law by the amount of gold that was in its vaults. Both men, therefore, supported the replacement of the gold standard with fiat money systems. The way to banish the threat of a generalized overproduction of commodities was a well-managed system of fiat money, they thought.

Friedman believed that establishing such a system would be enough to end crises once and for all, provided the monetary authority issuing the fiat money used its powers wisely. Keynes knew that "fiat money" as well as "gold money" could be hoarded, so he thought that deficit spending by the government might sometimes be necessary to get money circulating again. If the demand for money was strong enough, Keynes reasoned, deficit spending by the government wouldn't work unless the extra demand for money could be met. Where would the extra money come from?

Like Friedman, Keynes answered: from the "printing presses" of the monetary authority. Therefore, both Friedman and Keynes believed that given correct "monetary policies" by the monetary authority, and in Keynes's case, sometimes correct fiscal policies – deficit spending – by the government as well, crises would in the future be avoided.

What neither Keynes nor Friedman could understand, given the limitations of their understanding imposed by the false marginalist theory of value held by both men, was that there is an economic law that does limit the amount of fiat – token – money that can be created without the fiat money depreciating. That amount is limited not by the number of commodities in circulation – if this were true, avoiding crises of the general overproduction of commodities would be easy – but by the amount of gold – money material – that is actually in existence on the world market.

Many Marxist economists today seem to accept the view that under a fiat money system, monetary authorities should always be able to create enough money to prevent a general overproduction of commodities relative to money. Often, in deference to Marx, the socialist press will have a reference to overproduction crises in popular explanations of crises. But the Marxist writers who specialize in economic questions shy away from that explanation and emphasize alternatives – whether underconsumption or the tendency of the rate of profit to fall. At most, these Marxists speak of the "overaccumulation" of capital but avoid the term the general overproduction of commodities that both Marx and Engels saw as the essence of capitalist cyclical crises.

CHAPTER 8
Money as a Means of Payment

Credit relations separate the act of buying from the act of paying. Therefore, the development of credit gives rise to a new function of money: money as a means of payment.

Credit allows me to purchase a commodity with credit rather than with money. But in doing so, I incur a debt payable in money. The capitalists actually purchase the commodity labor power with credit rather than money. When I sell my labor power to an industrial (or other) capitalist, I have to work for a week or more before I collect my wage in money form. It's not unheard of for industrial (and other) capitalists to go bankrupt and fail to pay the debts they owe the workers for the labor power they bought with credit.

Not all debts payable in money are created by the purchase of commodities with credit. For example, tax liabilities payable to the state under conditions of capitalist production have to be paid for in money. In pre-capitalist times, taxes were sometimes payable in kind, but under capitalism, they are almost always payable in money. Ground rent liabilities are also payable in money under capitalist conditions.

Under the feudal system of production that dominated Europe in the centuries before the rise of capitalism, feudal ground rents were either payable in labor – the enserfed peasants having to work on the lord's lands for part of the workweek – or they were payable in kind. During the transition from feudalism to capitalism, rents payable in labor or kind were replaced by rents payable in money.

The history of credit, Marx pointed out in Volume III of *Capital*, Chapter 36, can be divided into two stages. Before the transition to the capitalist mode of production, money lenders lent money to members of the property-owning classes to finance personal consumption or small commodity producers. These money lenders were known as usurers, and their capital was called usu-

rers' capital. The interest rates they charged were far above the interest rates that prevailed later under capitalist production. The exploitation by usurers' capital of small peasants and other small commodity producers was extremely brutal. That is why pre-capitalist money lenders were so widely hated.

Marx writes in Chapter 36, Volume III of *Capital*: "The characteristic forms, however, in which usurer's capital exists in periods antedating capitalist production are of two kinds. I purposely say characteristic forms. The same forms repeat themselves on the basis of capitalist production, but as mere subordinate forms. They are then no longer the forms that determine the character of interest-bearing capital. These two forms are: first, usury by lending money to extravagant members of the upper classes, particularly landowners; secondly, usury by lending money to small producers who possess their own conditions of labor-this includes the artisan, but mainly the peasant, since particularly under pre-capitalist conditions, in so far as they permit of small independent individual producers, the peasant class necessarily constitutes the overwhelming majority of them." (1)

Peasants, for example, often fell into debt to the landowners and had to borrow money either from the landowners themselves, who therefore doubled as usurers, or from a separate class of usurers who charged high interest rates that kept their victims continuously in debt. During the transition to capitalism, peasants were frequently reduced to debt slaves. In this way, usury capital helped to dissolve the pre-capitalist community and create the modern proletariat as a class with nothing to sell but its labor power.

Marx wrote: "Usury has a revolutionary effect in all pre-capitalist modes of production only in so far as it destroys and dissolves those forms of property on whose solid foundation and continual reproduction in the same form the political organization is based. Under Asian forms, usury can continue for a long time without producing anything more than economic decay and political corruption. Only where and when the other prerequisites of capitalist production are present does usury become one of the means assisting in the establishment of the new mode of production by ruining the feudal lord and small-scale producer, on the one hand, and centralizing the conditions of labor into capital, on the other."

But with the transition to capitalism, credit is subordinated to the needs of capital. Marx wrote: "The credit system develops as a reaction against usury.

(1) *Capital*, Volume III Part V: Division of Profit into Interest and Profit of Enterprise. Interest-Bearing Capital. Chapter 36. Pre-Capitalist Relationships https://www.marxists.org/archive/marx/works/1894-c3/ch36.htm

But this should not be misunderstood, nor by any means interpreted in the manner of the ancient writers, the church fathers, Luther, or the early socialists. It signifies no more and no less than the subordination of interest-bearing capital to the conditions and requirements of the capitalist mode of production."

This transition was marked by the rise of the modern banking system accompanied by a considerable fall in the rate of interest. The banks became the pivot of the new capitalist credit system, which from then on served the needs of capitalist production. With the development of the capitalist credit system, the metallic hoard – and later the hoards of token money – were increasingly centralized in the hands of the banks.

Credit money

The development of the modern credit system gave rise to a new form of money: credit money. Credit money is an IOU that can be transferred from one person to another to either purchase commodities or make payments. These IOUs were generally issued by the banks, and increasingly replaced in circulation coins made of money metals such as gold, and later, legal-tender token – paper – money issued by the state monetary authority.

Credit money combines credit relations with monetary relations. Credit money can replace gold and legal-tender token money as a means of purchase or payment. However, the basic function of money, the universal equivalent that measures the exchange values of all commodities in terms of their use value, can only be played by a special money commodity such as gold. In this basic monetary function, gold cannot be replaced by either token money or credit money. Credit money is always payable in another form of money, either in full-weight gold coins, bullion, or nowadays in legal-tender "fiat money" – token money – issued by the state's monetary authority.

In Marx's day, credit money was sometimes called "circulating credit." Though any form of IOU that can be used to purchase commodities and make payments can be considered a form of credit money, credit money has generally taken two forms. Banknotes were widely used as credit money during the 18th and early 19th centuries. Even before the 18th century, bankers sometimes issued a note to a depositor confirming that a certain sum of money in either coin or bullion, had been deposited at the bank. If you wish, you could use such notes to make purchases or pay off your debts in place of actual gold or silver.

The next, and far more important, step was when banks began to make loans or discount commercial paper not in gold or silver coins but in their

banknotes instead. This enabled the banks to create a supply of credit money in the form of banknotes above and beyond the actual amount of (metallic) money that they had on hand in their vaults. This practice is called fractional reserve banking.

Bankers learned from experience that not all owners of banknotes would normally demand redemption of their banknotes at the same time. However, when a bank's credit was shaken for one reason or another, a "run" would develop on the bank. The owners of the bank's notes would attempt to convert the bank's notes into "specie" – gold or silver coin. The bank would fail, and the banknotes would then become worthless.

Originally, such banknotes were issued by private commercial banks. Gradually, the central banks – in their early days called national banks – achieved a monopoly on the issue of banknotes. Since the government kept its bank account at the national bank, these banks became increasingly intertwined with state power. They were thus gradually transformed from corporate, for-profit banks into their modern incarnation as governmental monetary authorities.

During this transition, the national-cum-central banks gradually shifted from making the maximum profit for their shareholders to stabilizing the currency and, insomuch as it is possible under capitalism, the economy. Instead of representing the interests of their shareholders, they came to represent the interests of capitalist society as a whole. When the central banks acquired a monopoly on the issuance of banknotes, they became the sole "bank of issue."

This made it very easy for the government to convert the credit money of the central banks into token money by simply ending the obligation of the central bank to convert their notes into gold or silver on demand. This happened in England for the first time as early as the Bank Restriction Act of 1797, which converted the banknotes of the Bank of England into legal-tender token money.

After the world war that followed the French Revolution, the convertibility of the notes was restored. This renewed convertibility into gold of the Bank of England's banknotes lasted for almost a century but was suspended again when the next world war broke out in 1914.

Banknotes issued by a central bank are credit money as long as they are convertible into either gold coin or bullion. But since they are issued by a central monetary authority closely intertwined with the state power, they

can be easily converted into token money by declaring them legal tender for all debts, private and public, and suspending their convertibility into gold. Therefore, this kind of credit money, whether issued directly by the state or a central bank closely linked to the state power, is always one step away from being converted into token money.

State-issued credit money is, in a sense, a hybrid form of money somewhere between credit money issued by for-profit capitalists and pure token money issued by the state power. In contrast to state-issued credit money, the convertibility of the credit money issued by for-profit commercial banks – whether into gold or token money – can only be briefly suspended if it is not to lose its character of money altogether. Nobody will accept a check drawn on a bankrupt bank that has no prospect of ever redeeming the check in hard cash.

Token money has existed for thousands of years

The evolution of banknotes convertible into gold (or silver) into modern inconvertible paper token money has led to the illusion that token money evolved from credit money and represents an ultra-modern form of money that gives its issuer almost supernatural powers to suspend basic economic laws. But the opposite is the case.

As Marx demonstrated in the first three chapters of Volume I of *Capital*, token money first arose out of coins that, though they were made of metals that functioned as money commodities, became worn down below their legal weight in circulation. As long as the price of bullion in terms of these light coins did not rise above its mint price, the coins were not depreciated. Token money is, therefore, almost as old as coined money itself and has existed for several thousands of years.

Credit money, in contrast, presupposes the rise of the modern capitalist credit system. As long as they remain inconvertible into gold, the banknotes issued by today's central banks are simply a form of token money. They will again become credit money only if and when their convertibility into gold is restored.

The other main form of credit money is deposit money that can be transferred from person to person either by check or today by electronic means. As with banknotes, the banks create deposit money by making loans or discounting commercial paper. Economists sometimes call the deposit – credit – money that is created by the banks through loans and discounts, without actually issuing banknotes, "bank money."

Commercial paper takes two forms. One is a short-term IOU called promissory notes. The other form is the draft or bill of exchange. A draft is a legal document where one person instructs a second person to pay a third person. The most well-known example is the bank check. When you write a check – you are instructing your bank – person two – to pay the third person the check is made out to.

In 19th century Britain a manufacturer would often sell a commodity to a merchant and then draw up a bill of exchange against the merchant due perhaps in three months. The merchant could then sell the bill at a certain discount, the amount of which was determined by the rate of short-term interest to a commercial bank in exchange for banknotes or a credit to their checking account. The commercial bank could either hold the bill until it came due or sell it to the Bank of England at a discount in exchange for Bank of England banknotes, or the commercial bank's checking account at the Bank of England would be credited.

Nowadays, such transactions generally occur through bookkeeping entries – accounts receivable and accounts payable – at least in domestic trade through formal drafts might still be drawn up in international trade where the risk is greater. Today the main form of commercial paper is unsecured short-term promissory notes that corporations and banks issue to raise quick cash.

These operations swell the mass of deposits or bank money far beyond the cash they have, either in the form of vault cash or deposits ("reserves") with the central bank. As was the case with banknotes, a relatively small hoard of "hard cash" can be pyramided up into a much larger quantity of credit money.

Therefore, a considerable "multiple" of credit money can be created on top of the actual amount of metallic money or legal tender token money issued by the state monetary authority – the quantity of token money in real or purchasing-power terms remaining limited by the quantity of gold that exists either in the country or world market as a whole. The development of credit money makes possible a development of the market far beyond that which would be possible with metallic and token money alone.

This enables modern capitalist production with its tendency to expand production without limit to overcome the "metal barrier" – as Marx called it in Volume III of *Capital*, – at one level, which is built into the commodity foundations of capitalist production. Credit money makes possible overproduction on a gigantic scale and therefore plays a crucial role in the formation of crises. For this reason, modern crises of overproduction appeared

only after the modern capitalist credit system and its system of credit money had achieved a considerable degree of development.

Unlike token money, which is generally issued only by the state or its monetary authority, credit money, in contrast, is, as a rule, issued by private capitalists, whose aim, like all other capitalists, is profit. If such profit-motivated private capitalists attempted to issue their own token money, the token money would quickly become worthless because the desire for profit by private capitalists can never be quenched. If they could issue token money, private for-profit capitalists would issue it in unlimited amounts, leading to its complete collapse.

Limitations on the amount of credit money that can be created

If credit money were limited only by the number of commodities in circulation, it would be able to banish generalized crises of overproduction. Like Say claimed, demand would only be limited by production. But credit money cannot achieve this because it is payable in money, not commodities. Ultimately, the amount of credit money that can be created is limited by the amount of metallic money, either directly when the credit money is payable either in gold coins or bullion or indirectly when it is payable in legal tender token money. Therefore, while the quantity of credit money can greatly exceed the quantity of metallic money, that quantity is also limited in the final analysis by the amount of metallic money in existence.

The total quantity of credit money cannot exceed a certain multiple of the amount of metallic money. What determines that multiple? Like all forms of credit, credit money runs into the limit that a piece of money – whether metallic or token – cannot discharge two debts at the same time. If the mass of credit money keeps on growing relative to the mass of either the metallic or token money it is payable in, it will implode sooner or later. At some point, the issuers of credit money will find themselves unable to raise enough metallic or token money to redeem all the credit money they have created. The result is then a credit and banking crisis.

The moment that owners of credit money begin to sense that the issuers can no longer meet all the demands to redeem the credit money, a panic develops. Such panics are sometimes called "monetary crises." The owners of credit money attempt all at once to convert their credit money into hard cash – whether gold or legal-tender paper money. The result is that a portion of the credit money is destroyed. Or, as the bourgeois economists say, the money supply contracts.

Clearing agreements make possible economizing of metallic and token money and the expansion of the market

The ability to economize on either gold coin or token money by increasing its velocity of circulation runs into the limit that a single coin or currency note can only make one purchase at a time. "The fact that a number of sales take place simultaneously, and side by side," Marx writes in Chapter 3, Volume I of *Capital*, "limits the extent to which coin can be replaced by the rapidity of currency."

However, Marx explains that this becomes "a new lever in economizing the means of payment." He continues: "In proportion as payments are concentrated at one spot, special institutions and methods are developed for their liquidation. Such in the middle ages were the virements at Lyons. The debts due to A from B, to B from C, to C from A, and so on, have only to be confronted with each other in order to annul each other to a certain extent, like positive and negative quantities. There thus remains only a single balance to pay. The greater the amount of the payments concentrated, the less is this balance relatively to that amount, and the less is the mass of the means of payment in circulation."

These clearing agreements, as they are known, enable the market to be extended beyond what could otherwise be supported by a given quantity of money. As capitalism developed, clearing agreements became centralized in the hands of the banking system. Since the late 19th century, most business payments have been settled by check, not by metallic or banknote money.

Capitalist A has to discharge a debt to capitalist B. A writes a check that instructs his banker to pay B. B, for his part, rather than cash the check, will deposit A's check with his or her own banker. If A and B share the same banker, no money will actually change hands. The bank will simply debit A's account and credit B's, a purely bookkeeping transaction.

But banks take this one step further. They form clearing houses, which are nowadays managed by the central bank. On any given day, many checks are written against a given bank, but on the same day, many other checks are deposited in the same bank. A bank does not need to make a cash payment every time a check is written against it.

Instead, what the banks have to do is get together in the clearing house and calculate the overall net balances. The vast majority of checks that are drawn on the banks simply cancel each other out. If the reserves of the bank(s) that need to come up with cash were to drop below the required level as a result of making the payments, they borrow the money overnight

from banks with a surplus of reserves at the "federal funds rate" as it is called in the U.S., greatly economizing on the need for actual cash on hand.

In this way, the modern banking system supports a vast mass of transactions with a relatively small amount of cash. This makes possible a vast expansion of the market based on a given quantity of metallic or token money. But the market still cannot overcome the ultimate limit set by the fact that a single piece of money, whether metallic or token, can only discharge one debt at a time. The whole system of payments becomes more and more artificial, shaky and unstable as the number of credit money grows relative to metallic and token money. This vast growth in the amount of transactions supported on the base of a relatively tiny amount of metal and legal tender token money becomes a powerful force for instability and the formation of crises.

"The function of money as the means of payment," Marx wrote in Chapter 3 of Volume I of *Capital*, "implies a contradiction without a terminus medius."

He continues: "In so far as the payments balance one another, money functions only ideally as money of account, as a measure of value. In so far as actual payments have to be made, money does not serve as a circulating medium, as a mere transient agent in the interchange of products, but as the individual incarnation of social labor, as the independent form of existence of exchange-value, as the universal commodity. This contradiction comes to a head in those phases of industrial and commercial crises, which are known as monetary crises. Such a crisis occurs only where the everlengthening chain of payments and an artificial system of settling them, has been fully developed.

"Whenever there is a general and extensive disturbance of this mechanism, no matter what its cause, money becomes suddenly and immediately transformed, from its merely ideal shape of money of account, into hard cash. Profane commodities can no longer replace it. The use-value of commodities becomes valueless, and their value vanishes in the presence of its own independent form. On the eve of the crisis, the bourgeois, with the self-sufficiency that springs from intoxicating prosperity, declares money to be a vain imagination. Commodities alone are money. But now the cry is everywhere: money alone is a commodity! As the heart pants after fresh water, so pants his soul after money, the only wealth. In a crisis, the antithesis between commodities and their value-form, money, becomes heightened into an absolute contradiction. Hence, in such events, the form under which money appears is of no importance. The money famine continues, whether payments have to be made in gold or credit money such as bank notes."

The dollar system and the empire

We should make a few observations about the above quote. In Marx's time, only gold or banknotes convertible into gold, such as the banknotes of the Bank of England, were widely accepted as a means of payment on the world market. However, in today's world, the U.S. paper dollar, though it is not convertible into gold, and is therefore token money, not credit money, is widely accepted as a means of payment. The world economy has become "dollarized."

Some of the more brazen champions of U.S. imperialism argued that the huge debt that the United States acquired starting in the early 1980s through its trade and balance of payments deficits is not a danger because "we [U.S. imperialism –S.W.] can pay our debts in our own currency." This is like using your computer's printer to print money to pay off your debts. Since the U.S. government happens to own a printing press that prints dollars that "we can pay our debts with" – a privilege denied to everybody else – "we don't have to worry about our foreign debt."

This argument, though it contains an element of truth, goes much too far. Take the example of a government that issues its own paper currency. This does not mean that such a government doesn't have to collect taxes because it can always pay for the commodities, including labor power, it must purchase through its newly printed paper money. If it attempted to do this, it would not get away with it for very long. Such paper money would quickly fall into disrepute and become worthless as the quantity of such paper would explode.

Currency issue whether convertible into gold currency or paper currency must be balanced-off by a mechanism that withdraws currency from circulation. In the case of state-issued paper money, taxes provide such a mechanism because taxes are always payable in paper money. This prevents the quantity of paper money from exploding. There are many examples in history where governments have attempted to finance their expenditures by issuing paper money while unwilling or unable to collect sufficient taxes to finance these expenditures. Invariably the result is runaway inflation.

The fact that so many debts are denominated in dollars, though the dollar represents a variable, not a constant amount of real money – gold – on the world market, does however give U.S. imperialism extraordinary power.

This power was illustrated during the crisis of 2007-2009. The first phase of the crisis began in August 2007 when U.S. credit markets first froze up. The immediate reason for the freeze-up was the dawning realization by market traders that many of the "sub-prime" mortgages had been issued to

home buyers who couldn't possibly afford to pay them. This meant that the huge mass of securities that had been issued on the basis that these mortgages were collectible was, in fact, "toxic assets." In reality, subprime mortgages were simply the weakest link in a huge chain of credit.

Like all chains, it broke first at its weakest link. In earlier times, a huge scramble for "hard cash" such as occurred in August 2007 would have caused world commodity prices to plummet! But "the markets" – that is, the capitalists who speculate on changes in the prices of stocks, bonds, commodities, and so on – assumed that the U.S. Federal Reserve Board would simply run the "printing presses" to prevent the international chain of credit from collapsing at that point. If the credit chain was allowed to snap, the speculators reasoned, a serious global recession would result, and the Fed certainly wouldn't allow that to happen, would they?

Instead, the speculators dumped dollars and bought gold and commodities, or rather contracts to receive them – such speculators have no intention of actually receiving the physical commodities. For example, they have no facilities to store the oil.

After only briefly plunging in August 2007, commodity prices as measured in U.S. dollars quickly reversed direction and started to soar instead. As the dollar declined against gold, prices in terms of dollars for commodities such as oil soared. Oil rose from about $75 per barrel just before the initial panic of August 2007 to $147 at one point the following July.

However, figures issued by the Federal Reserve Bank of St. Louis show that the Fed did not create the huge mass of new dollar-denominated token money that the speculators were counting on. Instead, the Fed played a trick on the market. It attempted to redirect credit to places where the chain of payments was breaking, much like the captain of a leaky ship tries to keep the ship afloat by patching the individual leaks. The actual growth rate of the quantity of dollar token money barely rose.

However, since the market expected the Fed to create a huge new mass of token money, the dollar did indeed depreciate against gold. The dollar price of gold bullion rose from about $672 when the crisis first broke out in August 2007 to over $1,000 at one point in March 2008 and generally remained around $900, sometimes higher, through August 2008. Commodity prices responded naturally. Since the U.S. paper dollar now represented less real money – gold – primary commodity prices in terms of paper dollars rose.

This, however, only made the credit strain worse. As prices rose, more dollars were needed to circulate the mass of commodities in the world market,

and the debts payable in U.S. dollars rose. But the amount of actual dollar token money necessary to support the increased dollar prices of commodities and pay the rising dollar-denominated debt rose hardly at all. When the market participants realized what was happening, a panic far worse than the one of August 2007 hit the global credit markets in September 2008, starting with the failure of (in)famous Lehman Brothers investment bank.

The chain of credit broke at a thousand and one points; world trade, industrial production, and employment all sharply contracted. Cash – in the form of U.S. dollars, which under the dollar system is the medium in which most debts are denominated – was king. Many speculators who had bought huge amounts of gold expecting its dollar price to rise were forced to sell off their gold to meet demands that their debts denominated in U.S. dollars be paid off immediately. Even if they hadn't bought their gold on credit, they were often forced to liquidate their gold to meet other debts they had incurred that were being called in that were payable in U.S. dollars. In this way, the panic prevented the grave crisis of the dollar system (reflected in the dollar's collapse in value against gold) that seemed to be developing between August 2007 and September 2008.

When the panic broke out in full force in September 2008, the dollar, which had been sinking against other currencies such as the euro, pound, and yen as well as against gold, suddenly reversed direction and started to soar. The dollar price of gold, which measures the amount of gold that the dollar represents at any given moment, fell from over $964 on July 12, 2008, to less than $724 on October 31 at the height of the panic.

The dollar hadn't completely recovered the gold value it had lost after the initial crisis of August 2007, but it had staged a considerable recovery all the same. The dollar's role as the world's main means of payment was reaffirmed. The hope expressed by some Marxists and other anti-imperialists that the dollar system was finally on the way out proved once again premature.

At this point, the Fed panicked and began to create token money at a rate that, in the absence of this extraordinary demand for dollars as a means of payment, would imply a five- or six-digit annual level of inflation! The Fed resorted to this desperate measure because it, for good reason, feared a bank run far worse than anything ever seen before in the storied history of capitalist panics, including ones that occurred during the infamous crisis of the early 1930s.

If such a bank run had developed, the hugely inflated mass of credit money, and credit on top of that, would have imploded. The "money supply" would have collapsed much as it did during the 1929-33 crisis. This would have led to a disaster far worse than anything that occurred in the early 1930s. Not only would there have been almost unimaginable levels of unemployment, but there could have been widespread starvation beyond anything that occurred in the early 1930s if wholesale and retail grocers had begun to refuse payment in anything other than green legal tender dollars.

Why is this the case? Society today is far more dependent on credit and credit money – especially credit money issued by the for-profit commercial banks as opposed to the convertible-into-gold currency that was issued by either the U.S. Treasury or the Federal Reserve System until 1933, which could always in a crunch be converted into token money by "simply going off gold."

During the crisis of 1929-33, there were neither credit cards nor debit cards. In those days, people mostly used cash in the form of either coin made of base metals – a form of token money – or at most, dollars issued by the U.S. Treasury and Federal Reserve that could easily have been converted into token money to purchase food and other essential daily commodities.

The temporary strength of the dollar based on the panic-driven demand for dollars as a means of payment enabled the incoming Obama administration to launch its so-called $800 billion "stimulus plan" – while at the same time continuing to spend hundreds of billions of dollars more on the occupations and wars against the people of Afghanistan, Iraq, and other countries. The Obama administration as well as the leadership of the Federal Reserve System hoped the "monetarily effective demand" that these measures were expected to create would kick-start a new upturn in the worldwide industrial cycle. However, because the demand for dollars was so strong as a means of payment and as a means of hoarding against a renewed crisis, the subsequent rise in the industrial cycle was much weaker than expected.

The European Central Bank, because of the far more limited role of the euro as a means of payment and the lack of a centralized European-wide central government, was obliged to be far more cautious. Indeed, the crisis of 2007-09 was followed by a long-drawn-out "sovereign debt crisis," as it was called, in Europe. This crisis renewed the recession in the weakest European countries, such as Greece, as they were forced to adopt drastic cuts in government spending.

This sovereign debt crisis greatly hindered the recovery from the global recession but also helped keep the demand for the U.S. dollar high as a means of payment – though not as high as at the height of the crisis in 2008 and early 2009 – thereby staving off for the time being a full-scale dollar crisis despite the continued rapid growth of the quantity of dollar-denominated token money.

As a general rule, it is correct for the monetary authority to meet the demand for extra means of payment during a crisis. Marx strongly criticized the English banking legislation of 1844 precisely because it prohibited the Bank of England from issuing extra banknotes in excess of its gold reserves during crises, even when there was no threat to the continued convertibility of the Bank of England's banknotes into gold. Since the public knew that due to the Bank Act of 1844, the Bank of England could not issue banknotes to meet the extra demand for them as a means of payment during crises, capitalists would attempt to immediately convert their deposits and other assets into Bank of England notes at the first sign of the crisis. This greatly intensified the crises.

As a result, during the three successive crises of 1847, 1857, and 1866, the banking legislation that limited the issuance of banknotes by the Bank of England had to be suspended. In two of the three cases, the crises of 1847 and 1866, no additional banknotes had to be issued to halt the panic. All it took was for the public to know the Bank of England could issue extra notes if additional means of payment were demanded.

Only during the crisis of 1857 were extra banknotes actually issued, and then only briefly. On that occasion, the issuing of banknotes in excess of the Bank of England's gold reserve in no way threatened the convertibility of the Bank of England banknotes into gold.

But when the monetary authority goes beyond the meeting of a demand for extra means of payment in a crisis and expands the supply of means of payment in the form of token – not credit – money to prevent the prices measured in terms of paper money from falling, there are indeed serious economic consequences. First, such policies, sometimes called "inflation targeting," are incompatible with any form of the gold standard, including the post-World II Bretton Woods system.

A situation where prices of most commodities rise continuously – as opposed to periodically – in terms of the money commodity is highly unlikely. The reason is that if the commodity that serves as the universal equivalent – money – falls continuously in its relative value against most other commodities, it will lose its role as money.

For example, silver in the final decades of the 19th century started to fall sharply in value against other commodities. As a result, silver became progressively demonetized. If in the future, the value of gold were for a prolonged period to fall relative to the value of most other commodities, it too would be replaced in its role as money by another commodity, probably another still more precious metal.

Keeping the above in mind, we know that market prices fluctuate around prices of production, sometimes exceeding them and sometimes falling below them. And we also know that with certain modifications [see appendix on the transformation problem] prices of production are themselves governed by relative labor values of commodities, on one side, and the commodity that in its use value measures the value of all other commodities on the other. This means that under the gold standard, periods of rising prices must be offset by periods of falling prices.

However, since the economic crisis of 1929-1933 – the causes of the extraordinary severity of this crisis will be examined in future chapters – the monetary authorities have striven to prevent any fall in the general price level measured in terms of currency. The only way to prevent periodic falls in prices is to periodically devalue the paper currencies against gold – that is, the currency price of gold must periodically be allowed to rise.

Over time, the monetary tokens of a given denomination – such as one dollar – have come to represent ever more minute weights of gold. For example, the U.S. dollar, which represented 0.04838 troy ounces of gold before 1933 when the policy of preventing any fall in the general price level as measured in currency began, had fallen to around 0.00067 troy ounces by 2011. In May 2011, the dollar represented only about 1.38% of the gold – money material – that it represented in February 1933 just before the periodic dollar devaluations began!

These policies of the U.S. government and its monetary authority – the Federal Reserve System – made the collapse of the post-World War II Bretton Woods System inevitable. The Bretton Woods system was a modified form of the international gold standard. Its centerpiece was the fact that the dollar was defined as $^1/_{35}$, or 0.2857, troy ounce of gold. However, there was no way to keep the dollar price of gold at $35 an ounce while the price of almost all other commodities kept right on rising.

The cost price of a troy ounce of gold kept rising while the "selling price" remained $35. This progressively undermined the profitability of mining gold, both relative to other commodities and absolutely. A commodity that

is not profitable to produce – even if it functions as the money commodity – is not produced under the capitalist mode of production. Eventually, the growing shortage of gold meant that the dollar price of gold could not be maintained at $35 – despite the continuing promises of the U.S. Treasury to the contrary – and the dollar price of gold exploded upward, depreciating the dollar.

This is an example of the law of the labor value of commodities in action. The real prices – that is, the prices of commodities measured in the use value of gold – could not keep rising indefinitely no matter how much the economists influenced by Lord Keynes believed that was desirable. The only way to keep the dollar price of commodities rising once the price of commodities in terms of gold had risen significantly above their prices of production was to devalue and depreciate the dollar – reduce the quantity of gold that a dollar represented. When this happened, the actual commodity prices in terms of the use value of gold – real prices – fell sharply, and only the dollar price of commodities continued to rise.

Lack of liquidity versus lack of solvency

Accountants define a company as insolvent when its liabilities exceed its assets. If prices rise, assuming its liabilities remain unchanged, a company that may be insolvent at one price level becomes solvent at a higher price level. We know as Marxists – though not modern bourgeois economists – that commodity prices are, in the final analysis, governed by the relative labor values of commodities and the money commodity. Therefore, if a company's assets exceed its liabilities when commodity prices are at their average levels – that is, more or less at levels that directly reflect their labor values – the company can be considered solvent.

During periods of abnormal demand for means of payment, such as during crises of overproduction, a perfectly solvent enterprise might be unable to come up with the cash to meet panicky demands for immediate repayment of debts that would not be made under normal conditions. Under these conditions, industrial and commercial capitalists are forced to sell their commodities at prices that are well below their prices of production to raise cash to meet immediate demands for payment under pain of losing all their capital. Therefore, capitalists that are perfectly solvent, assuming market prices that are near the prices of production, can be forced into bankruptcy.

The classic case involves commercial banks under the fractional reserve system. The bankers know that under normal circumstances, their custom-

ers will never attempt to withdraw all their money at the same time. They, therefore, keep far less cash on hand – in the form of vault cash and their deposits in the central bank – than they would need to pay all their depositors if the depositors suddenly cashed in their accounts. All other things remaining equal, the bankers make higher profits the less cash they keep idle in their vaults or at the central bank.

However, during a crisis, an abnormal demand for money as a means of payment develops. This creates a danger that a substantial fraction of the deposit-owning public will attempt to withdraw money from the commercial banking system. Such bank runs can force perfectly solvent banks into bankruptcy.

It is, therefore, a legitimate operation from the viewpoint of the economic laws that govern the capitalist system for the central bank to loan extra means of payments to such banks until the panic subsides and the demand for money as a means of payment returns to a more normal level.

Proper and improper financial operations

To avoid misunderstandings regarding proper and improper operations, I am referring to what is proper and improper from the viewpoint of the economic laws that govern the capitalist system and not what the workers should demand. These are two completely different things. The workers' movement is not – or at least should not – be bound by the economic laws of capitalism. Unlike the capitalist class, the working class has the power to go beyond them by building a socialist economy.

However, if a bank has loans to enterprises and people who cannot repay them, even when there is no abnormal demand for money as a means of payment, such a bank, like the enterprises it has loaned money to, is insolvent. The bank's liabilities in the form of deposits will exceed its assets – its loans. Such a bank will collapse sooner or later. In this case, the job of the central bank and bank regulators is to liquidate such an institution in a way that does not disrupt the payments system as a whole – that is, disrupt the convertibility of deposit money into hard cash. In such cases, the stockholders of such a bank are supposed to lose their entire investment in the bank. This was the reigning doctrine among bank regulators in England by the late 19th century.

However, today's bourgeois economists and central bankers, who have no understanding of the law of labor value of commodities, believe that they can "manage the currency" in such a way that there is a continuous

if gradual rise in the general price level – between 1 to 3% per year. Therefore, they believe that many industrial and commercial enterprises and the banks that loan money to them that would be insolvent under a gold standard, where prices must periodically fall, can thus be kept solvent. In this way, they imagine they defeat the basic economic laws of capitalism without abolishing capitalism.

Stabilization recessions

This playing with the basic laws that govern the capitalist system, however, has all kinds of effects that we will examine closely in future chapters. One example that we can look at here is what is sometimes called a "stabilization recession." Such a recession occurs when the monetary authorities stabilize the gold value of the currency after a period of progressive currency devaluation.

During periods of currency devaluation – defined as a rising currency price of gold – both industrial and commercial capitalists expect primary commodity prices measured in terms of the depreciating currency to rise. The capitalists buy commodities and stockpile them before commodity prices – in terms of the depreciating currency – rise while putting off the sale of the commodities they sell to allow for as much time as possible for the prices of these commodities to rise.

Speculators appear who buy commodities for the sole purpose of withholding them from the market as prices rise. Such speculation further accelerates inflation but is not the real cause of it.

As long as primary commodity prices remain high in terms of depreciating currency, it is only a matter of time before the higher primary commodity prices work their way through "the pipeline" of wholesale prices to retail prices.

Therefore, the measures that all capitalists must take under pain of losing all or part of their capital lead to higher prices – first primary commodity prices, then wholesale or producer prices, and finally retail prices. The workers, too, must demand higher wages in terms of the *depreciating currency*, or sooner or later, real wages will fall below the levels that enable the workers to reproduce their labor power.

Economists of the Keynesian school then blame the rise in the nominal wages of the workers for inflation, which is really caused by the inflationary policies of the monetary authorities. They falsely claim that if only the

workers were to practice "wage moderation," inflation would not occur no matter how much the currency is devalued (against gold). Such demands for "wage moderation" are never matched with demands for profit moderation. On the contrary! A rise in the rate and mass of profit for the capitalists is seen as the key to recovery! We will examine this more closely in future chapters that will deal with the work of Keynes.

As the currency depreciates, a race develops between the rising general price level and the growth of the quantity of both token money and the much greater quantity of credit money that is built on top of the base of token money. At some point, the monetary authority, under pain of the collapse of the currency altogether, is forced to "stabilize the currency" – that is, halt its further depreciation. One such example is the "Volcker shock" of 1979-1982.

The Volcker shock is named after Paul Volcker, who was chairman of the board of governors of the Federal Reserve System between August 1979 to August 1987. During the five-months between August 1979 and January 1980, the dollar price of gold more than doubled, rising from around $300 in August 1970 an ounce to $875 an ounce at the peak in January 1980. In less than six months, the U.S. dollar, which wasn't just any currency but the pivot of the entire world's monetary and credit system, lost more than half its gold value! The market feared that in a last-ditch attempt to stave off the then-looming recession, the Federal Reserve System would double the dollar monetary base in a bid to prevent the rate of interest from exploding.

In the fall of 2008, this is exactly what the Federal Reserve Board did. It was able to do so because the panic was already in full swing creating an extraordinary demand for the dollar as a means of payment and hoarding. But this was not the case when Paul Volcker was appointed chairman of the Federal Reserve Board. Volcker though he did not slow down the rate of growth of the dollar monetary base, refused to accelerate it either to accommodate the soaring rate of dollar price inflation. The result was an explosion of the rate of interest, a contraction of credit, and a prolonged period of recession that led to the collapse of much of U.S. and British basic industry. That was the price that had to be paid to save the dollar system.

The general pattern of crises under the dollar system is that a crisis of the dollar immediately precedes the outbreak of a general crisis of overproduction. When the crisis does break out, it creates a sudden increase in the demand for U.S. dollars as a means of payment and hoarding, thus ending the immediate threat to the dollar system.

When the monetary authority, after a period of currency depreciation, moves to stabilize the currency, a stabilization recession results. The stabilization recession develops as it becomes clear to the capitalists that the monetary authority is serious about "halting inflation." Expectations of rising primary commodity prices change into expectations of falling primary commodity prices.

Instead of buying more commodities to "beat the price increases," the capitalists suddenly put off purchases as long as possible to take advantage of the now-falling primary commodity prices. On the other hand, commodities that were previously withheld from the market in order to wait for still higher prices are suddenly dumped on the market in the hope they can be sold off before prices fall even more.

Apparent commodity shortages turn into commodity gluts overnight. One-day production can't keep up with demand. The next day, mountains of unsold commodities pile up in the warehouses. The result is canceled orders, falling industrial production, and contracting employment, just like what happens during crises of overproduction. Such stabilization crises, therefore, mimic the symptoms of crises of overproduction and can indeed become intertwined with actual crises of overproduction, as we will see in future chapters.

However, in principle, we should distinguish between stabilization recessions that can be abolished by restoring the gold standard – that is, passing legislation that takes away the ability of the central bankers to lower the value of the currency by forcing them once again to redeem the currency they issue for gold bullion or coin at a fixed rate to the bearer on demand – and crises of overproduction that can only be abolished by transforming capitalist production into socialist production. Crises of overproduction and stabilization recessions are two quite different things.

Therefore, a theory of crisis must first be constructed assuming a gold standard where only metallic and credit money exist. Only in this way will it be possible to separate the cyclical movements that arise from the basic contradictions of capitalism from the additional layer of instability that arises from attempts to manipulate the value of the currency in an attempt to offset the fluctuations of the industrial cycle.

CHAPTER 9
Profit and Interest

Some assumptions made in this chapter

In the last chapter, I indicated that when I examine the industrial cycle proper, I will assume initially that only metallic money and credit money exist and bring in token money at a later stage – that is, I will assume a gold standard.

However, in this chapter, it is more useful to assume the existence of not only metallic and credit money but also token-paper money. Here I will assume a paper money system and not the gold standard. The reason is that the laws determining the interest rate only find their full expression under a token money standard.

The rate of interest and the profit of enterprise

The owners of capital are "entitled" to both interest and profit of enterprise as long as they work with their own capital. If, however, they lend their capital to another capitalist, they are entitled only to interest. The borrower of the capital – the active capitalists – is entitled to the profit of enterprise on the borrowed capital but not the interest. While real capital – productive and commodity capital – can be lent, money capital can be lent far more easily than real capital. Indeed, the pure money capitalist must lend their capital – or invest in shares – because it is only through being lent that the relatively small amounts of capital owned by the individual money capitalists can function as capital.

Real capital is only occasionally lent, while money capital – as long as it is owned by pure money capitalists – must either be lent or invested in shares. In the case of shares, the individual shareholder is a money capitalist, while the collective capitalist – the corporation – is the active capitalist who owns the real capital – the productive and/or commodity capital. The more

capitalism develops, the more the individual capitalists become "pure" money capitalists who do not directly own any real capital. Because loan capital is dominated by money capital, the relative quantity of money seeking to be turned into capital by being lent out at interest relative to the quantity of real capital plays a decisive role in determining how much of the profit goes to the profit of enterprise and how much goes to the interest on capital.

The rate of interest must be lower than the rate of profit

The rate of interest cannot, in the long run – that is, outside of crises – be equal to or exceed the rate of profit. If it does, it would be in the interest of the industrial capitalists, who produce surplus value, to turn into money capitalists. Therefore, a rate of interest that equals or exceeds the rate of profit destroys the incentive to produce surplus value no matter how high the rate of profit. Such a situation cannot persist in the long run, so whenever the rate of interest approaches the rate of profit, the rate of interest will fall.

Therefore, the rate of profit establishes the upper limit for the rate of interest. But what determines the lower limit? The rate of interest cannot fall to zero because if it did, the money capitalists would turn into misers. There would be no advantage in lending money. Why take the risk of not being paid back or being paid back in devalued currency for no "reward" whatsoever? A zero rate of interest is not compatible with the credit system.

It is sometimes claimed that the rate of profit determines the rate of interest. In fact, the rate of profit only determines the upper limit of the rate of interest. A high rate of interest is not compatible with a low rate of profit, but a low rate of interest is perfectly compatible with a high rate of profit.

Long-term trend of the rate of interest

Assuming a long-term downward trend of the rate of profit rooted ultimately in the rising organic composition of capital, we would expect that the rate of interest will also tend to fall since as the rate of profit falls, the maximum sustainable interest rate falls with it. In addition, the lower the rate of profit, the lower the rate of interest must be relative to the rate of profit if a substantial profit of enterprise is to be preserved.

For example, if the rate of profit is 20%, even a rate of interest of 15% will preserve a profit of enterprise of 5%. But if the rate of profit were to fall to 2%, even a 1% rate of interest would allow only a 1% rate of the profit of enterprise. Therefore, a fall in the rate of profit tends to cause a somewhat sharper fall in the rate of interest.

No natural rate of interest

Many bourgeois economists, especially those of the neo-liberal school, such as Milton Friedman, claim that there is a "natural rate of interest." The rate of interest is supposed to be determined by the productivity of capital or, more precisely, by the value of the marginal product of capital. In marginalist theory, the rate of interest is supposed to reflect the degree of scarcity of capital as a "factor of production."

Marx, in Volume III of *Capital*, in contrast, explained that while there are natural prices – prices of production – of commodities, ultimately determined by their labor values, there is no such thing as a natural rate of interest. Instead, the rate of interest can be anywhere from just above zero to just below the rate of profit.

The rate of interest is determined by the competition between the owners of loan capital – mostly money capitalists – on one side and the industrial and commercial capitalists on the other. If the money capitalists are in a strong competitive position, the rate of interest will approach the upper limit set by the rate of profit. If, on the other hand, the balance of forces strongly favors the industrial and commercial capitalists, the rate of interest will approach the limit of zero.

Keynes, in his *General Theory*, actually agreed with Marx on this point rather than the orthodox marginalists. Like Marx, Keynes understood that the rate of interest is determined by the scarcity of *money* capital, not real capital. Keynes defined interest as the reward that money capitalists obtain for not hoarding money.

Those who claim that the economics of Keynes and the economics of Marx are compatible primarily base themselves on this point of agreement between the two economic thinkers. Unlike Marx, however, Keynes was *not concerned* about where the "reward" money capitalists obtain for performing the great "service" of not hoarding money comes from.

We now have to examine exactly what determines the relative strength of the money capitalists on one side and the industrial and commercial capitalists on the other. As we saw above, the most important factor in determining the balance of forces between the money capitalist and the industrial and commercial capitalists is the quantity of real capital – productive capital plus commodity capital – relative to the quantity of money capital. Remember, an industrial capitalist is an owner of productive capital, both constant and variable, a commercial capitalist or merchant is an owner of

commodity capital, and a money capitalist is an owner of money lent out at interest or invested in shares.

If real capital – both productive and commodity – is abundant relative to money capital, the balance of forces on the market will favor the money capitalist, and interest rates will be high relative to total profit. Conversely, if money capital is abundant relative to real capital, the battle of competition will favor the industrial and commercial capitalists, and the rate of interest will be low relative to the total profit.

In the preceding chapters, we have seen that there are three forms of money. First and most important, there is actual money material, sometimes called real money by Marx; second, there is token or legal-tender paper money; and third, there is credit money.

Just as real capital is made up of commodities representing congealed abstract human labor, real money, in contrast to token and credit money, is made up of a special commodity – the money commodity – that, like all commodities, represents congealed abstract human labor. It differs from other commodities only as a consequence of its very special use value. The labor congealed in the money commodity due to its use value as money material is *directly social*. This is true because its primary use value is to measure the value of all other commodities in terms of their own use value. In contrast to all other commodities, the money commodity does not have to be sold to demonstrate that the private labor used to produce it is a fraction of the total social labor.

In contrast, the "value" of token money comes not from the trivial value of paper and ink or the value of the base metals used for fractional coinage but from its role as the representative of money material in circulation. For this reason, token money is sometimes called representative money.

Credit money is a promise of one party – usually a bank – to pay another party that can be used as a "money substitute" by its owner to make purchases and payments. Therefore, though token and credit money can be used in place of metallic or gold money as a means of purchase and payment, it can never replace real money in its role as the universal measure of the value of commodities.

As we saw in the preceding chapters, the quantity of both token and credit money in terms of the amount of real money it represents – and through real money, the amount of abstract human labor, or value, it represents – is dependent on the quantity of money material in existence. The question then becomes, how much token and credit money can be produced on a

given base of real money? We have already seen that the quantity of token plus credit money can considerably exceed the amount of metallic money.

The relationship between the quantity of money material and the quantity of token plus credit money – what bourgeois economists call the money supply – is not rigidly fixed. Indeed, with the development of the credit system, the amount of token plus credit money that can be produced on a base of a given quantity of real money expands. However, when a crisis – whether a crisis of overproduction or some other type of crisis – shakes the "confidence" of the capitalists in the solidity of capitalist reproduction, the quantity of token plus credit money that can be created on a given base of real money can dramatically and suddenly decline.

The most dramatic example in history is the contraction of the global money supply during the infamous crisis of 1929-33. This partially reflected bank failures – mainly in the United States that wiped out the promises to pay checkable deposits through the bankruptcy of the banks – plus the fact that many more bank loans were repaid than taken out during the crisis years. But despite the decline in the "money supply," there was no decline in the quantity of real money – gold – during the crisis. In fact, the quantity of real money grew at an accelerated rate during that crisis.

During the crisis of 2007-09, there was also a sharp decline in the quantity of "checkbook" bank credit money relative to the huge increase in the "monetary base" of legal-tender token money created by the U.S. Federal Reserve System and other monetary authorities. The 2007-09 crisis also reversed a decline in world gold production that had begun in 2001 and therefore accelerated the growth of the quantity of "real money." We will look at the effect of crises on the production and rate of growth of money material in future chapters.

However, leaving aside sharp fluctuations caused by crises, the amount of token and credit money that can be created on a given base of real money will be determined by the degree of development of the credit system. Assuming the degree of this development is a given outside of crises, the amount of token and credit money that can be created in terms of real purchasing power, though not in terms of arbitrary units such as dollars, euros, yen, and so on, will be determined by the amount of real money in existence.

Rate of interest and the industrial cycle

Let's examine how this law is illustrated by the behavior of the rate of interest in the course of a "normal" industrial cycle. During the boom,

when capitalist expanded reproduction is flourishing, the growth rate of real capital is high absolutely but, for reasons that we will examine in future chapters, also relative to the growth of the quantity of money material. The boom, therefore, tends to shift the relationship in the money market in favor of the money capitalists as opposed to the industrial and commercial capitalists.

As a result, both long- and short-term interest rates rise during the boom phase of the industrial cycle. The only reason that the profit of enterprise – the difference between the rate of profit and the rate of interest – doesn't collapse, and with it, the boom sooner than it does is that the overall rate of profit also rises sharply during the boom phase of the industrial cycle. During the boom, money capitalists get a relatively larger piece of a rapidly growing "pie" of profit.

During the crisis, on the other hand, the quantity of real capital contracts – inventories are liquidated, and unprofitable factories are destroyed – and the value of much of the remaining fixed capital that remains is "written down." In addition, the creation of new real commodity capital – inventories – and new means of production is sharply constricted. Commodity capital is sharply reduced as inventories are liquidated, often at distressed prices. But the growth of metallic money – the world gold hoard – keeps expanding as gold continues to be produced. Indeed, the production of gold – real money – is stimulated.

We also must remember that it is characteristic of money material – gold bullion – as a material use value that, unlike other commodities, is neither productively nor unproductively consumed. Instead, it keeps piling up or being accumulated throughout the lifetime of the capitalist system.

Therefore, during the downward phase of the industrial cycle, the quantity of money capital grows relative to the quantity of real capital. This manifests itself in a decline in the rate of interest during this phase of the cycle. As a general rule, the more rapidly the economy grows, the greater the upward pressure on the rate of interest will be. During periods of contraction or weak growth, the tendency of the rate of interest is downwards.

Depreciation of token money and its effects on the rate of interest

A factor that significantly influences the rate of interest independently of the industrial cycle is the *quality* of the token money. By this, I mean whether the token money holds its value and is expected to continue to hold its value relative to real money – or on the contrary, the token money is ex-

pected to be devalued against real money. This factor is not a concern under a gold standard where token money plays no significant role but becomes important in "fiat money" systems where the currency is made up not of credit money convertible into gold at a fixed rate of exchange but rather token money.

It is often argued, especially by Keynesians, that paper monetary systems are superior to gold standard-based monetary systems because they enable the monetary authorities to maintain a low rate of interest without having to be concerned with the convertibility of the currency into gold. The argument goes that by maintaining a low rate of interest, the profit of enterprise is increased and economic growth accelerated, making possible something approaching "full employment." For this reason, John Maynard Keynes and his politically progressive followers "hate gold."

What is being confused here is real or metallic – gold – money and legal-tender token money issued by a monetary authority. If the quantity of metallic money expands, all things remaining equal, the rate of interest will fall, and the profit of enterprise will rise, stimulating the process of capitalist expanded reproduction. However, the expansion of the quantity of legal-tender token money that is not matched by an expansion in the quantity of metallic money flowing out of the gold mines will have, over a certain period, an opposite effect on the rate of interest. Why is this so?

As we have already seen, all things remaining equal, an expansion of the quantity of token money relative to the quantity of money materials leads to higher nominal prices and, eventually, wages if the reproduction of the commodity labor power is to continue. This is the element of truth in the quantity theory of money.

However, Keynesians wrongly assume that an expansion of the quantity of token money by the monetary authorities has the same effect as a rise in gold production. If Keynesians wrongly apply the laws of metallic money to token money, the supporters of the quantity theory of money apply the laws that should apply only to token money to both metallic and credit money.

If the monetary authority allows the quantity of token money to grow faster than the quantity of real money – the kind that comes out of the gold mines – the token money not only depreciates but expectations are created that the token money will continue to depreciate. The money capitalists then demand a higher nominal rate of interest to protect themselves from the devaluation of the media in which loans are repaid.

The money capitalists have the power to enforce their will in this regard. One of the features of the capitalist system is that in any showdown between the "monetary authorities" and the money capitalists over the rate of interest, the money capitalists inevitably prevail. We will see a historical example of this below.

Let's examine what happens when the monetary authority attempts to force down the rate of interest by increasing the rate of growth of the quantity of token money not matched by a comparable rise in the rate of growth of real money.

Suppose the long-term rate of interest is 5%, and the central bank attempts to lower the long-term rate to 4%. The central bank accelerates the rate of growth of the token money it creates, and the long-term rate of interest falls from 5 to 4%. However, anticipating currency depreciation at a long-term interest rate of 4%, the collective money capitalist will want to increase the percentage of gold held from, say, 1 to 2%. This increases the "currency price of gold." The result is that a given unit of currency will represent less gold in terms of weight.

As the currency depreciates, primary commodities such as oil, copper, and grains start to rise along with gold. The velocity of circulation increases and more credit money is created through increased bank loans necessary to finance the higher level of prices in terms of the token currency. Assuming that the depreciation of the currency persists, the price increases work their way through the wholesale to the retail level.

Assuming the commodity labor power sells at a price that corresponds to its value, nominal wages, too, must finally rise. The inflation that occurs is the market's way of reducing the real quantity of money – token money and the credit money that is created based on token money – so that once again, the long-term rate of interest rises to the 5% desired by the collective money capitalist.

However, whenever the central bank allows the currency to be devalued, it tends to increase the fear that more devaluations will follow. As the devaluation fear grows – all else remaining equal – the rate of interest below which the money capitalists will increase the demand for real money – gold – they wish to hold in their portfolios rises, thereby forcing interest rates higher. Where before the money capitalists might have been satisfied with a 5% rate of interest, now they might insist on 6%.

As a result, the interest rate is forced up through the mechanism of inflation and the consequent reduction of the real money supply until it reaches

the new equilibrium level of 6%. At this point, the supply of and demand for gold will again be equal. The money capitalists will now be satisfied with the percentage of total assets they hold in the form of gold in their portfolios.

From the central bank's viewpoint, on the other hand, the operation will have backfired. They set out to lower the long-term rate of interest from 5 to 4% and ended up instead with a rate of interest of 6%. The profit of enterprise, instead of rising from 5 to 6% once the dust settles, has fallen from 5 to 4%. Instead of an expansion of investment opportunities, there is a contraction. Far from falling, unemployment will rise once the adjustment has fully worked its way through the system.

The greatest example of this occurred in the wake of the massive devaluation of the dollar and the currencies tied to it during the 1970s. At the beginning of the 1980s, interest rates on U.S. long-term bonds exceeded 15%! It took many years for interest rates to fall back to anything like historically normal levels.

Defending real wages

Everything else remaining equal means that the workers are successful in defending their real wages. To do this, the workers must be well organized in labor unions; the labor unions must see through all the arguments that the bourgeois – especially Keynesian – economists advance and understand that wages in terms of a depreciating currency must be raised as prices in terms of the depreciating currency increase if the workers are to continue receiving the value of the only commodity they have to sell, their labor power.

Here we assume that the labor unions retain the freedom of striking – that is, there are no enforceable laws that limit the ability of the unions to strike whenever it is necessary to defend their members' standard of living. This must be true whether the attacks on the workers' standard of living come from individual bosses or from a move by the government and its monetary authority to devalue the currency in which wages are paid.

These are, historically, highly unrealistic assumptions. Currency devaluations that lower the amount of gold – real money – that a given dollar, pound, euro, and so on represent cut wages in terms of real money. They also cut real wages whenever such currency devaluations provoke a rise in the cost of living.

Any rise in the interest rates the industrial and commercial capitalists pay is reflected in a rise in the interest rates that the workers will pay on consumer loans. Therefore, the workers will not only have lower real wages

but will have to hand over a greater percentage of those wages to the money lenders as well, further lowering real wages. Therefore, if the living standard of the workers is to be fully protected from the effects of currency devaluations, not only must wages in terms of the devalued currency be increased to compensate for the rise in commodity prices in terms of the devalued currency, but they must be further increased to make up for the higher rate of interest on consumer loans.

In the long run, however, wages, even in the absence of unions, must reflect at least partially the devaluation of the currency, or else the workers will starve to death, and the production of surplus value will cease. If in the future, workers and their unions learn to demand increases in nominal wages whenever the currency is devalued, the monetary authorities will be far less likely to devalue the currency since one of the main motives for currency devaluations is to raise the rate of profit by lowering real wages.

Returning to the above example, suppose the rate of profit rises from 10 to 12 % due to a rise in the ratio of unpaid to paid labor brought about by a currency devaluation that is not offset by a rise in nominal wages. In this case, the profit of enterprise could rise despite a rise in long-term interest rates. Assuming that the new equilibrium interest rate is 6%, the profit of enterprise, instead of falling from 5 to 4%, will rise to 6%. In this case, both the money capitalists and the industrial and commercial capitalists win, and the workers lose.

The history of interest rates during the 20th century

The history of interest rates during the last century illustrates the operation of all the economic laws that govern the rate of interest. The Great Depression of 1929-40, followed by the war economy of 1940-45, meant that for nearly 16 years, the process of expanded reproduction of real capital – productive plus commodity capital – came to a standstill.

However, the 16-year standstill in the accumulation of real capital was not matched by a standstill in the accumulation of *real money capital*. The world's gold hoard not only continued to grow, but it grew at an accelerated rate under the impact of the Great Depression. During World War II, while contracted reproduction reigned in the sphere of real capital, the world's collective gold hoard – the lion's share held by the United States government – continued to grow, though at a reduced pace.

The result was an unprecedented accumulation of a huge hoard of idle money that drove the rate of interest to its lowest levels in the history of cap-

italism. Once the war ended, the combination of record low interest rates combined with a very high rate of profit encouraged the spirit of enterprise. The capitalists had a strong incentive once again to function as industrial capitalists that actually generate surplus value and not as mere money capitalists. The extremely low interest rates that resulted from the 16-year hiatus in the process of expanded capitalist reproduction combined with a high rate of profit caused capitalist expanded reproduction to flourish as it had never done before.

The great post-World War II boom was on. Gold production also increased but rather slowly for reasons I will examine in the coming chapters. The accumulation of money capital, after speeding up during the Depression, was now proceeding at a slower rate, just as the accumulation of real capital was proceeding with unprecedented vigor. As a result, interest rates reversed direction and began a slow but persistent rise. While interest rates did fall during the relatively mild post-World War II recessions, these falls were always less than the rise that had occurred during the preceding boom.

Because interest rates were so low relative to the total profit at the beginning of the long expansionary wave that followed the Depression and war, they could gradually rise for several decades without becoming a problem. This allowed the great capitalist prosperity to continue for 25 years except for the occasional recession. But interest rates could not keep on rising indefinitely unless the rate of profit itself continuously rose at a rate that offsets the rise in the rate of interest. Such a continuous rise in the rate of profit is not possible, as we saw when we examined the tendency of the rate of profit to fall. Therefore, even during the early years of the post-Depression, postwar great wave of capitalist prosperity, its eventual end was already in sight.

Indeed, it was precisely this great capitalist prosperity that once again unleashed the long-term tendency of the rate of profit to fall which was explained by Marx in Volume III of *Capital*. As capitalist industry once again expanded rapidly, the demand for the commodity labor power was high, and unions were far stronger than they had been in earlier decades and would be again in the decades that followed.

This, combined with the rapid mechanization of industry – the result of the capitalists' response to the rising wages and made possible by advances in technology that were dubbed automation – meant a renewed rise in the organic composition capital. All this put downward pressure on the rate of profit.

Therefore, the gradually rising rate of interest was on a long-term path toward a collision with the gradually declining rate of profit. By the Vietnam

War era, things were coming to a head. The U.S. administration of Lyndon Johnson and the Federal Reserve System was trying to find a way to halt this slow but persistent long-term rise in interest rates.

In earlier times, the long-term rise in interest rates would have ended in a major crisis – depression. Real capital would have contracted while the rise in the world's monetary gold hoard would not only have continued to grow but would have grown at an accelerated rate. Interest rates would have fallen once again until the world economy – assuming capitalism still existed – had recovered from the new depression. A low rate of interest combined with a high rate of profit would have restored the profit of enterprise, unleashing yet another long-term wave of capitalist prosperity that, in the fullness of time, would lead to yet another major crisis – depression.

But this time, the U.S. government was determined to halt the rise in long-term interest rates and avoid a major new depression. Partially, this arose from the need to finance the Vietnam War, but more fundamentally because it feared that a major new depression would radicalize the U.S. and the world working class. Remember, this was an era of strong unions, mass workers' and labor parties – outside of the United States – and a strong socialist bloc with its full-employment planned economies.

In addition, in the late 1960s, U.S. presidents were surrounded by Keynesian economic advisers who thought they had found a way to prevent major downturns in the business cycle. The key to doing this, they believed, was to end once and for all the convertibility of the dollar and its satellite currencies into gold. While under the Bretton Woods system, the U.S. dollar was already a token currency for ordinary people, it had remained a form of credit money for central bankers and government treasuries because it remained convertible into gold at the rate of a troy ounce of gold for every $35. Under the Bretton Woods International Monetary System, government finance ministries and central banks had the right to exchange U.S. dollars for gold at the rate of a troy ounce of gold bullion for every thirty-five U.S. dollars.

These economists argued that if this last relic of the international gold standard was finally abolished, Keynes's dream of a "fully managed" currency whose quantity would not be limited by the quantity of monetary gold would finally be realized.

This process of abolishing what was left of the gold standard, which extended over three years, was formally completed when U.S. President Richard Nixon announced in August 1971 that the U.S. government was "closing

the gold window" in response to a final rush by European governments to convert some of their dollars into gold. This was something that, under the Bretton Woods system, it had promised never to do. This "bold move" by Nixon was hailed by virtually the entire academic economics profession, from the followers of Keynes on the left to Milton Friedman on the right.

War on the world's money markets

The end of what was left of U.S. dollar convertibility into gold by the Nixon administration opened a decade-long war fought out on the battlefield of the world's money markets. On one side were monetary authorities led by the U.S. Federal Reserve System that were determined to hold interest rates down. On the other side were the world's money capitalists, who were determined to raise interest rates sharply in response to the growth in the number of dollars and its satellite paper currencies against real money – gold.

Marginalist and labor theories of value tested

Many economists at the time, using the marginalist theory of value, predicted that the price of gold would fall sharply with the closing of the gold window. They assumed suspension of the convertibility of U.S. dollars into gold would end any monetary role for gold. And they figured that since gold's primary use value is to serve as money material, its value would plummet as its main use value was abolished. In contrast, according to Marx, the value of gold, just like the value of any other commodity, is determined by the quantity of labor that is socially necessary to produce it under the prevailing conditions of production. Only a sharp drop in the amount of abstract human labor needed to produce a quantity of gold would lead to a collapse in gold's value.

In addition, Marx explained that the law of labor value requires a special commodity that measures in its use value the value of all other commodities. If Marx was right, only the abolition of commodity production would get rid of "commodity money." Therefore, if Marx's theory of labor value reflected reality, the attempt to demonetize gold was doomed to fail. In contrast, if the marginalist theory of value was correct, there was no reason why gold could not be demonetized.

The decade of the miser

The results of the "experiment" were decisive. The world's money capitalists, over the decade that followed, pushed up the dollar price of gold from

$35 to $875 at one point in January 1980. The purchasing power of gold also rose sharply against other commodities. Indeed, the best "investment" during the 1970s was not stocks and bonds or even real estate but rather buying gold bullion and sitting on it. It was truly the misers' decade. As the dollar price of gold soared, so did the prices of primary commodities. Gradually, the high – in terms of devalued paper currency, not gold – primary commodity prices worked their way through the wholesale to the retail level.

At first, the bourgeois – especially Keynesian – economists explained that it was only "nominal" interest rates, not "real" interest rates – interest rates in terms of commodities – that were rising. The Keynesians claimed, therefore, that the policy of holding down interest rates was working despite the "unexpected" inflation, which Keynesian economists blamed either on the unions that supposedly were driving a "wage-price spiral" or on special circumstances involving particular commodities. In contrast, Friedman and his supporters claimed that the high interest rate was only an "inflation premium" on top of the natural interest rate of about 3%.

Decisive battle of the war

The final and decisive battle in the war between the world's monetary authorities and the world's money capitalists began in the final quarter of 1979. Between August 1979 and February 1980, the dollar price of gold rose from less than $300 at times to $875 per troy ounce. In less than six months, the U.S. dollar lost more than half its gold value threatening to bring the entire global monetary system and the credit system built on top of it to the point of collapse. As this happened, inflation accelerated sharply at the retail level. But the war was now coming to a close as a clear winner emerged.

Monetary authorities surrender to the money capitalists

While a dwindling minority of "progressive Keynesian economists" wanted to continue the war, the administration of Democrat Jimmy Carter realized it was lost. Under Paul Volcker, who was appointed chairman of the Federal Reserve Board by then-U.S. President Carter, the Federal Reserve System and other world monetary authorities surrendered to the world's money capitalists. Long-term interest rates soared to the highest levels seen in the history of capitalism. Short-term interest rates rose even more. Never before had so much of the world's surplus value produced by the working class been pocketed by the money capitalists as opposed to the industrial

and commercial capitalists. It was to take the better part of two decades for interest rates to fall back to historically normal levels.

The time of the money capitalist

This prolonged period of very high interest rates led to large-scale "deindustrialization" and "financialization," as many industrial corporations preferred to invest in interest-bearing securities rather than carry out new industrial investments. A whole section of industrial capitalists was transforming themselves into money capitalists. The misers' decade of the 1970s was followed by the time of the money capitalist, the very "rentier" that Keynes predicted would be "euthanized."

But in the process, more real wealth was destroyed or not created in the first place than would have been the case if an old-fashioned deflationary depression had occurred instead of the "stagflation" that actually marked the 1970s.

Instead of a classic panic and deflationary depression, there were two severe recessions in addition to the relatively mild recession of 1969-1970. One occurred in 1974-1975, and the other was the "double-dip" "Volcker shock" recession of 1979-1982. These recessions differed from classical depressions in the sense that prices – in terms of a devalued currency – rose rather than fell. In terms of prices measured in real money – gold – however, prices not only fell, but they fell more sharply than they ever did under the gold standard.

By the time the stagflation crisis bottomed out in 1982, official unemployment in the U.S. and many other capitalist countries as well exceeded 10%. Then when economic conditions finally began to improve starting in 1983, unemployment declined at a painfully slow pace. Unlike the periods that followed the traditionally deflationary depressions of the past, including the Great Depression of the 1930s, the upswing that followed the crisis of the 1970s and early 1980s was not followed by a "great boom" of capitalism but only by what the economists and economic journalists called the "Great Moderation."

The reasons for this are not so hard to figure out in light of the economic laws that we have been examining in this chapter. Just like the recovery that followed the Depression of the 1930s and World War II, the recovery that began in 1983 was marked by a sharp rise in the rate and mass of profit. Indeed, this rise is all the more dramatic if we measure profits in terms of the money commodity – real money – and not in nominal dollar terms or in commodity terms – which is the only scientifically correct way to measure

profits. During the "misers' decade" of the 1970s, capitalists, as a rule, were not making profits at all in terms of gold since it was more "profitable" just to hoard gold.

But however we choose to measure profits, the dramatic rise in the mass and rate of profit in the wake of the Volcker shock reflected the devastating rise in the rate of surplus value brought about by first inflation and then mass unemployment. However, Marx explained that a high rate of profit is not by itself sufficient to set off a powerful upswing in the industrial cycle. You also need a low rate of interest. The problem in the early 1980s was that though the rate of profit was very high so was the rate of interest. As a result, at the beginning of the Great Moderation, the rate of the profit of enterprise was low, if not still negative.

Therefore, as the capitalists after 1982 became confident that the world's monetary system was not headed after all towards collapse, a large amount of the realized surplus value – profit – was converted not into productive capital (M — C...P...C' — M') as was the case after 1945 but rather into loan capital (M — M'). This is not surprising since interest rates were close to, if not above, the total rate of profit. But just as Marx explained in Volume III, Part V of *Capital*, such a situation was not sustainable.

A significant portion of the world's industrial and commercial capitalists (corporations) converted themselves into money capitalists. This process has even acquired a name, it is called "financialization." And as a result, we had an unparalleled debt explosion. The rate of interest was gradually lowered, especially since the sharp fall in commodity prices in terms of gold during the stagflation made gold mining extremely profitable, unleashing a boom in mining. Gold production began a major upswing in the early 1980s and didn't peak until 2001.

Industrial cycles

Introduction: Concrete and abstract industrial cycles

No two industrial cycles are alike, just as no two snowflakes are identical. Each industrial cycle is shaped by numerous noncyclical factors, including technological, political, and military influences, as well as the discovery of new natural resources unique to that cycle.

For instance, new industries emerge while older, more established ones decline and disappear. Horse-drawn carriages gave way to automobiles, and now gasoline-powered cars are being replaced by hybrid and electric vehicles. In a similar fashion, pens were replaced by typewriters, which were then overtaken by desktop computers and later by laptops.

In terms of industrial production, the steam engine that powered early industrial capitalism was supplanted by the electric motor during the age of monopoly capitalism. Now, digital electronics are increasingly replacing analog electrical technology.

Some cycles are characterized by significant technological innovations in both production methods and products, while others are not. Certain cycles experience acute raw material shortages before reaching a crisis point; others do not.

In some cycles, strong unions and frequent strikes near peak industrial activity contribute to higher wages – both in nominal and real terms – leading to falling rates of surplus value. Conversely, other cycles occur when unions are weak, even during peak demand for the commodity labor power.

Revolutions, counterrevolutions, and war play important roles in certain cycles. Others have unfolded in relatively peaceful times. In some cycles, governments have done little to combat mass unemployment, while in others, they have engaged in deficit spending in a bid to induce recovery. Some cycles have seen devaluations in the gold values of currencies, while others have unfolded under "gold-standard" conditions where the gold values of currencies are stable.

Boom- and depression-dominated cycles

There have been cycles in which the phases of recession and depression are short-lived but the boom phase is prolonged. These I call "boom-dominated" cycles. In other cycles, the phase of crisis and depression is dominant, and the boom is very short-lived. These I call "crisis-depression-dominated" cycles.

Sometimes, crises are accompanied by violent financial crises marked by crashing stock markets and collapsing banks and other financial institutions. One example would be the crisis of 2007-09. Other times, there is only a period of "tight money" and moderate declines in stock markets.

The political consequences of the differences between concrete industrial cycles can be significant. Therefore, it is important to understand how and why individual industrial cycles differ from one another. But before we can do this, we must describe an abstract industrial cycle, i.e., the ways that individual industrial cycles differ from one another must be abstracted.

Only when we grasp why, at a certain stage of its development, the process of capitalist expanded reproduction must generate industrial cycles will we be able to investigate how and why the concrete industrial cycles that have occurred in the history of capitalist reproduction differ from an abstract industrial cycle.

What should be abstracted?

First, we abstract the division of the capitalist system into different capitalist nation-states. That is, we will assume that the world is one capitalist nation. Competition between different capitalist nation-states plays an extremely important role in real industrial cycles. And the interaction between capitalist countries, on one side, and the Soviet Union and its allies, on the other, certainly influenced the concrete industrial cycles of the 20th century.

However, it is precisely because industrial cycles take the entire world market as their stage that the consequences of the world market not being organized in one capitalist nation-state must be abstracted. These consequences can only be examined once the basic causes of the industrial cycle have been explained. To do this, we will assume that the world consists of a single capitalist nation-state with a single currency.

Additionally, we will assume a gold bullion standard exists. We will assume a gold bullion standard rather than a gold coin standard to abstract the effects of gold coins being worn down in circulation, which have had import-

ant economic effects in some epochs of capitalism. For purposes of simplification, we will also assume that gold bullion is the sole money commodity.

Why assume a gold bullion standard?

Why do we have to assume a gold standard when the international gold standard in all its forms has been dead for decades? This is because, as we have already seen, changes in the gold values of currencies can exert a considerable influence on business conditions and can generate significant economic fluctuations on their own. We must not, however, confuse the economic fluctuations caused by changes in the gold values of currencies with the industrial cycle.

To abstract the elements of economic instability caused specifically by variations in the gold values of currencies, we assume a gold-bullion standard. Since we are assuming a single capitalist nation with a single currency, we also leave out the effects of the fluctuations of rates of exchange between currencies as well as the movement of gold bullion among the various capitalist nations that played a very important role in the concrete industrial cycles of the gold-standard years.

We assume that the currency is defined as a fixed weight of gold bullion of a given fineness and that banknotes of the single world central bank – the monetary authority – remain fully convertible into gold bullion at all times to the bearer on demand.

Therefore, we assume only two forms of money: gold (or real) money and credit money. Token (or fiat) money, as far as we are concerned, does not exist. However, we have to assume the existence of credit money because the industrial cycle crowned by a general crisis of overproduction presupposes a highly developed credit system, which includes credit money.

In future chapters, we will first remove the assumption of a single capitalist nation and the assumption of gold bullion as opposed to a gold coin standard. This will allow us to examine the effects of fluctuations in exchange rates and the movement of gold between nations under the various forms of the international gold standard. These correspond more or less to the concrete historical conditions that prevailed before August 1914, when World War I broke out.

We will then be able to analyze the decline and fall of the gold standard and the effects of token money currencies of variable and generally declining gold values on the industrial cycle. At this future stage of the investigation, we will have to introduce token money.

Only after we have dropped the assumption of the gold standard and introduced token money will we be in a position to examine the effects of the "stabilization policies" associated with the work of John Maynard Keynes and Milton Friedman, which aim at reducing the amplitude of and ideally eliminating the industrial cycle altogether. As we will see, the stabilization policies associated with both Keynes and Friedman depend on replacing the gold standard with a token money system, also called by the bourgeois economists a "fiat currency" – or in everyday language, paper money – system.

The four phases of the industrial cycle

Marx divided the industrial cycle into four phases. Each successive cycle begins with a crisis, now often called a recession. The crisis, or recession proper, is followed by what Marx called the depression or stagnation. The phase of depression or stagnation gives way to the phase that Marx called "average prosperity." Average prosperity develops into the boom phase proper, which is the final phase of each successive industrial cycle.

As is true with all cyclical phenomena, whether in nature or human society, each successive phase of the industrial cycle necessarily leads to the next phase. Thus, crisis ends in depression, depression leads to average prosperity, and average prosperity triggers the boom. The boom must end in crisis, and the industrial cycle then repeats itself.

A note on the term 'depression'

It is important to distinguish between how both Marx and later bourgeois business cycle theorists who wrote before the Great Depression of the 1930s used the term "depression" and how today's bourgeois economists and historians use it.

For example, the economic crisis of 2007-09 was dubbed by the bourgeois economists and media the Great Recession. Note, a recession but not a depression. The economists of both the Keynesian and Friedmanite schools insist that even if their stabilization policies have failed in every other way, they have avoided a return to actual depressions.

But how do they use the word "depression"? They are not using the word the same way that Marx or Engels did. No surprise there. But they also use the word depression in a completely different way than bourgeois business cycle experts did before the 1930s. The latter defined the term "depression" much as Marx and Engels did, unlike today's bourgeois economists and historians.

Today, the word depression, in its economic sense, is used by economists and media to refer to an economic disaster like the 1930s. Anything less

than that is referred to as a recession. This definition of economic depression was never used before the 1930s for the simple reason that a depression like the 1930s had never occurred, and few could imagine that a crisis like the one that did happen in the 1930s ever could or would occur. Even the Marxists in the 1920s, though they certainly correctly stressed the inevitability of a new capitalist crisis, were stunned by the collapse of the world capitalist economy that unfolded after 1929.

Depressions before 1929

Therefore, when economists and politicians boast about how they have avoided "depressions" since the 1930s, the media fail to explain that the economics profession has changed its definition of what a "depression" is. Before the 1930s, students of the business cycle, both bourgeois and Marxist, defined a depression as the stage that occurs in every industrial cycle between the time when industrial production reaches the lowest point of the recession and the time when it finally exceeds the highest level of the preceding cycle.

It did not matter whether the prior recession was severe or shallow. According to the definition of an economic depression accepted by Marxists and bourgeois economists before 1929, every recession, no matter how "mild," was followed by a depression of greater or lesser length.

Therefore, by the historical definition of the words "economic depression," depressions did not end with the Depression of the 1930s. Capitalist depressions of varying degrees of severity have continued to occur since World War II. However, as of this writing, none has yet matched the Depression of the 1930s in severity and its overall social and political consequences. But neither, of course, did any depression that occurred before the 1930s.

The new definition of depression, as applied to economics, adopted by (bourgeois) economists, politicians, journalists, and governments after World War II – an economic crisis at least as bad as 1929-33 – enables the (bourgeois) economists, media, and politicians to hide the fact that stabilization policies associated with Keynes, Friedman or any other school of bourgeois economists have completely failed to eliminate depressions.

The current falsified definition of depression enables capitalist governments to claim during economic downturns that really were "depressions" that the direct employment of the unemployed by the government was not justified since this is only a "recession." After the recession has passed, the (bourgeois) economists and politicians take credit for designing "stabilization" policies that once again saved us from a "depression."

How the National Bureau of Economic Research has eliminated depressions

The U.S. National Bureau of Economic Research (NBER) is a private research organization that dates U.S. business cycles. The NBER recognizes only two rather than four stages of the industrial cycle. These are what the NBER calls "contraction" – the crisis or recession – and the "expansion." What the NBER calls the expansion includes the stages of depression, average prosperity, and boom. Therefore, the depression phase, as used by pre-1929 business cycle experts, disappears. Strictly speaking, even the Depression of the 1930s disappeared, though everybody knows that there was a horrible depression in the 1930s.

Even though the NBER is only a private research organization, the media treats their dating of "contractions" and "expansions" as representing some kind of objective truth. There are many problems with the NBER's dating of business cycles, even beyond the fact that they have reduced from four to two the phases of the industrial cycle. We have to remember that the NBER is dominated by economists who are strongly committed to the capitalist system. Unsurprisingly, they aim to portray the U.S. capitalist economy in the best light possible. This is the job description of a (bourgeois) economist, after all.

For example, the NBER usually waits months before admitting that a preceding "expansion" has finally ended. They certainly wouldn't want to acknowledge that the U.S. economy had entered a "contraction" prematurely since that could encourage "inappropriate" policies by the government to combat unemployment.

But as soon as the economy shows even the slightest hints of sustained improvement in the sense of rising profits and industrial production – even if unemployment is still rising and the rise in industrial production is very slight, and even in some cases statistically dubious – the NBER declares that the economy has entered a new expansion. Since the NBER only recognizes two phases of the industrial cycle, neither one is defined as a depression. By definition, the U.S. economy is never in a depression.

What was the Depression of the 1930s, and how did it differ from other downturns in the history of the capitalist industrial cycle?

In the United States, the quasi-official rate of unemployment was estimated at 25% at the bottom of the crisis of 1929-33 and was over 50% for African Americans. U.S. official unemployment rates then lingered in the double digits through 1940.

In contrast, official unemployment rose only briefly above 10% at the lowest point of the "Volcker shock" recession in 1982 and the "Great Recession" in 2009. However, NBER's definition of unemployment emerged in the 1930s. Those unemployment figures do not include anyone doing temp work or workers reduced to part-time employment. In addition, the count only includes people who are not working but are "actively looking for work." Of course, "actively looking" can be interpreted in multiple ways; therefore, the numbers are subjective and unreliable. A more realistic estimate of unemployment would be around 50% for both the United States and Germany at the bottom of the crisis in 1932-3.

In addition, since the 1930s, the U.S. government has further narrowed the official definition of who is "unemployed." In the 1930s, WPA workers employed by the federal government on useful public works projects were counted as unemployed. Today, they would be counted as "employed." The typical historical stereotype of the Depression era unemployed is a person selling apples for 5 cents. Today, however, these people would not be considered unemployed at all. Instead, they would be counted as "self-employed independent business people."

Therefore, for official unemployment in the U.S. to again hit 25%, the real level of unemployment would have to be considerably higher than it was in March 1933, the month of the highest unemployment during the entire U.S. 1930s Depression. And the official level of unemployment would have to approach the levels of March 1933 before the bourgeois economists and media conceded that an economic downturn was a bona fide depression.

It is quite possible that even if we were able to recreate the 1930s Depression in the U.S. exactly, the media and the economists would call it a Great Recession and a disappointing recovery but not an actual depression because the official level of unemployment as reported by the government was still well below the levels of the 1930s.

What caused the Depression of the 1930s, and will it happen again?

If we consider the redefinition by governments of what people should be counted as unemployed, the gap between the deep downturns of the early 1980s and especially the Great Recession of 2007-09 and the 1930s Depression is reduced. However, it remains true that the economic crisis that began in 1929 remains a truly unique event in the history of capitalism. If you look

at graphs of economic activity, earlier crises appear like barely discernible ripples in the ascending line of expanded capitalist reproduction until the early 1930s, when a sharp "V" appears.

In this work, the causes of the economic crisis of the early 1930s will be carefully reviewed. However, the question of "what caused the Depression" combines three questions that have to be treated separately. The first is, what causes the industrial cycle and its downward phases – the recession-depression that occurs to one degree or another in every industrial cycle? Second, why does capitalist expanded reproduction take the form of what Marx called the industrial cycle and what bourgeois economists call the "business cycle" in the U.S. and the "trade cycle" in Britain?

The third question is why the downward phase of the industrial cycle that began in 1929 was so much more severe than any other economic downturn that has occurred in the history of capitalism. And of even greater interest, what are the chances that a similar or worse economic disaster may be lurking in the future?

For example, the crises of the 1970s were considerably worse than the earlier post-World II recessions, and the Great Recession of 2007-09 and its aftermath are already considerably worse than the crises of the 1970s. If this trend continues, it will only be a matter of time before a crisis as bad or worse than the crisis of the 1930s occurs. However, before we can answer the second and examine the third question, we must answer the first. Why does the industrial cycle, which includes the phases of crisis, recession, depression, and stagnation, occur in the first place?

A note on terminology

In this work, I will define the word depression with a small "d," the way it was by students of the capitalist industrial cycle before the 1930s, as the phase of the industrial cycle between the moment that industrial production reaches its lowest point and the time it exceeds the preceding peak. I will use the word Depression with a capital "D" to refer either to the Depression of the 1930s or to a possible future crisis of comparable or greater severity.

I will also describe the crisis of 1929-33 – which forms only part of what historians refer to as the "Depression of the 1930s" – as the super-crisis. Virtually all historians date the beginning of the Depression, at least in the United States, to 1929 – usually to the stock market crash that occurred in October of that year – and extend the Depression through at least the entire decade of the 1930s.

The span of the Depression

It is also generally agreed among historians and economists of virtually all political persuasions that the U.S. Depression contained two actual "recessions": the recession of 1929-33, which I call the super-crisis, and the lesser but still violent recession of 1937-38. Many historians extend the Great Depression through 1940 and sometimes right up to 1941, when the United States formally entered World War II.

By this definition, the span of the U.S. Depression began with the October 1929 stock market crash and ended with the Japanese attack on Pearl Harbor in December 1941. The conclusion is then often drawn that only the onset of the full-scale war economy of World War II ended the Depression. Indeed, if we accept the dating of the Depression as beginning in 1929 and ending in 1941, this is a simple historical fact.

Left Keynesians and some Marxists, especially but not limited to the followers of the Monthly Review school, believe that the Depression only ended because World War II broke out. They hold that the Depression would have continued indefinitely if a world war or some other comparable government "stimulus" had not occurred. These schools of economists then conclude that only the continued heavy military expenditures that have occurred since World War II have prevented another Depression with a capital "D" from occurring once World War II ended. Whether these claims are valid will be a central subject of our review in this work.

However, the next few chapters are not the place in our study to examine these questions. Instead, basing ourselves not only on Marx but on the contradictory crisis theories that have been put forward by the various schools of Marxists since the death of Marx and Engels already examined, as well as anything useful we might be able to extract from bourgeois economists, we must explain the causes of the capitalist industrial cycles. We must explain why capitalist expanded reproduction doesn't proceed smoothly from year to year as it does in the formulas of expanded reproduction that Marx developed in Volume II of *Capital*, but instead develops in the wave-like pattern that Marx called the industrial cycle.

CHAPTER 10
From Crisis to Boom

The capitalist industrial cycle consists of four major phases: crisis, stagnation, average prosperity, and boom.

Here, we examine an idealized industrial cycle, though real-world cycles are invariably more complex, featuring smaller fluctuations such as the so-called "Kitchin" inventory cycles, which will be examined in a later chapter.

Each phase of the industrial cycle sets the stage for the next. Every cycle brings capitalist expanded reproduction to a higher level than its predecessor. The crisis phase marks both the conclusion of one cycle and the beginning of another. However, starting with the crisis is problematic because it represents the culmination of all contradictions inherent in capitalist production. These contradictions accumulate during the rising phases of the cycle until a crisis of generalized overproduction of commodities becomes unavoidable.'

We must first investigate the contradictions of capitalist production that make crises inevitable. Next, we must explore how these contradictions develop and grow during the upward phases of the cycle. Finally, we need to analyze the crisis itself.

Therefore, we cannot begin with the crisis. Instead, we have to start with the period immediately after the crisis, where it has resolved – to the extent possible under capitalist production – the contradictions that led to the crisis in the first place. We then have to show how the contradictions that led to the previous crisis are inevitably reproduced at a new higher level of development that will, in turn, lead to a new crisis. But first, let's examine why all crises of overproduction are limited in time.

Why are all crises of overproduction limited in time?

In "*Theories of Surplus Value*," Marx criticized Adam Smith's view that falling profit rates result from an abundance of capital. Marx wrote that "if

Smith explains the fall of the rate of profit by superabundance of capital, accumulation of capital, then this is regarded as a permanent effect and this is wrong. However, the transitory superabundance of capital, overproduction, and crisis, this is another matter. There are no permanent crises." (1)

It is not a question of the crisis of overproduction but rather a succession of such crises that erupt periodically. Over the decades, during severe and prolonged overproduction crises and the depressions they produce, more than one Marxist has forgotten this – or never learned it. When a major new upswing of capitalist production develops, it is easy to swing to the other extreme and see the upswing as permanent.

Historically, every significant upswing in capitalist production since Frederick Engels's death in 1895 has been accompanied by claims from bourgeois economists that Marx's theories have been refuted.

The classic example of this reaction was the Depression of the 1930s, which was followed by several very strong upswings of the capitalist industrial cycle in the 1950s and 1960s. For many – not only Marxists, of course – who lived through the Depression decade, it seemed that the Depression was a permanent condition. Later on, however, the prosperity that followed – whether it was attributed to "enlightened Keynesian stabilization policies," post-World War II tariff cutting, the Bretton Woods international monetary system, the "postwar reconstruction," "welfare state," "spending on arms," or "the scientific-technological revolution" – was also seen as permanent. (2)

(1) Quoted from Josef Winternitz, The Marxist Theory of Crisis. https://www.marxists.org/subject/economy/authors/winternitz/1949/marxisttheoryofcrisis.htm

(2) The "scientific-technological revolution" was second only after "arms spending" as an explanation of the particular post-World War II prosperity.

This is an example of lazy thinking using the "scientific-technological revolution" as a cliché rather than the real progress of science and technology.

To be more specific, the scientific-technological revolution of the post-World War II boom years was broken down into atomic energy and computerization as the two technological revolutions that were driving the post-World War II boom. However, atomic energy turned out to be something of a dud as atomic energy plants proved to be far less profitable than traditional power plants based on fossil fuels. As for computerization, it didn't begin to get seriously underway until after the end of the post-World War II boom. During the 1950s and 1960s, the computer industry played a quite modest role.

In reality, the booms of the 1950s and 1960s were driven by technologies that were already widely applied before the Depression. For example, the renewed automoblization, as Baran and Sweezy called it in "Monopoly Capital." Autombolization was rapidly gaining momentum in the U.S. and was about to spread to Europe when the crisis of 1929-33 brought it to a screeching halt.

Far more radical technological changes like the electronic circuit board and electronic miniaturization – which made the real computer revolution – did not begin to play a massive economic role until after the close of the postwar boom period. If the scientific-technological revolution were the driving force of the boom, the boom should have started and not ended in the 1970s.

Therefore, it is essential to understand why all cyclical crises of overproduction are limited in time. To explain this, we have to return to the role of money. The existence of a separate money commodity that confronts all other commodities makes generalized crises of overproduction possible. Understanding the role of money is also crucial to understanding why all such crises eventually end.

Let's imagine a crisis that is far worse than any crisis that has ever occurred in the real world. As a kind of thought experiment, suppose that all credit money was wiped out, leaving only metallic money. Remember, according to our current assumptions, token money does not exist, though even if we assume it does, the basic argument remains unchanged. In our imagined crisis, the entire credit system has completely collapsed, and all banks have failed.

In addition, imagine that industrial production has dropped to zero. Would such a purely imaginary collapse of all industrial production wipe out all monetarily effective demand? No.

The owners of *metallic* money would still possess purchasing power and would be obliged to continue to purchase commodities to remain alive. They would also be obliged to distribute this purchasing power in some form to the unemployed workers if they have any intention of resuming the production of surplus value once the crisis had run its course. If they did not, all the workers would soon die of starvation, and there would be nobody to hire to produce surplus value when existing inventories were exhausted.

If the workers died of starvation, capitalism would indeed experience an "automatic" collapse since one of the vital preconditions of capitalist production is a free proletariat, free of both slavery and serfdom and free of ownership of the means of production. Even then, the capitalist crisis of overproduction would not be permanent because capitalism itself would cease to exist. The extinction of the working class would also make socialism impossible since there would no longer be a class with both ability and interest in building it.

Therefore, even if we assume that industrial production has dropped to zero, a certain amount of effective monetary demand would continue. Demand would exceed supply.

Therefore, in all real-world crises, it is only a matter of time before the stocks of overproduced commodities would fall to such low levels leading to commodity shortages relative to monetarily effective demand – the market

clears. Once again, the resumption of production of surplus value-containing commodities becomes profitable. The point to grasp is that while the declining industrial production that occurs during a crisis leads to a contraction in demand, the decline in demand in a crisis is always less than the decline in production. This limits the crisis in time, and it eventually ends.

Recovery begins

The recovery begins first in Department II – the department that produces the means of personal consumption. From there, the incipient upturn spreads to the producers of raw materials that have to be produced to meet current production. Industrial production has now passed the lowest point. The contraction in industrial employment – and other employment, as well – now more or less comes to an end. The general overproduction of commodity capital has now been overcome, and the crisis proper has ended. However, this end of the crisis does not mean the end of the unemployment crisis – quite the contrary.

Indeed, industrial employment rises very little during the first phase of the upturn. The reason is that many factories and mines during the crisis are forced to operate at levels far below their optimum level of productivity. As inventory rebuilding proceeds, more factories and mines come closer to their optimum utilization levels. The resulting surge in productivity enables the bosses to increase production considerably for a time without rehiring any workers.

Even official government unemployment figures often continue to rise for some months after the lowest point of industrial production has passed. The rate of unemployment and, even more so, the absolute number of unemployed is a lagging indicator of the turn in the industrial cycle.

As a result, for a considerable period after the crisis proper ends – perhaps years later – the labor market conditions continue to favor buyers of labor power – industrial and other capitalists – over sellers of labor power – the workers.

What the onset of an upward trend in industrial production indicates is that the overproduction of commodity capital has been overcome. The same is not true, however, of the overproduction of the elements of fixed capital such as factory buildings and machinery.

The generalized overproduction of commodities that make up commodity capital that developed during the preceding boom would not have been possible without a similar overproduction of the commodities that make up

the means of production. It takes far longer to overcome the overproduction of commodities that make up the means of production as opposed to the means of consumption. Though industrial production is rising, the capitalists are still leaving a huge quantity of productive forces – what the economists call "excess capacity" – idle.

It usually takes about a year to a year and a half to overcome the overproduction of commodity capital – excessive inventories – but it takes three or four years to overcome the overproduction of the long-lived elements of fixed capital. As a result, for a considerable time after the crisis proper has ended, factory shutdowns continue.

As long as this situation continues, we cannot expect a significant rise in investment in fixed capital, no matter how low long-term interest rates fall. This would be true even if the rate of interest fell to zero. In addition, as long as investment remains minimal, depression lingers on in the Department I industries that produce the means of production.

In turn, the depressed conditions in Department I limit the recovery in Department II. Continued relatively low profits in Department I, combined with low employment in Department I, limit the personal consumption of the capitalists and especially the workers of Department I. Therefore, the end of the crisis is not the same as the arrival of prosperity.

During the crisis, the economy has become very liquid. The crisis has not only contracted the level of commodity circulation in terms of units of use values, but it has also caused most commodity prices, including the price of the commodity labor power, which produces surplus value, to fall. As a result, a given quantity of money, measured in terms of weights of gold bullion, will circulate more commodities in terms of use values than it could before. In addition, the fall in the general price level increases both the relative and absolute profitability of the special industry that produces money material.

The relative rise in the profitability of the industry that produces money material

Since money material remains in high demand during the crisis, there is no slowdown in the turnover of the capital invested in the money material-producing industry. This is best illustrated by the kind of currency system we are assuming here: the gold bullion standard.

Under a gold bullion standard, the central bank stands ready to exchange all the gold bullion offered for its own banknotes. That is, the central bank is

both willing and able to "buy" all the gold bullion that has been newly produced by the gold mining and refining industries. Unlike the case with all other commodities, the producers of gold bullion – money material – have no problems finding buyers for their product.

Therefore, the gold mining and refining industries do not experience any decline in either the rate or mass of profit brought on by a decline in sales. As a result, the rate of profit of the industry that produces money material rises relative to the rate of profit of all – or most – other commodity-producing industries.

The absolute rise in the profitability of the industry that produces money material

In addition, the gold mining and refining industries will experience an absolute rise in both the rate and mass of profits. Due to the fall in commodity prices during the crisis, the number of commodities of a given use value that a given weight of gold bullion can purchase increases.

For example, the fall in money wages since the crisis began means that the industrial capitalists that produce money material will be able to hire and exploit more workers at a higher rate of surplus value than they could before. Also, as we have already seen, unlike other capitalists, the capitalists that produce money material will have no trouble realizing the value of their commodities in terms of money.

A rise in production of money material

Capital is always flowing from industries that are making less than the average rate of profit or outright losses to industries that are making more than the average rate of profit. Starting with the crisis, capital begins to flow from other industries toward the gold mining and refining industry, which will now be making super profits. The more severe the crisis, all else remaining equal, the more this will be true. Since this process begins when the production of commodities is declining in most, if not all, other industries, the rate of the accumulation of money capital in the gold mining and refining industry accelerates.

The fall in the general price level that occurs during the crisis not only increases the purchasing power of existing money but also leads to accelerated production of new money. A portion of the capital invested in the production of (non-money) commodities flows into the industry that produces money material – assumed here to be gold mining and refining.

The consequent rise in the production of money material expands the quantity of metallic money. Thus, it creates the basis for an expansion of the quantity of credit money and credit in general, which will occur later as the recovery gains momentum. In this way, the crisis itself creates the basis for the next great expansion of the market, which will enable the upswing to reach a considerably higher level than the previous upswing.

The longer the prices of commodities are below the values or prices of production of commodities, the more liquid the economy becomes, and the greater will be the future expansion of the market. With money abundant and new investment minimal, businesses are in a position to retire debts incurred during the preceding boom. This is why especially severe and prolonged crisis-depressions are often followed by dramatic expansions of the market and especially powerful economic booms. It is precisely the crisis-depression that creates the basis for the renewed expansion of the market. The possibility is therefore created to realize the value of a much greater mass of commodities, including the surplus value that these commodities contain than was possible before the crisis.

Shift to a cash-based economy

Marx pointed out that in the wake of a crisis, the economy operates mainly on a cash, not a credit system. Marx noted in Chapter 33 of Volume III of Capital: "Hence the sudden change of the credit system into a monetary system during crises."(3)

The purchasing power and the quantity of metallic money increased during the crisis. In addition, the effects of any increase in the quantity of metallic money, both absolutely as measured in terms of weight and relatively as measured in terms of purchasing power, mean an increase in the quantity of credit money and credit are not necessary for the early stages of upswing. With so much cash around, there is far less need than before the crisis to use credit to purchase commodities.

Instead, the mere rise in the velocity of circulation is sufficient to finance a considerable rise in economic activity as money hoarded in the banking system is gradually drawn back into circulation. A considerable expansion of economic activity can therefore occur at the early stages of the rising phases of the industrial cycle with little or no increase in the demand for credit.

(3) Marx, Capital, Volume III, Part V, Division of Profit into Interest and Profit of Enterprise. Interest-Bearing Capital. Chapter 33. The Medium of Circulation in the Credit System https://www.marxists.org/archive/marx/works/1894-c3/ch33.htm

The combination of a great abundance of money capital and low demand for loan money even in the face of rising economic activity means that interest rates, both long and short-term, remain low. The competition between the industrial and commercial capitalists, on one side, and the money capitalists, on the other, strongly favors the industrial and commercial capitalists.

The multiplier effect

The rise in monetarily effective demand feeds on itself due to the working of what Keynesian economists call the multiplier and accelerator effects. First, let's examine the multiplier effect.

When previously unemployed workers are hired or rehired, they receive wages and spend their wages on reproducing their labor power – that is, on consumer goods. The capitalists that sell these commodities to newly hired or rehired workers notice a rise in demand for their commodities and sooner or later either hire additional workers or increase the hours of the workers they are already employing. These workers, in turn, spend their increased wages on additional commodities that they need to reproduce their labor power.

In addition, as profits rise, the capitalists can be expected to increase their personal – unproductive – consumption, especially for luxury commodities. While the very richest capitalists with huge amounts of capital might not reduce their personal consumption during a crisis even if they have to live "on their capital" for a time, this isn't true of the smaller capitalists. And they are far more numerous than the super-rich capitalists. The "millionaires" make up a considerable part of the market for items of personal consumption, a fact that the underconsumption schools of crisis theory tend to forget.

As the small capitalists increase their personal consumption, especially for luxury items, the owners of the factories that produce these items are then forced to hire additional workers. At first, sales rise gradually, but as the multiplier effect grows stronger, the pace of improvement rises, accelerating the turnover of variable capital. Remember, the higher the turnover rate of variable capital is, the higher the rate, as well as the mass of profit, will be in a given period , all else remaining equal. Therefore, as the post-crisis depression moves toward average prosperity, there are sharp rises in both the mass and rate of profit, even in the absence of a rise in commodity prices.

During the depression, commodity prices, for the most part, stopped falling, even though they are, as a rule, not yet rising. Excess capacity remains high, and any rise in the demand for commodities can be quickly met by

increased production at existing low – relative to underlying labor values – prices. Therefore, these low prices relative to values are preserved, which means a continued rise in gold production.

After prices have stopped falling, the still low level of selling prices is now compensated for by the low level of the prices of inputs – cost prices. It is not low prices relative to labor values but falling prices that cause a fall in profits and even losses for industrial and commercial capitalists. While the industrial capitalists are forced to sell their commodities at prices that are still below the values of their commodities, they also get to buy raw and auxiliary materials and labor power at prices below their values. Only the high prices of long-lived elements of fixed capital that were bought during the boom when prices exceeded labor values and have not been written down continue to harm the rate and mass of profit.

Unemployment crisis continues

A crisis followed by a lingering depression means that the rate of surplus value is high and continues to increase. Not only is unskilled labor cheap and plentiful, but for the most part, skilled labor is plentiful and cheap as well. From the viewpoint of the industrial capitalists – though not the workers, of course – this is a win-win situation.

This is why the capitalists strongly oppose any suggestions that the government directly hire the unemployed. To the extent such hiring is done, the position of the sellers of the commodity labor power is strengthened relative to the buyers. This is exactly what capitalists do not want.

However, this is not the only benefit that capital obtains in the aftermath of the crisis. The constant capital has been devalued, which tends to lower, or at least retard, the increase in the organic composition of capital, especially when the organic composition is calculated in terms of market prices as opposed to values.

The actual devaluation of the elements of constant capital largely occurred during the preceding boom. At that time of high investment, much state-of-the-art technology was applied that rapidly lowered the values of commodities – the amounts of socially necessary labor to produce the commodities of given use values under the prevailing conditions of production.

However, this change in the value of constant capital isn't reflected in lower prices until the crisis forcibly lowers prices. Therefore, the devaluation of capital that occurs during the boom does not become effective in the sphere of prices until the crisis. In the wake of the crisis, the lowered prices

of the elements of constant capital, combined with the higher rate of surplus value, work in the direction of raising both the rate and mass of profit.

The crisis has expanded the production of surplus value and created conditions that make the realization of surplus value easier as well. This leads to a sharp rise in both the rate and mass of profit as soon as the crisis proper has passed. Many factories and machines that could not function as capital during the crisis can begin to do so again, though often not before their values have been considerably written down on the books or transferred to new capitalist owners through bankruptcies. Here we see the importance of bankruptcies of individual capitalists and capitalist firms in contributing to the rise in the rate of profit that launches the recovery.

The rise in the profit of enterprise

At the same time, the rate of interest remains low at this stage of the industrial cycle because of the great abundance of money capital that exists for the reasons we discussed above. The competition between the industrial and commercial capitalists and the money capitalists for surplus value strongly favors the former. The recovery is launched by this combination of a high rate of profit combined with a low rate of interest. The profit of enterprise provides the incentive for capitalists to act as industrial capitalists as opposed to money capitalists.

The depression and the stock market

The depression phase, though it means continued hard times for workers, is a highly favorable time for the owners of corporate stocks. First, during the preceding crisis, stocks fell sharply, so there were many good bargains around. If a company has survived the actual crisis, it has a good chance – though there are never any guarantees – to live on, at least to the next crisis. The low rate of interest is also favorable for stocks since the price of stocks is determined – leaving aside the swings of speculation that are so characteristic of the stock market – by the level of dividends divided by the rate of interest. This process is called the capitalization of dividends. Everything else remaining equal, the lower the rate of interest, the higher stock prices will be.

It is widely believed that the stock market is a reliable predictor of major turns in the industrial cycle. And that a sharp fall in the stock market announces the arrival of virtually every crisis of overproduction in the history of capitalism. Likewise, every major period of prosperity in the history of capitalism has witnessed major increases in stock market prices. However,

there have been many sharp falls in stock market prices during prosperity, so there can be a stock market crisis without an overproduction or any other type of economic crisis.

Also, the stock market has been "wrong" about every major turning point in the history of capitalism. For example, stock market prices were bullish right through the first half of 1929. They certainly didn't anticipate the crisis of 1929-33 and only fell after the crisis had already begun. In the late 1940s, on the eve of the Great Boom of the 1950s and 1960s, they were wrong again, this time in the opposite direction. And despite the preliminary crisis of August 2007, the stock market completely failed to anticipate the arrival of the Great Recession, making a new all-time high in September 2007.

For the reasons we examined above, the rate of profit rises rapidly during the post-crisis depression phase of the industrial cycle. Not only are interest rates low and likely to remain low for some time due to high gold production and the continued low level of commodity prices, but the rate of profit and, therefore, the level of dividend payments rise as the rate and mass of profit rise. As a growing mass of dividends capitalized at the existing low interest rates translates into higher stock market prices, a bull market in corporate stocks develops.

The low rate of interest, however, allows the corporations to keep payout levels low since the flow of dividends is being capitalized at that low rate of interest. A given mass of dividends, therefore, translates into higher stock market prices now than will be the case later when the rate of interest has begun to rise. This hurts the small saver – or small money capitalist – who must spend their dividends as opposed to reinvesting them to maintain their accustomed standard of living. This is less of a concern for the large money capitalists who can compensate for a low rate of dividends or yields on stocks by the great amount of corporate stock they own. The low rate of dividend payouts, in turn, enables the industrial and commercial capitalists to increase their independence from the banks at this stage of the industrial cycle since they can hold onto more of their profits in the form of retained earnings rather than pay them out as dividends.

The beginnings of the recovery in Department I

The recovery begins in Department II and gradually spreads to Department I but does so in stages. The first stage in the recovery of Department I is the increased demand for raw and auxiliary materials. As profits in Department II continued to rise, the industrial capitalists of this department

began to reopen factories that were either completely shut down or were only in partial operation during the crisis. Before they do so, the industrial capitalists might retool them.

In factories that are about to be reopened, worn out or obsolete factory machines might now be replaced with new and more up-to-date models. Once the factories are reopened, retooling is much more difficult since it is hard to remove old machinery and install new ones without disrupting ongoing production. Therefore, the recovery that at first benefits only the raw and auxiliary material branches of Department I now spreads to the machine-building industry.

Since the industrial cycle runs about ten years, the last similar retooling would have been about ten years prior, when the economy was also emerging from crisis. The average lifespan of factory machines is about ten years, so it is time to replace these machines anyway. This further stimulates the recovery of the machine-building industry.

Average prosperity arrives

As factories are increasingly reopened with new, more powerful machinery, industrial production rises above its old pre-crisis level. The depression phase is now over, and the phase of average prosperity has arrived. Let's now review the situation that faces both the industrial capitalists and the working class as the depression phase ends and the phase of average prosperity begins.

The above-average rate of unemployment that has prevailed since early in the preceding crisis has considerably raised the rate of surplus value. This, combined with the fall in the prices of the elements of constant capital during the post-crisis depression, translates into sharp increases in the rate of profit. The organic composition of capital has been lowered, or at least its rise has been considerably reduced, both in terms of values and prices. To the extent that the prices of agricultural commodities used in food production or that enter into the production of other wage goods fall, the rate of surplus value is further increased since it is possible to keep money wages down without lowering real wages so much that the reproduction of labor power is endangered.

The rise in the rate of surplus value helps postpone the inevitable renewed rise in the organic composition of capital as depression gives way to average prosperity. Why is this? As a general rule, we can assume that industrial capitalists must pay the full value of the elements of constant capital. But as Marx explained in his epoch-making analysis of surplus value that begins with Chapter 4 in Volume I of *Capital*, they only pay a part of the new value

created by the labor of the industrial workers. Therefore, the higher the rate of surplus value, the less the industrial capitalists pay for this newly created value. The only value the industrial capitalists pay for – the constant capital and the paid-for portion of the workers' labor-enters the cost price – as opposed to the price of production, the price that society as a whole must pay for commodities.

The higher the rate of surplus value, the more likely it will be cheaper for the industrial capitalists to use variable capital as opposed to constant capital. Therefore, crises and depressions by raising the rate of surplus value not only directly raise the rate of profit but indirectly counter its fall by keeping in check the rise in the organic composition of capital. Therefore, crises are among the most important mechanisms that convert the fall in the rate of profit into a mere tendency.

As we see, the rate of profit is rising sharply as the depression fades and the stage of average prosperity arrives. Equally important, due to the low rate of interest, the profit of enterprise, which provides the incentive to produce surplus value, rises sharply relative to the overall rate of profit. This encourages the capitalists to act as industrial or commercial capitalists as opposed to money capitalists. A portion of the money capitalists convert themselves into industrial or commercial capitalists. The "spirit of enterprise" is strongly encouraged. Marx noted in Chapter 22 of Volume III of *Capital*: "We shall find that a low rate of interest generally corresponds to periods of prosperity or extra profit."(4) Therefore, the transition from stagnation to average prosperity requires a combination of low rates of interest and rising rate of profit, and consequently a rapidly rising profit of enterprise.

Average prosperity and the reserve industrial army

During the phase of average prosperity, the size of the reserve industrial army shrinks considerably. An increasing number of unskilled workers find jobs that offer "steady" employment, and the threat of layoffs recedes. Actual labor shortages begin to appear for certain types of skilled labor power whose complex labor is counted as a multiple of simple labor.

Precisely what particular types of skilled labor power are in short supply will vary from cycle to cycle. If a particular type of skilled labor power is in short supply during one cycle, an increasing number of young workers will train for that skill. During the next cycle, that trade might be so overcrowd-

(4) Marx, Capital, Volume III, Part V: Division of Profit into Interest and Profit of Enterprise. Interest-Bearing Capital. Chapter 22. Division of Profit. Rate of Interest. Natural Rate of Interest. https://www.marxists.org/archive/marx/works/1894-c3/ch22.htm

ed that there continues to be considerable unemployment in that trade even during average prosperity. As a result, young workers will shun the overcrowded trade.

In the next cycle, the trade will be under-supplied with the skilled labor power it requires. In this way, the price – wages – of skilled labor power is kept in line with the value of skilled labor power over several industrial cycles.

However, in addition to the skilled trades that are "overcrowded" for the current industrial cycle, the supply of unskilled labor remains high relative to the demand for unskilled labor. While actual wage cutting begins to taper off, wage increases are still hard to come by except for those workers whose skilled labor power happens to be in short supply during this particular industrial cycle. As a result, the rate of surplus value remains high and, indeed, may increase further during the stage of average prosperity.

From average prosperity to boom

As soon as industrial production exceeds the previous peak, average prosperity has now arrived but not as yet a new boom. As long as considerable excess capacity remains – that is, a substantial quantity of the existing productive forces still cannot function as capital – industrial investments will still not be made in sufficient quantity for a full-scale boom. During the phase of average prosperity, industrial capitalists can still meet rising demand by retooling and reopening existing factories.

The majority of industrial capitalists are still in a situation where if they were to carry out a large-scale investment that would greatly increase their ability to produce commodities, they would be forced to sell their expanded quantity of newly produced commodities at greatly reduced prices, or the commodities would pile up unsold. This would mean that their older "high-cost" factories would be rendered unprofitable. Therefore, any moves to increase the quantity of their productive forces would lead not to increases in the rate and mass of their profits but rather to a contraction in both. And without these investments, large sections of industry in Department I, especially the sub-sectors of Department I that produce means of production for other Department I industries, continue to stagnate.

Therefore, during average prosperity, capitalist expanded reproduction is not yet in full bloom. The key to transforming average prosperity into a true boom is the whittling away of the remaining excess capacity – the lingering effects of the overproduction of the commodities that made up the elements of fixed capital in the preceding boom.

The postponement of the boom provides a service for capitalist production. By keeping the prices of commodities low relative to the values of commodities it keeps gold production high for a longer period than would otherwise be the case and, therefore, increases the ability of the market to suddenly expand when the boom does arrive.

The accelerator effect and the transition from average prosperity to boom

The continued destruction of a portion of the old high-cost factories and the reopening of other factories, along with the shift from partial to full utilization of other factories and other forces of production, progressively reduce excess capacity. Though not yet the rule, an increasing number of industrial capitalists find themselves in a situation where they will be unable to meet the additional demand if they fail to increase their productive forces.

If an industrial capitalist is forced to turn away potential customers, the would-be customers will turn to alternative sources of supply – the competitors of our industrial capitalist. To prevent the competition from luring away customers, our industrial capitalists will have to invest in additional factories or enlarge existing ones. As more and more industrial capitalists find themselves in a situation where they risk having trouble meeting additional demand if they do not increase the productive forces at their disposal, the industrial construction industry, which has been depressed since the last crisis, comes back to life. In addition to increased demand for construction workers, there will be increased demand for building materials. This means increased orders for the metal-producing industries and, ultimately, for the mining industries as well.

Eventually, [prices of] primary commodities that have been low since the last crisis begin to rise. Just as the multiplier effect causes an increase in the production of consumer commodities produced by one capitalist to lead to a rise in demand for the consumer commodities produced by other industrial capitalists, rising investment in the production of industrial commodities by one industrial capitalist leads to a further rise in such investment by other industrial capitalists. This is called by economists the "the accelerator effect."

In addition, industrial capitalists that produce commodities consumed productively by other industrial capitalists are forced to hire additional workers. The newly hired workers become buyers of additional consumer commodities necessary to reproduce their labor power and some of the now rapidly growing mass of profit realized by the capitalists of Department I is

spent on consumer commodities as well. As a result, the accelerator effect interacts with and strengthens the multiplier effect, pushing the economy toward boom conditions.

Keynesian economists put great emphasis on the accelerator effect. However, we have to remember that the accelerator effect will push the economy toward "full employment" only as long as there is enough money capital to finance it as well as a sufficient quantity of money or credit to buy the increased quantity of commodities that are produced.

Remember, the formula of capitalist production is M—C...P...C'—M'. On the left side of the formula, if an insufficient amount of M is available, the process of capitalist production cannot get off the ground. And on the right side, there has to be enough M to realize the value of C' as M'. Therefore, if a sufficient quantity of money is not available, the rising investment will lead to a crisis, not a boom.

However, as we have seen during the phase of average prosperity, there is plenty of money available to finance the approaching boom. Since commodity prices have been below the values of commodities, gold production has remained highly profitable, giving a powerful stimulus to the production of gold. A considerable quantity of idle cash is still available in the banks, allowing the economy to operate on a sound cash basis rather than on a credit basis.

Because of this abundance of cash, the rising investment does not provoke a new crisis but rather, through the accelerator effect, pushes the economy towards a new boom.

The stock market and average prosperity

The rising mass of dividends is still being capitalized at low rates of interest. The bull market that was already flourishing during the depression continues – with inevitable ups and downs, or "corrections" as stock market operators call them – during the phase of average prosperity. Sell-offs in the stock market are quickly followed by powerful rallies that bring stock prices to new all-time highs. The stock market "bulls" continue to prevail over the "bears."

While the rate of interest has remained low or risen only modestly during average prosperity, both the rate and especially the mass of profit are high and rising. Dividends rise along with profits even if payout levels remain low due to the low rate of interest. As bourgeois economists put it, the "cost of capital" remains low.

CHAPTER 11
The Boom Phase

The boom phase of the industrial cycle is of particular interest for crisis theory. It is only during a boom that capitalist expanded reproduction develops with anything approaching full force. But because it is developing vigorously, so too do its contradictions grow until they again find vent in a crisis.

As we saw in the preceding chapter, during the phase of average prosperity, excess capacity is whittled away at both ends. On one end, it is reduced by the destruction by the capitalists of factories that will never again be profitable. Another portion of the previously idled factories and machinery are put back into operation, with a significant portion of their value written off. The bankruptcies of industrial capitalists that transfer the ownership of devalued fixed capital from weak to strong hands play a significant role here. This, combined with rising demand during the boom phase, allows a portion of the forces of production idled during the preceding crisis to function again as capital which yields to its owners at least the average rate of profit. In this way, excess capacity is progressively reduced.

As the margin of excess capacity shrinks, the percentage of the productive forces that are lying idle is reduced to such an extent that the industrial capitalists are forced to undertake massive investments in new factories packed with state-of-the-art machinery. Under the pressure of competition, individual industrial capitalists cannot afford to see their margin of excess capacity shrink to zero for fear of not being able to meet the rising demand for their commodities.

If industrial capitalists cannot meet the demand, their customers will turn to competitors. Therefore, individual factory owners aim to retain a certain margin of excess capacity so production can be quickly increased to meet any sudden rise in demand, preventing loss of market share.

Once a sufficient number of industrial capitalists respond to this pressure to expand by undertaking significant new investments, average prosperity is transformed into a boom. With the onset of the boom, recovery finally spreads to the sub-department of Department I which produces the means of production used by Department I itself.

Not only do sectors of Department I, such as the factory construction industry, languishing since the end of the last boom, finally come to life, but business also improves further in Department II. The workers and capitalists of the sub-department of Department I that produce means of production for Department I now have greatly expanded purchasing power for the items of personal consumption that are produced in Department II. Keynesian economists call this the "multiplier" and "accelerator" effects. The growing boom feeds on itself.

Once it gets going, the real question becomes, why doesn't the boom last indefinitely?

How contradictions of capitalist expanded reproduction grow during the boom

The more the *individual* industrial capitalists attempt to expand their margin of excess capacity, the more the margin of excess capacity shrinks overall due to the operation of the *accelerator effect*. Therefore, the attempt of the industrial capitalists to halt the shrinkage of their remaining excess capacity is doomed to fail.

The more the individual industrial capitalists attempt to increase their excess capacity by increasing their investments, the more the operation of the accelerator effect results in the further shrinkage of the industrial capitalists' excess capacity as a whole.

Like crises, booms vary significantly in intensity as well as duration. The intensity of a given boom can be measured by the extent to which excess capacity disappears. An "ideal" boom would lead to a complete disappearance of excess capacity. In this case, all the forces of production would now be functioning as capital. However, in all real-world booms, excess capacity does not disappear altogether, though it shrinks considerably. The closer a particular boom gets to the ideal boom, the more factories and other enterprises are forced to operate at the limits of their physical capacity to produce.

Under these conditions, driven by their need not to lose customers, many industrial capitalists are forced to operate their factories at levels of capacity

that exceed the optimum levels. The ability of the factory and its workers and machines to produce is often strained to the point that the productivity of labor drops slightly in some branches of industry.

The high-pressure production of the boom increases the number of worker deaths as the workday is extended, workers' injuries increase, and machinery is damaged. Any decline in productivity due to the pressure on the productive forces does not mean that the productive forces are declining in an organic way. It simply means that the demand for commodities is so strong relative to the given development of the productive forces that industry is working at a level beyond its technically optimum efficiency.

Disproportionate production

As long as there is significant excess capacity, the problem of disproportionate production is held in check. For example, some industries might work at only 60% of their optimum capacity, while others might work at 85%. Nevertheless, even those working at 85% still retain enough excess capacity to rapidly increase production if rising demand makes this profitable for their industrial capitalist owners. However, as a developing boom causes capacity utilization to climb throughout the economy, the chances increase that certain branches of industry will not be able to meet the demand for their commodities at anything like prevailing prices.

The result will be bottlenecks, shortages, and skyrocketing prices of the commodities that are in particularly short supply. This is most likely to happen in raw materials and primary commodities. From the crisis right through the phase of average prosperity, primary commodity prices tend to stay low relative to their prices of production. As long as the rate of profit remains below the average rate of profit in the primary commodity-producing sector, capital tends to flow out of these sectors toward other more profitable sectors of production.

It is not always possible to rapidly increase raw material production in the face of rapid rises in demand. During a period of low profits, exploratory budgets that finance the search for new raw materials remain low. In addition, since investment in primary commodities is weak due to below-average profit rates, investment in new technology that makes it possible to exploit poorer ores or drill deeper oil wells remains minimal. Major progress in the ability to drill deeper oil wells or obtain metal from poorer ores requires not only the invention of new technical processes but also massive new investments to put them into effect on a large scale.

However, these investments will not be made as long as the rate of profit in the extraction industries remains below the average rate of profit. Therefore, when the onset of an industrial boom causes the profits of primary commodity producers to suddenly increase – rising from below the average rate of profit, or even altogether unprofitable levels – to huge super-profits, it will take a while for searches for new sources of supply and the development and introduction of new technology to bear fruit.

Therefore, until new investments in primary commodity production begin to take effect, raw and auxiliary materials will likely remain scarce at current prices. The only way supply can be equalized with demand under these conditions is through rapid price increases. Rising prices for raw materials and energy, for example, put downward pressure on the profits of industries dependent on the given raw material.

The industries facing these downward pressures on their rates of profit will begin the search for substitute raw and auxiliary materials and/or find ways to economize on these materials. But again, this may take some time, especially if it involves the development of new technologies and major new investments.

In the case of agricultural commodities, there is the further factor that the decision to plant crops can only be carried out at certain times of the year. If prices of these commodities suddenly start to soar during the growing season, it will be necessary to wait until the next growing season before a new crop can be started.

As long as there are still reserves of idle cash in the banks or the limits to expanding clearing agreements and credit have not yet been reached, there will be a sufficient quantity of money to keep markets for commodities growing. Therefore, it is possible for these price increases to be passed on to buyers.

However, once excess cash has been fully absorbed into circulation and the inflation of credit has reached its limit, it will no longer be possible for cost price rises to be passed along to customers. From that point onward, rising raw materials costs eat into profits or even turn boom-time profits into outright losses for industries dependent on the now scarce raw and auxiliary materials. When this occurs, increases in raw and auxiliary prices cease to be "inflationary" and become highly "deflationary" and may even t

The boom and the rise in the organic composition of capital

Even if an increasing percentage of new capital takes the form of constant capital – machinery and raw and auxiliary materials – variable capital can still grow in absolute terms at an accelerated rate. In fact, at this stage of the

industrial cycle, variable capital tends to grow faster than the working population. That is the reserve army of the unemployed shrinks. The balance of forces in the labor market begins to shift in favor of the sellers of labor power – the workers.

This shift tends to halt, and may for a while even reverse, the rise in the ratio of unpaid to paid labor – the rate of surplus value. The capitalists respond to this situation by replacing living labor with dead labor – machinery. The tight labor markets accelerate the growth in the organic composition of capital.

On average, individual industrial capitalists have to pay for all the dead labor – constant capital – they use, but they pay for only a portion of the living labor. However, to the extent that the rate of surplus value falls, and they are forced to pay for a greater proportion of the living labor they use, it becomes attractive to them to transform a greater proportion of their profits into constant as opposed to variable capital, causing the organic composition of capital to rise.

Working in the same direction, rising prices of raw and auxiliary materials – energy, for example – further increase the organic composition of capital in the sphere of prices, and depletion of raw materials can even cause a rise in the organic composition of capital in the sphere of values as well.

During the boom, when the forces are production are developing at the fastest rate possible under capitalist production, the rate of profit comes under downward pressure in two ways. One is through the fall in the rate of surplus value. The fall in the rate of surplus value, in turn, causes the organic composition to grow faster, further reducing the rate of profit. This shows a deep-seated conflict between the needs for the development of the productive forces and capitalism. All this points towards the inevitable transformation – if human civilization is to continue – of capitalism into socialism.

The boom exerts pressure on both sources of wealth – Mother Earth and human labor – and ends up accelerating the growth in the organic composition of capital. This, along with the stagnating or even momentarily declining rate of surplus value, implies a fall in the rate of profit. The sole aim of capitalist production is profit, yet the stronger the boom is, and the longer it lasts, the more the very basis of profit is undermined. This is enough to demonstrate that a boom cannot last forever.

Marx defined an absolute overproduction of capital as a hypothetical situation where a further investment of capital would lead to a decline in the total quantity of surplus value produced owing to a fall in the rate of surplus value.

Marx explains: "There would be absolute over-production of capital as soon as additional capital for purposes of capitalist production = 0. The purpose of capitalist production, however, is self-expansion of capital, i.e., appropriation of surplus-labor, production of surplus-value, of profit. As soon as capital would, therefore, have grown in such a ratio to the laboring population that neither the absolute working-time supplied by this population, nor the relative surplus working-time, could be expanded any further (this last would not be feasible at any rate in the case when the demand for labour were so strong that there were a tendency for wages to rise); at a point, therefore, when the increased capital produced just as much, or even less, surplus-value than it did before its increase, there would be absolute over-production of capital; i.e., the increased capital C + ΔC would produce no more, or even less, profit than capital C before its expansion by ΔC. In both cases there would be a steep and sudden fall in the general rate of profit, but this time due to a change in the composition of capital not caused by the development of the productive forces but rather by a rise in the money-value of the variable capital (because of increased wages) and the corresponding reduction in the proportion of surplus-labor to necessary labor." (1)

As the shortage of the quantity of labor power relative to the demand for it grows acute, the capitalists bid workers away from one another – first skilled labor, which actually happens to a certain extent in real-world booms, and, if the boom lasts long enough, unskilled workers as well.

An absolute overproduction of capital would undoubtedly cause an acute crisis for capitalist production if it ever developed in reality. Over the years, many Marxists have assumed that this hypothetical situation is Marx's actual crisis theory. However, Marx and Engels emphasized in many places that crises are actually caused by a relative, not absolute, overproduction of commodities.

Long before an absolute overproduction of capital develops, a relative overproduction of commodities – general flooding of the market with unsold commodities – brings the boom to a halt. And a relative overproduction of commodities implies a relative, not an absolute, overproduction of capital. The boom is doomed to collapse not because there are too few potential workers but because there is not a large enough market for the commodities that the workers can produce with the help of the growing forces of production.

(1) Marx, *Capital*, Volume III, Part III, The Law of the Tendency of the Rate of Profit to Fall. Chapter 15. Exposition of the Internal Contradictions of the Law, III. Excess Capital And Excess Population https://www.marxists.org/archive/marx/works/1894-c3/ch15.htm

The "timely" arrival of a crisis of the generalized overproduction of commodities prevents a crisis of an absolute overproduction from developing. This is indeed perhaps the most important "service" that crises of relative overproduction perform for capital.

How the industrial boom causes inflation

As excess capacity melts away, it becomes increasingly common for the demand for commodities at existing prices to exceed supply. As Marx explained in his early work *Wage Labor and Capital*, [2] under these conditions, competition between the capitalist sellers of commodities vanishes. A "sellers' market" prevails in more and more commodity markets. Under these conditions, supply can only be equalized with demand through a rise in market prices. As long as the boom continues, prices will keep right on rising.

A powerful factor that leads to higher prices during the industrial boom is the increased construction of new factories and other large construction projects. It takes a considerable amount of time to build a large factory. Not only do the factory buildings have to be built, but new large-scale machines also have to be constructed, installed, tested, and debugged before the factory can be put into production.

The capitalists engaged in these activities receive profits, and the workers receive wages. In addition, the capitalists collect a cash flow that realizes in money form the value of the constant capital used up in production. This cash flow is reflected on the income statement under "allowances for depreciation." The total cash flow – profits and wages plus depreciation allowances – increases the buying power of both the capitalists and workers of Department I. But until the new factories are in production, there will be no increased supply of commodities to meet the increased demand. Until the new factory construction actually leads to increased production, the supply and demand of commodities can only be equalized at higher prices.

The 'wage-push' theory of inflation

During booms, the capitalist media and many economists – especially those of the Keynesian school – claim that it is the rise in the price of a particular commodity – labor power – that is responsible for the rise in the price of all other commodities. Only restraint on the part of the unions, Keynesian economists claim, can end the "cost-push" inflation without a recession, as if recessions – crises – can be avoided under capitalist production!

(2) Marx, *Wage Labor and Capital* https://www.marxists.org/archive/marx/works/1847/wage-labour/

In contrast, the rival neoliberal, or "monetarist," school of economists – the followers of Milton Friedman, the other "giant" of 20th-century bourgeois economics – plays down or denies these claims altogether. According to the Friedmanites, changes in the general price level are governed by the rate of growth of the quantity of money relative to the rate of growth of the quantity of commodities. They hold that this, not changes in money wages, governs the rate of inflation – or deflation. Ironically, the Keynesian school, the school of bourgeois economists generally viewed as more friendly to the working class, insists that trade unions exercise "wage-restraint" to "hold inflation in check" during economic booms.

The workers are well advised to disregard the advice of their Keynesian "friends" in this regard. If they follow the advice of Keynesian economists during the boom, the only phase of the industrial cycle when the balance of forces on the labor market favors them, they can be sure that the bosses will not practice the same moderation when the balance of forces on the labor market once again shifts in favor the bosses, as it surely will. On the contrary!

During booms, the workers have no alternative but to push for rises in money wages because prices of commodities that enter into the consumption of the working class are rising, for the reasons we examined above. The workers must ask for raises in money wages to defend their existing standard of living. If the demand for labor power does exceed the supply at existing prices – wages – the workers may find themselves in a position to take advantage and to win an actual rise in their standard of living. When this happens, and this is very much the exception under capitalism, the unions under pain of destruction must take full advantage of the situation while it lasts.

Marx wrote in *Value, Price, and Profit*: "These few hints will suffice to show that the very development of modern industry must progressively turn the scale in favor of the capitalist against the working man and that consequently the general tendency of capitalistic production is not to raise, but to sink the average standard of wages, or to push the value of labor more or less to its minimum limit. Such being the tendency of things in this system, is this saying that the working class ought to renounce their resistance against the encroachments of capital and abandon their attempts at making the best of the occasional chances for their temporary improvement? If they did, they would be degraded to one level mass of broken wretches past salvation. I think I have shown that their struggles for the standard of wages are incidents inseparable from the whole wages system, that in 99 cases out of 100, their efforts at raising wages are only efforts at maintaining the given

value of labor [Marx means labor power here –SW], and that the necessity of debating their price with the capitalist is inherent to their condition of having to sell themselves as commodities. By cowardly giving way in their everyday conflict with capital, they would certainly disqualify themselves for initiating any larger movement." (3)

Strikes and booms

Under boom conditions, industrial capitalists are especially afraid of strikes. Remember, the boom begins because each industrial capitalist fears losing customers to other industrial capitalists. This forces each industrial capitalist to undertake major investments so that they will be able to meet the rising level of demand for their commodities. If a strike occurs, it will likely mean that a particular industrial capitalist will lose customers to the competition.

Therefore, during the boom phase of the industrial cycle, the bosses are far more likely to compromise with, or even simply grant, labor union demands for higher wages and better working conditions. If the unions are able to win the right to withhold their labor power in an organized way – that is strike – at all times, the boom is the best time to threaten strikes to defend and even increase the workers' standard of living. During the boom, a strike might not even be necessary.

Wage increases that exceed productivity growth are not inflationary

The (bourgeois) economists, especially those of the Keynesian school, like to claim that increases in wages that exceed the growth in productivity of labor are inflationary. The capitalist media often explain that a rise in the productivity of labor means an equal growth in real wages and that any wage increase in excess of that is inflationary, as though it was a proven scientific fact. In fact, this alleged law was refuted 200 years before these lines were written by the great English classical economist David Ricardo.

It is true that if real wages rise faster than the rise in the productivity of labor in those branches of industry that produce commodities that enter into the consumption of the workers, the rate of surplus value will indeed drop. And a falling rate of surplus value, all other things remaining equal, will mean a decline in the rate of profit. But a decline in the rate of profit is not the same thing as a rise in the prices of commodities – inflation.

(3) Marx, *Value, Price and Profit*, XIV. The Struggle Between Capital and Labor and its Results. https://www.marxists.org/archive/marx/works/1865/value-price-profit/ch03.htm#c14

When bourgeois economists claim that real wages should never rise faster than the growth in the productivity of labor, they are really saying – whether they realize it or not – that the ratio of unpaid to paid labor should never fall! What a fine doctrine indeed – from the viewpoint of the exploiters, that is!

Remember, industrial capitalists, under the pressure of competition, cannot simply increase prices because their wage costs, unit labor costs, or any other portion of their cost price, for that matter, are rising. If the industrial capitalists could increase prices at will, what would prevent prices from rising to infinity? But, in reality, it is only when demand exceeds supply at existing prices – and not when wage costs or unit labor costs rise – that industrial and commercial capitalists can increase their prices. Otherwise, when "labor costs" rise, the industrial capitalists – and commercial capitalists – simply have to accept a lower rate of profit than they would have made otherwise.

Price, value, and the boom

In order to achieve revolutionary rises in the productivity of labor, new, more efficient methods of production that enable commodities to be produced with considerably less labor have to be put into operation on a large scale. If they are not, labor productivity will not rise, and the value of commodities will not fall. Older factories can be made more productive by retooling – that is, replacing old, less-powerful machinery with new.

However there are frequently limits to the extent older factories can be upgraded to take advantage of new technology. Factory buildings are often designed around the type of machinery they contain. For example, 19th-century multi-story factory buildings were often built around gigantic steam engines. A factory would contain one very large steam engine, and the motive power produced by the steam engine would be transmitted to the various factory machines through a system of levers and pulleys. These machines were often located on different floors.

The replacement of steam with electricity dictated a major change in the structure of factory buildings. Each machine could now contain its own electric motor (or motors). Electricity made possible the modern assembly line. Assembly line production generally requires a huge single-story factory building.

Therefore, it wasn't really possible to convert the old-fashioned multi-story factory buildings to modern assembly line mass-production factories. Many old multi-story factory buildings had to be torn down and replaced

during the transition to modern electrically powered assembly lines. Since the new buildings required a lot more real estate, they were usually constructed in a different location, often in the countryside, where land prices – and rents – were cheap.

In the steel industry – the heart of heavy industry – successive generations of steel mills were built around successive generations of steel-making technology. The Bessemer process, the open-hearth process, the electric furnace process, and finally, the modern basic oxygen process succeeded one another. Today, a similar evolution is occurring in the young microchip manufacturing industry. Each great new advance in the manufacturing of microchips requires the construction of ever more extensive and more automated "fabs."

To make these successive revolutions in production effective, it is not enough for science and technology to make it possible. That is only the first step. Large-scale industrial investments have to be made to create factories and machines that take full advantage of the new production techniques. This is what the famous bourgeois economist of innovation, Joseph Schumpeter, called "innovation." (4)

Invention is a necessary precondition for innovation, but it is not innovation itself. Under the capitalist mode of production, the large-scale investments that, along with invention, result in innovation are generally undertaken only during the boom phase of the industrial cycle.

In boom times, the number of industrial workers increases absolutely, and unemployment declines, but the faster growth in the productivity of labor made possible by the utilization of new technology causes industrial production to increase much faster than the increase in the number of employed industrial workers. As we saw above, absolute employment is growing, and unemployment is declining, but relative to the level of production, the number of industrial (and other) workers is declining. This is a reminder that despite the claims of the bourgeois politicians and economists during

(4) Joseph Schumpeter was born in Austria and worked as a professional economist in both Austria and Germany. He left Germany in 1932, just before Hitler came to power, and spent his last years teaching at Harvard University.

Though a conservative bourgeois economist who opposed the "Keynesian Revolution" in bourgeois economics of the 1930s, he became a friend of Paul Sweezy and had some influence on the Monthly Review school.

Schumpeter is primarily known as the economist of "innovation." He developed a theory of "business cycles" based on the notion that cycles in capitalism are caused by waves of innovation. He coined the phrase "creative destruction."

the boom that "full employment" is now permanent, the boom-time decline in the level of unemployment is only temporary.

Under inflationary boom conditions, the accelerated rise in the organic composition of capital does not necessarily mean an immediate fall in the rate of profit, as reported on the capitalists' books. First of all, during the boom, the turnover of capital, including variable capital, accelerates as commodities fly off the shelves.

This created the illusion in the minds of Keynes and Michal Kalecki, the Polish-born economist who independently came up with many of the same formulations found in Keynes and their followers, that the rate and mass of profits are determined not by the ratio of unpaid to paid labor – rate of surplus value – and the organic composition of capital times the number turnovers of variable capital in a given period of time but the level of investment itself. According to this view, the more the capitalists spend on investment, the higher the mass and rate of profit will be.

A fall in the rate of profit on a given quantity of capital in a given period can be more than compensated for by an increased number of turnovers in a given period. Remember, the rate of profit is calculated over a given period, usually a year, and not on each turnover cycle of capital.

The value of commodities, the amount of labor socially necessary to produce them, falls at an accelerated pace during the boom as increased investment in constant capital reduces the quantity of labor that is socially necessary to produce a commodity with a given use value and quality. But as long as the boom lasts, market prices, far from falling, are rising. The market rewards those industrial capitalists who adopt more constant capital-intensive methods of production with super-profits, while those who retain the older, more labor-intensive methods can still continue to realize, for the time being, the average rate of profit. This is possible because values on one hand and prices and profits on the other are moving in opposite directions.

As long as this occurs, the increasing utilization of constant capital in production means a lower cost price, while the sale prices keep on rising despite the falling value of the commodities that are being produced. This is why, as long as the boom lasts, the older factories using more variable capital continue to make more or less the average rate of profit, while the new factories that employ relatively – and sometimes even absolutely – fewer workers make super-profits.

The (bourgeois) economists point to this as proof that Marx was wrong when he said only living labor creates profit (surplus value). They claim the

super-profits made by new constant capital-intensive factories show that not only living labor (variable capital) but also constant capital is directly producing profit – surplus value. The key to keeping the boom going, these bourgeois economists claim, is to keep the level of productivity growing while maintaining "effective monetary demand" through appropriate monetary policies.

But doesn't this divergence between price and value that develops during the boom shows that the Marxist law of value is being violated? Aren't the bourgeois economists right after all? The law of value would indeed be violated if the divergent movement between prices and values could continue indefinitely.

Remember, during the depression and into average prosperity, prices are below their values. Market prices had fallen during the preceding crisis. During the recovery phases that precede the boom, the industrial capitalists are in a position to meet rising demand by increasing production, so prices tend to remain below the values of commodities. The industrial capitalists can do this because there are not only many idle workers, even idle skilled workers, but also idle machines and factories that can be pressed back into production as the demand for commodities rises.

Therefore, as the boom takes hold, commodity prices that have generally been below values now begin to rise above values. Relative to commodities, money material – we assume gold bullion in these chapters – begins to depreciate relative to its own (labor) value against other commodities.

This is not to be confused with a relative devaluation of gold, defined as a situation where gold falls in value – the quantity of labor necessary to produce a given quantity of gold – relative to the value of most other commodities.

However, as commodity prices rise above their values, the forces that will bring down commodity prices begin to emerge. What are these forces? During the first phase of the economic expansion, as we have seen, prices have been generally below their values. This means that the rate of profit in the branch of industry that produces money material – gold bullion – has been realizing more than the average rate of profit. But with the onset of the boom, that situation reverses.

Boom causes a fall in relative and absolute rate of profit

Remember that under the gold bullion standard monetary system that we are assuming in these chapters, producers of gold bullion – gold mining and refining companies – have no trouble finding markets for their commodity. The producers of gold bullion simply exchange their newly produced bul-

lion for freshly printed banknotes at the central bank. In this chapter, we assume not only a gold bullion standard but only one capitalist country and, therefore, one central bank.

As average prosperity gives way to boom, the producers of (non-money) commodities also find it increasingly easy to sell their commodities as the expanding markets make it easier for the industrial capitalists that produce commodities other than money material to sell their commodities, the number of turnovers of their capital in a given period, including their variable capital, increases. All other things remaining equal, the result is an increase in the rate of profit they realize in a given period.

Therefore, even if there was no general rise in the prices of commodities, the industry that produces money material will experience a relative fall in its rate of profit compared to other industries. This in and of itself would be sufficient to encourage a flow of capital out of that industry and into other industries that are now realizing a higher rate of profit.

But as we have seen, the boom does lead to higher commodity prices. The rise in commodity prices causes the rate of profit of the industry that produces money material to fall absolutely. The stronger the boom and the longer it continues, the more both the relative and absolute rate of profit will fall in that industry. In reaction, capital will flow out of the industry that produces money material and into other branches of industry.

Notice the industry that produces money material and not gold. The reason is to emphasize that it is not the nature of gold as a commodity but instead, as money that is involved here. If a commodity other than gold bullion functions as the money commodity, the situation would be exactly the same as the situation is when gold functions as money material, which is what we assume here.

The contradiction between money as measure of value and as means of circulation

In earlier chapters, I explained that the basic function of money is that it is the special commodity that, in terms of its own use value, measures the values of all other commodities. If commodities sell at their values, this means that the value of the quantity of money that constitutes the price of the commodity represents the same amount of abstract human labor as the commodity whose exchange value it is measuring.

This creates the possibility that this equality may, in fact, become an inequality. If the market price of a commodity is below the value of the

commodity, the quantity of money material such as gold that constitutes the price of the commodity on average takes less labor to produce than the commodity whose value the money material is measuring in terms of its own use value.

Conversely, if the price of a commodity is above its value – which increasingly is the case in the boom – the quantity of labor that, on average, is necessary to produce the given amount of gold is greater than the quantity of labor that, on average is necessary to produce the commodity. Relative to its value, gold – or whatever serves as the money commodity – can become depreciated against most, or even all, other commodities.

Since under capitalism, money is a commodity that, like all other commodities, must not only be produced but must be produced at a profit, the growing disproportion that develops in the sphere of circulation between prices and values must increasingly spread to the sphere of production.

Other branches of industry are now making super-profits, while in the gold mining and refining industry, the rate of profit is falling below the long-term average. (The average rate of profit refers not simply to the rate of profit in all industries but also to the rate of profit across a number of good and bad years.) Indeed, if the boom went on long enough as commodity prices continued to rise, the profits in gold mining and refining would disappear altogether. Gradually, the production of gold bullion – money material – would grind to a halt. Therefore, the boom is doomed to collapse sooner or later.

During the industrial boom, capitalists whose commodity is the money commodity gold, like all other industrial capitalists, have to pay higher money wages – wages that happen to be measured in terms of the very commodity they are producing – as well as higher prices for all the inputs that represent their constant capital – also measured in terms of the use value of the commodity they produce.

Therefore, by definition, unlike other industrial capitalists, the gold-producing industrial capitalists are not in a position to raise prices as the costs of the commodities they use to produce their particular commodity rise. And as we have already seen, unlike other capitalists, they cannot compensate for their rising costs through increased turnover of their capital due to rising sales.

This happens not because of the depletion of gold in the ground but because of the basic contradictions of commodity production itself, which lead to, among other things, the differentiation between commodities and

money. Even if there was an infinite quantity of gold in the ground, as long as it takes human labor to extract and refine it, at a certain point in the course of the boom, gold production will stagnate and eventually decline.

On the other hand, if it did not take human labor to extract gold from the ground and refine it into gold bullion, gold bullion would not be a commodity at all and, therefore, could not function as money material.

Therefore a boom must sooner or later cause a shortage of money material – tight money. The law of the (labor) value of ommodities once it has developed to its full extent – in highly developed capitalism – must lead to reproduction of such a situation on a *periodic* basis.

The more the production of commodities rises during the boom, the more the market will lose its ability to expand. In his famous pamphlet *Socialism: Utopian and Scientific* – actually a part of the much larger work *Anti-Dühring* (5) – Frederick Engels explained:

> "The enormous expansive force of large-scale industry, compared to which that of gases is mere child's play, now appears to us as a *need* for qualitative and quantitative expansion that laughs at all counteracting pressure. [Engels' emphasis] Such counteracting pressure is formed by consumption, by sales, by markets for the products of large-scale industry. But the capacity of the market to expand, both extensively and intensively, is primarily governed by quite different laws that operate far less energetically. The expansion of the market *cannot keep pace with the expansion of production* [emphasis added –SW]." (6)

What Engels did not explain is what the laws are that actually govern the expansion of markets and why these laws "far less energetically" than the laws that govern the expansion of production. This has caused generations of Marxists to look for some explanation of crises other than the ability of capitalist industry to expand production much more rapidly than it can expand the market.

When Volume II of *Capital* was published by Engels after Marx's death and gradually absorbed by the rising generation of Marxists, the difficulty was only increased. In Volume II, Marx developed his reproduction formulas, which combine both production and circulation. These formulas show the market expanding in lockstep with production. Therefore, there seemed

(5) Engels, *Anti-Dühring*. Herr Eugen Dühring's Revolution in Science https://www.marxists.org/archive/marx/works/1877anti-duhring/

(6) Engels, *Socialism: Utopian and Scientific*, page 74 https://foreignlanguages.press/wp-content/uploads/2020/08/C04-Socialism-Utopian-and-Scientific.pdf

to be a contradiction between Socialism: Utopian and Scientific" and Volume II of Capital.

Since Volume II of *Capital* is viewed as more profound than the popular *Socialism: Utopian and Scientific*, generations of Marxists have tended to ignore Engels' "popular explanation" of crises and find other more "profound" explanations, usually focused on the problems of producing as opposed to realizing surplus value. Other Marxists, such as the Monthly Review school, have been attracted to underconsumptionist explanations of crises and fallen under the influence of John Maynard Keynes.

But now, if we follow the logic of Marx's law of value, though at a quite different level of abstraction than Marx used when he worked out the reproduction formulas in Volume II – remember, throughout Volume II Marx assumes that commodities sell at their values – we begin to see that, just as Engels explained in *Socialism: Utopian and Scientific*, the capitalist system once it has reached the stage of the large-scale application of machinery to production, does acquire the ability to expand production at a much faster rate than it has the ability to expand markets.

Let's take a closer look at this. When there is an increased demand for a non-money commodity – shoes, for example – the market signals through higher prices and profits that more capital – more of society's total labor time – should be devoted to producing shoes. But because money measures the value of all commodities in its own use value and is the standard of price – dollars, cents, etc., are definite amounts of gold measured in terms of weight – and profits are also measured in definite amounts of gold measured in terms of weight the market mechanism cannot work the same way for money material as it does for other commodities.

A rise in prices – all other things remaining equal – means an increase in the need for money as a means of circulation. But the same rise in prices reduces the profitability of making the commodity that functions as money.

Therefore, as prices rise, the markets, through a decline both relatively and absolutely in the profitability of the industry that produces money material, signal to the industrial capitalists to make less, not more, money material. The more prices rise, the more means of circulation are needed, but the fewer the means of circulation are produced. And the longer the boom goes on, the more this will be so.

Then, as money gets scarce, contrary to the teachings of the quantity theory of money, it isn't prices that fall but interest rates that rise. There is

still no signal to the industrial capitalists to produce more money material. The only effect is that higher interest rates reduce the profit of enterprise of all the industrial capitalists, including those engaged in the production of money material.

While (bourgeois) economists who either explicitly or implicitly accept Say's Law claim that it is the expansion of (non-money) commodities that form the basis for the expansion of the market, ultimately, according to Marx's perfected law of labor value, it is the expansion of the production of money material that governs the expansion of the market.

True, as we have already seen during periods of crisis, depression, and even average prosperity, considerable hoards of idle money are concentrated in the banks. As long as this situation exists, it is possible to expand the market by mobilizing society's existing supply of money and further economizing money – through expanding clearing arrangements, for example. Therefore, expansion of the market is governed by the rate of growth in the quantity of money material only in the long run.

This is why rising investment can at first stimulate the further expansion of the market through the accelerator effect but later flood the market and lead to a crash as the accelerator effect abruptly fails.

This will clearly be true as long as the gold standard prevails. Remember, under the gold exchange standard we are assuming in this chapter, the central bank must keep on hand a certain reserve of gold bullion in order to redeem its banknotes in bullion on the demand of the bearer. As the central bank issues more notes, it must sooner or later increase its reserve of gold bullion, or it will at some point be forced to suspend the convertibility of the notes or otherwise devalue its banknotes. And according to our assumptions, the central bank is not allowed to do this.

Since we are assuming only one capitalist country in this chapter, the only way the central bank can increase its bullion reserves, in the long run, is through the production of additional gold bullion – though it might, for a while, attract additional gold bullion from private hoards, or even from gold that was used for non-monetary purposes but then melted down and recovered as bullion. But since these supplies of gold are limited, and the need for the capitalists to expand markets is unlimited, more gold must eventually be produced if the market is to keep on growing.

Paper money

But can't we solve this problem by simply ending the requirement that banknotes issued by the central bank retain their convertibility? Won't the central bank then be able to issue as many banknotes as the growing demands of circulation require? This idea has occurred to many economists over the decades. These have ranged from amateurs all the way to university- and mathematically-educated professional economists, most famously John Maynard Keynes. Keynes, especially, was known for his hatred of gold, calling it a "barbarous relic."

In the U.S., some "progressives" did not have to wait for Keynes in order to oppose the gold standard. They have opposed the gold standard since the 19th century, claiming that if it was abolished and gold money was replaced by either cheap silver money or paper money, prosperity – and jobs for the workers – would be assured without transforming capitalism into socialism.

During the depression of the 1890s, the populist U.S. Democratic candidate for president, Williams Jennings Bryan,[7] declared, "Having behind us the producing masses of this nation and the world, supported by the commercial interests, the laboring interests, and the toilers everywhere, we will answer their demand for a gold standard by saying to them: You shall not press down upon the brow of labor this crown of thorns, you shall not crucify mankind upon a cross of gold."

(7) At the end of his life, William Jennings Bryan, a fundamentalist Christian, prosecuted John Scopes, a Tennessee high school biology teacher who violated a state law that banned the teaching of human evolution in state-funded schools. The case was prosecuted in order to test the constitutionality of laws that ban the teaching of Darwin's theory of evolution in public schools. Scopes was defended by the famous criminal defense lawyer Clarence Darrow. Bryan won a conviction, but the conviction was overturned on a technicality.

Most progressive historians portray Bryan, called "the Great Commoner," as a progressive political leader. However, in the Scopes trial, Bryan appears as a forerunner, not of a progressive in politics, but of the Christian Right.

This apparent contradiction in Bryan's politics can be easily resolved. Bryan represented the declining class of small property owners – mostly farmers – who owned their own means of production and employed little, if any, wage labor. The small property owners were hard hit by the deflationary trend of prices between the crash of 1873 and the crash of 1896. Since the economic revolution worked against this class, this class was hostile to the evolution of capitalism.

It wanted to freeze any further economic evolution in place in order to preserve the way of life they were accustomed to. Since these small property owners opposed the evolution of the capitalist economy that was destroying their way of life, these people were naturally hostile to evolution in biology and human origins as well. William Jennings Bryan was quite consistent throughout his political life. It is our "progressive" historians – who analyze the political leaders of the past in terms of whether they were "progressive" or "conservative" and not in terms of what classes they represented – who are inconsistent.

Notice how both Bryan – who was not an educated economist – and Keynes considered that it was the gold standard, not the exploitation of the wage-earning working class by a class of capitalist non-workers, to be the "barbarous relic." Bryan – much like Keynes – imagined that it would be possible to reconcile the "commercial interests" and the "producing masses" by simply abolishing the gold standard.

If non-commodity money, or as it was called in Keynes's time, a "managed currency," based not on a particular money commodity but rather on the needs of commodity circulation as a whole, is really possible, it should be perfectly possible to eliminate crises of generalized overproduction of commodities while retaining the capitalist system of exploitation of wage labor. It would only be a matter of figuring out the technical details.

To both Bryan and Keynes, crises of overproduction, such as the one in the 1890s that Bryan faced or the 1930s Depression that Keynes face,d represented a merely mechanical breakdown in the monetary system. Such breakdowns, therefore, could be fixed by a monetary reform – replacing the gold standard with "free silver" for Bryan or for Keynes paper money combined when necessary with deliberate deficit spending by the central government financed by new printed paper money not backed by gold.

As economist and biographer Sylvia Nasar wrote, Keynes "insisted that the Western economies were suffering from a mechanical breakdown for which there was a relatively easy fix." Modern "stabilization policies" have been searching for the correct "mechanical fix" – sometimes emphasizing "monetary policy," sometimes "fiscal policy" – since the 1930s Depression, without success.

True, during every economic boom, (bourgeois) economists claim they have finally figured out how to stabilize the economy. These claims were made by the Keynesian "new economists" of the 1960s and again during the far more modest capitalist prosperity – interrupted by some "mild" recessions – of the "Great Moderation" that lasted from 1983 to 2007.

But acute crises – not just "mild recessions" – have so far always returned just as Marx said they would, whether the monetary system is based on gold, silver, or "fiat money." This is exactly what we would expect if a "managed currency" based not on gold or some other money commodity but rather on the needs of commodity circulation as a whole was, as Marx's theory of value showed, impossible.

The examination of this question, however, does not belong here, where we assume a gold bullion standard, a single capitalist nation and currency, and a single central bank, but in future chapters. Here, we merely note it.

The stock market and the boom

With the onset of boom conditions, both the mass and the rate of profit rise sharply. Rising profits mean rising dividends. Therefore, the beginning of the boom is strongly "bullish" for corporate stocks.

As the industrial cycle nears its peak, however, the demand for credit increasingly exceeds the supply at existing interest rates. Interest rates start to rise rapidly. Since stock market prices are formed by dividing the annual dividends by the long-term rate of interest – a process called capitalization – rising interest rates are highly "bearish" for corporate stock prices.

Since stocks are often bought on "margin" – that is, on credit – the stock exchange finds itself in competition with the industrial and commercial capitalists, and nowadays with consumers as well, for the remaining shrinking pool of credit. The "call rate," the rate of interest that brokers pay the bankers and other creditors for borrowed money, begins to rise sharply. This puts pressure on the brokers to demand more cash when buying stocks for their customers' accounts. The contraction of margin credit puts further downward pressure on stocks.

When stock prices slip, causing equity in customers' accounts to fall below margin requirements, the brokers demand additional cash. When their customers can't meet their margin calls with more cash, the brokers dump stocks on the market to raise cash to pay off the loans being called in, and the market "crashes."

A "crash" or "bear market" can sometimes be held at bay for a while by a continued rise in the absolute mass of dividends due to higher dividend payouts.

Why do higher interest rates lead to higher dividend payouts?

Investors – money capitalists – will shift from stocks to bonds if rising yields on bonds are not matched by rising dividends plus capital gains on stocks. Therefore, as interest rates rise, corporate boards and managers are forced to increase dividend payouts or face a fall in the price of shares of the corporation they manage – though, as a general rule, they only own a minority of the shares. If share prices of the corporations they manage do indeed fall, it can lead to "hostile takeovers" where the existing "management" is replaced by new owners.

Therefore, if they possibly can, management, faced either with the danger of a hostile takeover or being ousted by the board due to "poor performance," will increase dividends or use the corporation's money to buy back

the corporation's shares, even at the risk of undermining the corporation and risking its eventual bankruptcy. When the going gets tough, the managers are forced by the logic of the capitalist system to put their own individual interests as money capitalists ahead of the shareholders, who function as collective industrial or commercial capitalists that "management" is supposed to represent.

The stock market is highly speculative and has its own cycles of bull and bear markets that are to a certain extent, independent of the industrial cycle. Stock market traders speculate on the future levels of dividends and profits. Not every stock market crisis – a sudden and sharp decline in stock prices – indicates the arrival of a cyclical crisis of overproduction. The stock market can "crash" at any stage in the industrial cycle. For example, there was a major stock market crash in 1962. This crash occurred in the early phase of the unusually powerful industrial cycle of the 1960s.

However, the approach of a major cyclical crisis of overproduction inevitably means that a sharp decline in stock market prices will occur as contracting profits – and outright losses associated with the crisis – result in lower, in some cases, zero dividends. If corporate bankruptcy leads to liquidation, the stockholders can even be wiped out.

Sometimes, stock market prices peak before the arrival of the crisis proper, but in other cycles, a final wave of speculation keeps the "bull market" alive until the crisis proper arrives. We will examine this more closely in the next chapter, where we will examine the crisis phase of the industrial cycle.

A digression on the effect of a fall in the value of gold relative to other commodities

Suppose the value of gold has fallen, either due to the discovery of rich new gold mines – more favorable natural conditions of production – or changes in technology, such as the ability to extract more bullion from poorer ores. In the late 19th century, both these things happened. New gold mines were discovered in Alaska, northern Canada, and South Africa. The South African mines were to become the leading source of gold for most of the 20th century.

In addition, the large-scale application of the cyanide process beginning in the closing years of the 19th century made it possible to extract much greater quantities of gold from ore of a given gold content than was possible before.

When the value of gold drops, this will mean, as long as commodity prices remain unchanged, a sharp decline in the cost-price of producing gold

bullion. This leads to a sharp rise in the rate of profit, both relatively and absolutely, for the gold mining and refining industry. As a consequence, commodity prices measured in terms of gold will have to rise to bring the profit in the gold bullion-producing industry back to the average rate of profit.

Capital will flow into the now super-profitable gold bullion-producing industry, causing production of gold to rise. Contrary to the teachings of the quantity theory of money schools, the rise in the quantity of gold bullion will not immediately raise commodity prices but will lower interest rates, thus increasing the profit of enterprise. The lower rate of interest and rising cash reserves will then accelerate the rate of growth of the market.

This accelerated expansion of the market will cause a more powerful than normal industrial boom – or a series of such booms – that will continue until higher commodity prices once again raise the cost price of producing gold bullion sufficiently to reduce the rate of profit in the gold bullion-producing industry back to the average rate of profit.

And this is exactly what happened. The years after 1896, when commodity prices reached the lowest point they were to reach during the late 19th century long depression, saw not only a powerful series of booms but a sharp rise in the general price level. Since these years corresponded to the height of the international gold standard with the currency of all the chief countries that were then engaged in large-scale capitalist production on the gold standard, including Russia from 1897 onward, these higher prices were expressed in both bullion and nominal currency values alike. It was a "gold inflation" as opposed to inflation caused by the reduction of the amount of gold that a given currency unit-dollar, euro, yen, yuan, ruble, etc., represents.

In the U.S., the "gold inflation" caused widespread agitation by debt-ridden farmers and other small businessmen for a switch to the silver standard to virtually disappear. William Jennings Bryan, though he continued to be a major leader of the Democratic Party and ran for president again on the Democratic ticket in 1900 and 1908, made no more "cross of gold" speeches.

The converse case – growing depletion of gold – increases the value of gold relative to the commodities whose value gold measures in terms of its use value. This causes the above process to work in reverse. Booms are cut short, and longer and more severe crises lower commodity prices until the rate of profit in the gold mining and refining industry is restored to the average rate of profit.

CHAPTER 12
Value, Price and Crisis

Marx noted that in the boom phase of the industrial cycle – the introduction of technical advances – state-of-the-art machinery will reduce the price of production while the general price remains stable or even rises. So prices tend to rise. [1]

As a rule, a crisis follows a long period of rising prices. At the end of such a period, the general price level has risen above the prices of production of commodities. As we have seen, this will depress the level of gold production – or the production of whatever commodity functions as money. Declining gold production progressively undermines the ability of the market to expand.

The higher the general price level and the longer it remains above the prices of production, the more the market's ability to expand will be undermined. Without an expanding market, the capitalist system cannot exist.

For some time, however, the market keeps expanding due to the mobilization of idle hoards of money that had accumulated in the banks after the outbreak of the preceding crisis. At first, the velocity of circulation of the currency rises. Individual banknotes move from pocket to pocket at an ever faster clip rather than stagnating in the banking system. The development of clearing agreements – here the banking system plays an especially important role – greatly reduces the need for banknotes since banknotes are only needed to pay off balances.

Credit money – checkbook money – the quantity of which is multiplied many times over the number of banknotes that back them up – can be used in place of banknotes to make payments and purchases. Credit can also replace banknotes and credit money as a means of purchase. As a result, a

1 Marx, *Capital*, Volume III, Part III. The Law of the Tendency of the Rate of Profit to Fall. Chapter 15. Exposition of the Internal Contradictions of the Law. IV. Supplementary Remarks https://www.marxists.org/archive/marx/works/1894-c3/ch15.htm

huge expansion of payments and trade develops on an increasingly stagnant quantity of hard cash – banknotes and gold bullion.

This is what Marx called "over-trading."[2] The more over-trading develops, the greater is the overproduction of commodities. As the industrial cycle peaks, we have a relatively tiny mass of hard cash leveraged to support a huge mass of business transactions, including all sorts of speculation. Marx calls this phase of the industrial cycle "fictitious prosperity."

But why is this prosperity fictitious? Why can't the central bank increase the quantity of banknotes and thus increase the mass of hard cash? Here, remember, we are assuming a gold bullion standard. The high level of commodity prices relative to their prices of production – ultimately determined by their labor values relative to the labor value of the money commodity – means that less and less newly produced gold bullion is flowing into the vaults of the central bank. The ability of the central bank to issue additional banknotes is thus progressively undermined by the declining level of gold production. (What happens when the need for the central bank to redeem its banknotes in gold is eliminated in an attempt to escape from what Marx calls the "metal barrier"[3] is the subject of other chapters and does not belong here.)

The boom continues as long as debts can still be "rolled over" rather than paid, and terms of payment can be further extended. Later, after the boom's inevitable collapse, the recriminations will fly. Why was "regulation" so lax? Why were so many complex credit instruments created? Why was there so much swindling? Whatever happened to the "ethics" of the business world? How could so many loans have been extended to people and companies who couldn't possibly repay them? And what reforms can be passed to prevent this from ever happening again?

From regulation to deregulation

But those questions will be asked later. Early in the expansionary phase of the industrial cycle, hard cash was still plentiful, and regulations that discouraged the reckless inflation of credit were an irritation. During the phase of fictitious prosperity, the only way that prosperity can be maintained – if only momentarily – is by progressively eliminating the regulations. The illusion always arises at this stage of the industrial cycle that

2 Marx, Grundrisse, Notebook IV – The Chapter on Capital https://www.marxists.org/archive/marx/works/1857/grundrisse/ch08.htm

3 Marx, Capital, Volume III, Part V. Division of Profit into Interest and Profit of Enterprise. Interest-Bearing Capital. Chapter 35. Precious Metal and Rate of Exchange. I. Movement of the gold reserve https://www.marxists.org/archive/marx/works/1894-c3/ch35.htm

this time things are different. We are in a "new era" and the "genius" of the "free enterprise system" will somehow keep the boom going forever on a relatively ever smaller quantity of "hard cash" through the development of "financial engineering."

Production expands beyond the limits of capital

During the phase of fictitious prosperity, what we have is the overstepping of the limits of capitalist production within the framework of capitalist production. Production expands beyond the limits of profit – profit defined as surplus value realized in the use value of the money commodity. The crisis, however, brings this overstepping of capitalist relations of production to a screeching halt. The job of the crisis is to bring capitalist production back within its capitalistic, production-only-for-profit limits.

The crisis breaks out

At a certain point, the inflation of credit reaches its limit if only because one piece of money cannot settle more than one debt at a time. Credit seizes up as debtors, who are owed, demand immediate repayment before they are dragged down by *their* creditors. The chain of credit breaks first at its weakest link, and begins to break at what were apparently much stronger links. Creditors drag down debtors in a chain reaction.

Since banks form the pivot of the credit system, the banks appear to be at the center of and indeed the cause of the crisis. This gives rise to the illusion that it was poor regulation of the banking system or the greed and stupidity of individual bankers that was to blame for the crisis. If only the correct banking legislation were put into effect, crises would be avoided. Various reforms of the banking system are proposed, and their advocates claim that they will guarantee that a crisis will never happen again. We will examine these reforms in the coming chapters.

As soon as one or two major market operators are unable to meet a debt coming due, the crisis is on. In the period leading up to the crisis, increasingly the industrial capitalists have been able to maintain sales only by granting credit at very generous terms to the wholesalers, many of whom have *no* possibility of keeping up with their debt payments. From the 1920s onward, the same process has occurred for retailers and the ultimate consumers when it comes to durable consumer commodities such as automobiles and electrical appliances. Only the extension of credit on more and more generous terms can maintain the rise in sales.

As the boom approaches its end, payments on the loans to wholesalers – and once consumer credit develops on a large scale, ultimate consumers – become slower and slower. More and more industrial capitalists, wholesalers, and retailers must therefore round up more and more short-term credit in order to hold at bay their own bankruptcy. As commercial capitalists have greater and greater problems meeting their debts, industrial capitalists are threatened. Industrial capitalists are in trouble if they cannot collect on the debts owed to them by commercial capitalists. Bankers are threatened by the bankruptcies of both industrial and commercial capitalists, and, in these days of consumer credit, the ultimate consumers as well.

As demand for short-term credit soars, so does its price in the form of soaring short-term interest rates, both absolutely and relative to long-term rates. This is why the relative levels of yields on long-term versus short-term debt often become "inverted" just before the outbreak of the crisis.

As the bloated credit system is stretched to the limit, long-term interest rates rise more and more rapidly, putting downward pressure on the profit of enterprise. But short-term interest rates rise even faster. In order to cover the commercial and consumer credit they are granting to keep up sales, industrial, commercial, and financial companies take on an ever-greater burden of short-term debt and cover this by lining up short-term lines of credit. Any unfavorable movement in the prices of commodities or securities could wipe out the entire capital of many financial and trading companies. Indeed, many of these firms can remain "solvent" only by making absurdly unrealistic assumptions on their books about the ability of their debtors to actually meet their debts.

Realizing they are about to lose much, perhaps all, of their capital, capitalists will make desperate gambles that they would never consider under other circumstances. Perhaps a capitalist figures they can still save this situation if they can make huge amounts of money on the stock, real estate, commodity, or other speculative markets. If he can, he might still be able to hold on and even increase his capital. Any risk is worth it if the alternative is certain ruin. Speculation is therefore whipped up into a final frenzy leading up to the crash.

Capitalists transformed into misers

Once the crisis breaks out, the central bank – remember, here we are assuming a gold bullion standard – finds that it can issue more banknotes beyond its gold reserve than it can under normal conditions without a run on its gold reserve. The reason for this is that now there is an additional

demand for banknotes as a *means of payment*. The increased demand for payment also forces individual capitalists to hoard banknotes to meet any sudden demand for payment by their creditors. Therefore, the role of money as a means of payment and as a means of hoarding, though not identical, are closely linked. With the outbreak of the crisis, the capitalists seem to be transformed into misers.

This transformation is most obvious in the banking system. The banks have to maintain a reserve of banknotes to meet demands for withdrawals on the part of depositors. The banks maintain some of this reserve in the form of vault cash to meet immediate demands for cash payment on the part of their depositors and another part of it in the form of deposits at the central bank payable on the demand of the banks in banknotes. Smaller commercial banks, as well as savings banks and credit unions, maintain a part of their reserves in the form of deposits at the larger commercial banks.

Normally, the fewer cash reserves the banks maintain behind each deposit the greater the profit they will make. Therefore, as long as the boom continues and confidence in the banking system remains high, they will continue to run down the quantity of cash that lies behind each deposit. But when the crisis breaks out, the banks are threatened by bank runs. Depositors lose faith in the banks and demand repayment in banknotes. Now the banks are obliged to maintain much larger deposits of cash behind each deposit under pain of losing all their capital and going under. Therefore, during the crisis, the banks build huge hoards of idle cash. This leads to widespread complaints that the banks are sitting on large amounts of money rather than lending it out.

There are really two reasons why huge amounts of cash build up in the banking system after the crisis breaks out. One is the need for banks to maintain larger than normal quantities of cash behind their deposit liabilities under crisis conditions. However, it isn't only banks that build large cash reserves after the crisis breaks out. Industrial and commercial capitalists do so as well. Instead of borrowing large amounts of money to finance major capital expansion projects – transforming money capital into fixed capital – and building up inventories – commodity capital – they slash their own spending, run down inventories, and pay off their existing debts. Therefore, a lot of the accumulation of idle cash in the hands of bankers following the outbreak of the crisis is involuntary accumulation on the bankers' part, just like the accumulation of inventories – commodity capital – in the hands of industrial and commercial capitalists is involuntary on their part.

Later, this growing hoard of idle cash in the hands of the banking system will be used to finance the next "sudden expansion" of the market – the next "great boom." The longer the crisis and the post-crisis stagnation last, the more the huge idle mass of cash – gold bullion and banknotes – builds up. All else remaining equal, the stronger will be the sudden expansion of the market, which will make the next leap forward of capitalist production possible.

The labor market and the transition from boom to crisis

On the eve of the crisis, the economy is going gangbusters, the rate of profit appears to be high, and the mass of profit keeps growing. Unemployment compared to all other phases of the industrial cycle is very low and falling. At long last, the balance of forces in the labor market is beginning to tilt in favor of the working class. The workers can now win a greater share of the national income, that is, the workers can finally reduce the ratio of unpaid labor to paid labor.

But such a favorable situation – for the workers – is actually a symptom of massive ongoing overproduction momentarily hidden by the accompanying over-trading. The working class will not enjoy these favorable conditions for very long, and therefore should not waste any time taking full advantage of them while they last. It is true, however, that if the workers win a larger share of the national income – reduce the rate of surplus value – this will not prevent the crisis, as the underconsumptionists hope.

However, it is also true that workers cannot prevent crises by exercising moderation. At the peak of the industrial cycle, there is simply no right rate of surplus value that can keep the boom that is about to collapse alive. The problem is that production of commodities has exceeded the levels capitalists – and their hangers-on such as the government – plus the workers can purchase. No redistribution of the national income can therefore prevent the crisis.

The crisis arrives

We can now understand why a crisis of overproduction *appears* to the agents of capitalist production and their vulgar economists to arise within the sphere of credit. Indeed, in the 19th century, the name for crises of overproduction was "commercial crisis," a term that is no longer employed except in historical accounts. This was because back then a crisis first manifested itself as a wave of bankruptcies affecting large wholesale trading companies. Though the wholesale trading companies were engaged in "over-trading," it

was actually the industrial capitalists who carried out the overproduction that led to the crisis.

Today, when banking capital towers over the rest of the economy – especially in times of crisis – when the crisis breaks out, it appears even more than was the case in the 19th century as a crisis of the banking system. Instead of calling the crisis a "commercial crisis" as it did in the 19th century, the press now calls it a "financial crisis." Ultimately, it is the large industrial corporations – collective industrial capitalists – that carry out the overproduction that lies behind the "financial crisis."

As far as actual production and employment are concerned, the arrival of the cyclical crisis usually becomes apparent first in the sphere of durable consumer commodities. In the 19th century, this mostly meant the residential construction industry. From the 1920s onward, other durable consumer commodities appeared, such as automobiles and electricity-powered home appliances such as washing machines, clothes dryers, and refrigerators.

As the supply of credit begins to dry up, mortgage loans become harder to get. Therefore, housing construction begins to decline. Construction jobs in residential construction become harder to get as housing starts head downward. The same is true of other durable consumer commodities such as automobiles and electric appliances, which are often bought on credit, though residential construction continues to play the central role.

For example, when people purchase a new home, they often have to purchase new furniture and appliances such as a refrigerator, an oven, and washing and drying machines. The weakness in residential construction, therefore, begins to react to many other industries that manufacture these durable consumer commodities.

Indeed, housing industries often begin to turn downward as soon as there is a sharp rise in capital spending by industrial capitalists. The reason is that buyers of durable goods find themselves in competition for a limited quantity of credit based on a limited quantity of hard cash – ultimately gold – as soon as the boom in capital spending sets in. Therefore, the more industrial capitalists borrow money to expand their ability to produce commodities, the more the demand for durable goods commodities that are generally purchased on credit is undermined.

Initially, therefore, the downturn seems to be largely confined to housing and other durable consumer industries. Some Department I industries, especially those involved in producing raw materials for the housing and auto

industries, are also affected during the initial stage of the downturn. For example, the demand for lumber begins to weaken as soon as the sales of new houses turn down. The growth in employment that marked the boom levels out, and unemployment begins to rise. But at this stage, the total number of jobs does not decline by much, and might even rise slightly for a while. How does this slowdown develop into a full-scale recession?

How the media covers a developing crisis

During this initial stage of the downturn, discussion develops in the press on whether what they call a "slowdown" will develop into a full-scale "recession." Business reporters interview professional economists, some working for brokerage houses and others who are employed as professors by university economics departments.

The economists who work for brokerage houses are actually involved in a conflict of interest because their job is to "sell" the economy as a whole. They do this by predicting continuing prosperity that will lead to higher profits, dividends, and thus stock market prices. Somehow, the media overlook this obvious conflict of interest. The university economists are not much better, however, since they specialize in denying the existence of the very contradictions of capitalist production that lead to crises in the first place.

The overwhelming consensus is that this time, unlike in the past, the "slowdown" will not develop into a full-scale "recession." The consensus forecast – it is remarkably consistent from cycle to cycle – is that in about six months business will be recovering from the slowdown without passing through a real recession. Even if the slowdown turns into a "technical" recession, both brokerage houses and academic economists predict it will be "extraordinarily mild."

At this point, I must warn my readers that the arrival of a crisis cannot be predicted by simply saying the opposite of what the (bourgeois) economists predict, because the bourgeois economists are always predicting – with few exceptions – continuing prosperity, right up until the crisis arrives with full force.

We can actually deepen our understanding of the capitalist industrial cycle further by examining the reasons the (bourgeois) economic weather forecasters give for these optimistic predictions. With the widespread use of computers in controlling inventories, economists explain that, unlike in the past, corporations have acquired the tools to prevent excess accumulation of inventories, which led to recessions. The government indeed is duly report-

ing that the overall ratio of inventory to sales is at "record lows." Obviously, it seems that there is no crisis of overproduction.

This, however, is an elementary error. What our economists always forget is that overproduction of commodities cannot develop on a large scale without credit-financed over-trading. In fact, while the inventory-to-sales ratio is at "record lows," the absolute amount of inventory – unsold commodities – is at all-time highs.

On the eve of the crisis, growing overproduction is not reflected in a rising inventory-to-sales ratio but rather in the rising ratio of credit and credit money to "hard cash" – banknotes, deposits of the commercial banks payable in banknotes on demand at the central bank, and ultimately the gold bullion that backs the banknotes. This is the real indicator of overproduction of commodities and is always ignored by our optimistic forecasters. A rising inventory-to-sales ratio does not predict the approach of a crisis. It only confirms the arrival of the crisis once it breaks out.

An equally elementary error that our always optimistic bourgeois economists make on the eve of the crisis involves capital spending – expanded reproduction. As the industrial cycle peaks, the (bourgeois) economists always point to the strong capital spending plans of business as a sign that this time recession will be avoided. With investment strong and surveys showing that business plans to increase their level of capital spending even further in the coming months, our forecasters – nowadays armed with their computer models – determine that a recession is "extremely unlikely."

During recessions, the capitalist economists point out that capital spending declines, sometimes dramatically. Leaving aside the "tight money" situation, the economists point out that the "real economy" is "extremely healthy." The "extreme health" of the economy that our economists point to is actually the overproduction that is the cause of the crisis that is about to break out!

In reality, capital spending is a lagging indicator. High levels of capital spending and surveys that show business plans to increase capital spending even further are no indication that the boom will continue and recession will be avoided. On the contrary, the increased level of capital spending and capital spending plans increase the likelihood of a recession in the near future.

Once the recession breaks out, usually in the residential construction industry, "excess capacity" develops first in Department II but then increasingly and at an accelerated pace spreads to Department I. Unlike the pur-

chases of consumer necessaries, investment in new factories, mines, and buildings of all kinds can be postponed indefinitely if such investment appears to have no prospect of yielding a profit. This is why – as Keynes was intensely aware – fluctuations in business investment are much sharper than the fluctuations in consumer spending.

How much "excess capacity" develops depends on the depth and the duration of the crisis. This is something that is difficult for industrial capitalists to predict at the beginning of a downward movement in the industrial cycle. For example, the recession that began in 1929 and eventually turned into the Great Depression began as what, to all appearances was a quite ordinary "slowdown."

After the stock market crash of October-November 1929, President Hoover got all the top corporate chiefs of the time together in the White House. The president had them agree to maintain and indeed accelerate their capital spending. The vast majority of the (bourgeois) economists of the day claimed these agreements had prevented a serious economic crisis.

However, as the slump rapidly snowballed and the economy plunged into the Great Depression, these capital-spending plans were progressively scrapped. Whatever the corporations say about their capital spending plans, these plans are always conditioned on these projected expenditures being profitable.

During the boom, industrial capitalists face the problem of "too little" excess capacity. As the boom gives way to recession, they have the opposite problem – too much excess capacity. Therefore, even if they can continue to finance the building of new factories and enlarge existing ones, something that "tight" credit markets and rising long-term interest rates make difficult at the peak of the industrial cycle, such investments will only lead to more excess capacity, not greater profits.

The downturn, which was initially confined to consumer durables and those branches of Department I that produce raw materials and other means of production for the consumer durable industries, now spreads to the rest of Department I, especially those sectors that produce means of production for industries that produce for other Department I industries. The downturn, which at first affected only a few industries, now engulfs virtually the entire economy with the exception of the gold mining and refining industry, which moves counter-cyclically to the rest of the economy.

It hits the sectors of industry that produce the means of production, especially the sectors that produce means of production for the consumer – Department II – hardest, and the sectors that produce perishable consumer commodities such as food the least. This is because spending on capital goods

can be postponed for years if necessary, as can purchasing of new houses and in a pinch purchasing of automobiles, but it is necessary to eat every day.

But the error bourgeois economic experts always make when they point to strong capital spending by business at the peak of the industrial cycle as a sign that a recession this time will be avoided is even more fundamental. Bourgeois economists – especially those of the Keynes school – see the maintenance of high levels of capital spending as the key to avoiding recession.

For example, in his "*General Theory*" – the bible of Keynesian economics – Keynes advocated that the central banks cut interest rates before a crisis breaks out. This, he believed, would avoid the crisis by increasing, or at least preventing a fall in, the profit of enterprise. The problem is that if the central bank expands the number of banknotes it is creating (to effect a fall in interest rates) at the very moment when the growth in the quantity of gold bullion is declining, the demand for gold will soar, which will cause the collapse of the gold bullion standard.

The central bank is not permitted to follow Keynes's advice under our assumptions. But what will happen if the central bank is relieved of the necessity to redeem its banknotes in gold bullion? Why under a system of paper money do the central banks always make the "mistake" of ignoring Keynes's advice and raising interest rates even though they no longer have to redeem their notes in either bullion or coin? These are questions that we can only examine in later chapters.

What we can say here is that the crisis is caused by the overproduction of commodities relative to the ability of the market to absorb commodities at profitable prices. However, there is no way that the generalized overproduction of commodities can take place without developing at the same time overproduction of the means for producing them.

Indeed, the surplus means of production are themselves produced in the form of commodities. For example, before a factory machine becomes fixed capital for the industrial capitalist who productively consumes the machine, it exists in the form of commodity capital in the hands of the industrial capitalist who produces the machine as a commodity.

Today, many Marxists – especially those who are employed in university economics departments – are reluctant to speak about the "overproduction of commodities." Our academic Marxists generally prefer to refer to the "over-accumulation of capital" – a far more respectable expression. But the "over-accumulation of capital" is in reality inseparable from the overproduction of commodities.

Overproduction simply cannot develop without "over-investment" or "over-accumulation." Therefore, any momentary success in maintaining and increasing over-investment will only make the inevitable crisis all the worse. As a boom begins to give way to recession, the fact that the high level of capital spending is actually fueling the crisis by making overproduction worse becomes obvious to the industrial capitalists themselves. They react by slashing capital spending.

While this deepens the crisis in the short run, it is the only way for them to get out of the crisis in the long run. The period of "over-investment" must be followed by a period of "under-investment."

Can the government prevent the crisis by increasing its own borrowing and spending?

The shortage of credit usually manifests itself first in the consumer durable sector, as I explained above. Sales of new homes and cars decline, not because of the perceived need for homes and cars but because of the increased difficulty of obtaining the credit that is needed to purchase them. As the industrial cycle peaks, competition for the remaining supply of credit intensifies between industrial capitalists, local and state (or provincial) governments, and the central government – here, remember, we are assuming a world government – and consumers. Since consumers are the weakest party, they are the first to be cut off as the supply of credit starts to get scarce.

Under a situation where the demand for credit at prevailing interest rates exceeds the supply of credit, the more bonds that are floated on the market by the industrial capitalists to finance high levels of capital spending, the less credit will be available for home and automobile buyers.

The competition for what is left of credit doesn't only affect the capitalists of various types plus the would-be purchasers of durable consumer goods. It also affects the government. The central government can as a rule always borrow, even when credit is at its tightest at the peak of the industrial cycle. But it can only do so at an ever higher rate of interest. This will increase the costs of servicing the national debt in the years that follow. Since the overall supply of credit is less than the demand for credit at the already existing high rate of interest, government borrowing at the peak of the industrial cycle simply crowds out other borrowers.

Therefore, unlike at the trough of the recession or the depression-stagnation phase of the industrial cycle, deficit spending by the central government cannot increase overall monetarily effective demand. It can only

redirect it towards industries that produce either for the needs of the government or its dependents. This is why the hopes of Keynesians that government deficit spending can avoid crises cannot be realized.

The correct crisis theory

As we saw in the first section where we examined popular crisis theories, a popular explanation is that crises are caused by the conflict between socialized production on the one hand and the private appropriation of the product on the other. This is actually the correct crisis theory. Now we can understand why this is so. On the one hand, socialized production – the increasingly socialized character of labor used in industrial production – means the development of the productive powers of human labor on an extraordinary scale.

However, the private appropriation of the product means that private ownership of the means of production still prevails and with it the necessity for the products to take the form of commodities, each of which must have both a use value and an exchange value. This, for all the reasons we have been examining, must at a certain stage in the development of capitalism lead to the periodic appearance of crises of the generalized overproduction of commodities.

As long as the conflict continues to exist between the ever more socialized nature of production combined with the continued private appropriation of the product, the product must continue to take the form of commodities produced by private labor that is not directly social. Under these conditions, the overproduction of commodities takes on a periodic – or cyclical – form. Contrary to the hopes of some well-meaning underconsumptionists, crises cannot be abolished by increasing the purchasing power of the workers by raising wages. To get rid of crises, the contradiction between socialized production and private appropriation must be resolved. Capitalist production must be transformed into socialist production.

Once the private appropriation of the products produced by socialized labor is abolished and labor is directly social – the commodity character of production, the division of society into classes, and the periodic crises of generalized overproduction disappear. This was shown in life by the evolution of the economy of the Soviet Union. The big problem that the Soviet economy faced was a shortage of material use values, or a "goods famine," as it was sometimes called.

Some bourgeois economists referring to reports of unwanted products accumulating in Soviet warehouses claimed that this showed that "over-

production" occurred in the Soviet Union as well. But here our (bourgeois) economists show how complete their lack of understanding really is.

In the Soviet case, the problem was that some products were produced that nobody really wanted. This can occur on occasion under capitalism as well, though under capitalism the industrial capitalists who produce products that nobody needs soon go bankrupt and the workers who were producing them face the misery of unemployment.

In fact in the Soviet Union, the production of products that nobody really wanted was a secondary problem. The primary problem that the Soviet economy faced was a shortage of products relative to human needs. Unlike in a capitalist economy, in the Soviet case, there was no difference between human needs and the demand for the product. People wanted Soviet products, but Soviet industry, since it was forced by imperialist military threats and economic boycotts to allocate huge amounts of labor to defense and socialist construction, producing for human needs and not profit, could not produce the products in sufficient quantity to fully meet these human needs.

The central bank and the crisis

Just like the commercial banks, the central bank under our assumed gold bullion standard system has to maintain a certain cash reserve – cash being, for the central bank, bars of gold bullion. Commercial banks maintain their reserves in the form of promissory notes on the central bank – banknotes – or deposits at the central bank – promises to pay the depositing bank in central bank banknotes on demand.

As soon as the crisis breaks out, the demand for money as a means of payment soars. Since under our assumption, the main means of payment consist of the banknotes issued by the central bank, the central bank can, once the crisis breaks out, issue more banknotes than it could before the crisis breaks out.

Therefore, unless its hands are tied by unwise banking legislation such as the English Bank Act of 1844 – which we will examine in a later chapter – our central bank will proceed to issue additional banknotes beyond its reserves of gold bullion. It will in this way ease the crisis – not prevent it – as long as its banknotes maintain their credit. More strictly speaking, it will be able to prevent the crisis from becoming worse than it has to be, considering the extent of the preceding overproduction.

What it won't be able to do – remember, we are assuming the central bank has to maintain the convertibility of its banknotes into gold bullion – is to

issue additional banknotes in such quantity that a fall in the general price level will be prevented once the crisis breaks out. If it attempted to do this, the central bank would face a run on its reserves of gold bullion by the owners of banknotes that would end in the collapse of the gold bullion standard and the devaluation of its banknotes – that is, a fall in the quantity of gold that each banknote represented. Under the assumptions we are making in this chapter, we would not allow the central bank to do this. What happens when central banks are allowed to do this – as is the case under a so-called fiat monetary standard – will be examined in the coming chapters.

Falling prices and credit

When credit is extended, it assumes a certain level of price. If these prices fall – which they do during a crisis – the fall in prices will mean that many debtors who would be able to meet their contracted debts at the old price levels will not be able to meet their debts at the new lower levels. The stronger capitalist enterprises will be able to survive the fall in prices by losing only a part of their capital – that will be more than made up for when prosperity returns – but many of the weaker enterprises will go out of business.

Different fates await the forces of production of the failed industrial enterprises. Some of their forces of production will be sold off to stronger industrial capitalists. These stronger capitalists will be able to buy these productive forces at prices far below their original labor values, or prices of production.

This, in part reflects the devaluation of the commodities that make up these productive forces due to the rise in the productivity of labor that has occurred since they were produced. In part, it also reflects the fact that prices of commodities in general have temporarily fallen below their labor values – or prices of production – since the crisis broke out. In this case, the commodities that enter into the forces of production that produce additional commodities have depreciated.

To say that a commodity has depreciated means that its market price has fallen temporarily below its production price. There are many "distress" sales where failing capitalists are forced to sell off their productive forces at prices that are below their prices of production – minus the wear and tear that they have already been subjected to while functioning as means of production.

But at the new lower level of prices, it is impossible to utilize profitably many of the older productive forces even if their prices fall all the way to zero. Such productive forces, though they can still be made to produce ma-

terial use values that meet human needs, can no longer function as capital – as a means of exploiting wage labor. These productive forces are therefore destroyed and their remains sold off for scrap. In a severe crisis, the whole process of expanded reproduction goes into reverse and gives way to contracted reproduction. Therefore, in terms of value, market prices, and use values, society's means of producing wealth contracts.

In contrast, the production of wealth in the form of money material expands at an accelerated pace both in terms of value – the amount of abstract human labor necessary to produce a given weight of gold – and in terms of use value – the total weight of the mass of gold bullion that represents that social relation of production called money. This is necessary to restore once again the conditions that will make possible the full realization of the value, including the part of the value of commodities that represent surplus value, once expanded capitalist reproduction resumes.

At the beginning of the crisis, capitalist society faces a great shortage of money. But at the end of the crisis, the capitalist class as a whole has a mass of idle money available that was burning a huge hole in its collective pocket. The glut of idle money develops because the fall in the general price level increases the purchasing power of the existing mass of money, the production of money material rises because of the increased profitability both relatively and absolutely of producing money material, and the real wealth of society in both value and use value terms contracts relative to the quantity of money in existence.

Sooner or later the capitalists will move to convert their huge surplus hoard of money M into real capital – constant plus variable capital – and expanded capitalist reproduction will resume and continue with increasing vigor until once again a new crisis of overproduction breaks out.

Crisis, the organic composition of capital, the rate of surplus value, and the rate of profit

The crisis swells the reserve army of labor and turns the balance of forces in the labor market strongly against the working class. Competition between the buyers of the commodity labor power – the industrial and other capitalists – declines while competition among the sellers of labor power – the workers – sharply increases. As the price of the commodity labor power drops, the ratio of paid to unpaid labor rises, i.e., the rate of surplus value rises.

Under the conditions of a crisis, the rise in the rate of surplus value does not immediately lead to higher profits. It is not enough to produce surplus

value; you must also be able to realize it in terms of the use value of the money commodity. Therefore, profits – realized surplus value – cannot rise until the crisis reestablishes the conditions that enable the values of commodities that contain the surplus value to be realized once again.

This last point is denied by Marxists of the Grossman-Mattick school. These Marxists assume that if the rate of surplus value rises sufficiently, the problem of realizing the surplus value is *automatically solved*. The Grossman-Mattick school considers a "Keynesian" error any acknowledgment that the realization of the value and surplus value of commodities is a problem separate from the production of surplus value.

The supporters of the Grossman-Mattick school are correct when they explain that many Marxists who emphasize the problems of realizing the value of commodities are indeed influenced by Keynes – for example, the Sweezy-Monthly Review school, the other main school among contemporary Marxists.

Other Marxists influenced by the contrary arguments of the Grossman-Mattick school, on one side, and the Sweezy-Monthly Review school, on the other, try to reconcile them by arguing that there is some "optimum rate of surplus value" high enough to produce an adequate rate of profit for the capitalists but low enough make the realization of the value of commodities possible.

At worst, the supporters of Grossman-Mattick point out, the "Keynesian-Marxists" flirt with the claim that "the surplus" (as Sweezy-influenced Marxists sometimes call it) arises not in the sphere of production but in the sphere of circulation. This would be true of Keynes himself insomuch as he can be said to have had any theory of surplus value at all.

The Grossman-Mattick Marxists for all their mistakes are quite correct in criticizing these views. Before surplus value can be realized, it must be produced. If surplus value is not *produced, there can be no profit*.

However, this in no way changes the fact that surplus value once it has been produced must be realized in terms of the use value of the money commodity. Surplus value that is not realized in terms of the use value of the money commodity *is not profit*. It is therefore quite possible to produce surplus value and still make no profit. Indeed, every practical business person is all too well aware of this.

To reestablish the conditions of realizing value and surplus value of the commodities that they are capable of producing, the capitalists must do two things. First, they must produce fewer commodities while selling off

the commodities they have already overproduced more or less below value, while at the same time destroying their "surplus" forces of production.

Second, they must increase the production of money material – the special commodity that functions as the universal measure of value. No rise in the rate of surplus value can substitute for these measures.

This has an important *political implication*. The capitalists and their hired economic guns explain that "we" must sacrifice to get out of the crisis. However, the sacrifices that the two classes are asked to make are quite different. The workers are supposed to sacrifice by spending an even greater part of the working day toiling for the capitalists than before.

What sacrifice are the capitalists asked to make? Their "sacrifice" consists of appropriating an even larger amount of unpaid labor than before. In the name of getting out of the crisis, the capitalists are to "sacrifice" by getting even richer than they were before.

Naturally, the workers consider this unfair. The Grossman-Mattick school, however, agrees with the bosses on this one. To be fair, unlike the bosses and their economists the Grossman-Mattick school explains that if the workers resist, the crisis continues until either the workers are forced to accept a higher rate of exploitation and prosperity returns, or until the workers, unwilling to accept still more capitalist exploitation, finally overthrow the capitalists and embark on the construction of socialism. It is the latter outcome that the supporters of the Grossman-Mattick school work for.

However, unless we are in an immediately revolutionary situation, the workers will tend to draw the conclusion that if the only effect of their resistance is to extend the duration and worsen the crisis, resistance is both fruitless and unwise.

Therefore, though the supporters of the Grossman-Mattick school have the most revolutionary of intentions, they are in danger of unwittingly playing into the hands of the bosses. As a rule, the workers become radicalized not simply through the effects of economic crises but through the struggle against their effects. When the struggle ebbs, the workers do not become radicalized, no matter how bad the economic situation becomes. This is the lesson of several centuries of class struggle.

If the workers fight back during the crisis, they will be in a far better position to take advantage of the inevitable upswing that follows. But if the workers give in during the crisis, the slavish habits of subservience to the bosses will tend to prevent them from taking advantage of the inevitable upturn

in the industrial cycle. A working-class that does not know how to struggle against the effects of capitalist crisis will never make a socialist revolution.

In the name of combating Keynes-inspired reformist illusions about preventing crises through government policies that increase "effective demand," the "ultra-left" Grossman-Mattick school runs the risk of demoralizing the workers altogether. It is no accident that the mass workers' organizations are much more attracted to Keynesian-Marxists than they are to the Grossman-Mattick-type Marxists, whose influence is largely limited to academic circles or to small groupings that are detached from the actual workers' movement.

However, despite their serious theoretical and political errors, we shouldn't forget the strong element of truth in the Grossman-Mattick analysis. In the course of the crisis, the obstacles to the realization of the value, including the surplus value contained in commodities, are eliminated. Once the crisis has run its course, the more the capitalists have succeeded in increasing the rate of surplus value the higher their profits will be when prosperity returns.

There are actually two interrelated reasons why this is true.

All things remaining equal, the higher the rate of surplus value the higher will be the rate as well as the mass of profit. In addition, the higher the ratio of unpaid labor to paid labor the more the industrial capitalists will employ living labor – variable capital – as opposed to dead labor – constant capital.

On average, industrial capitalists have to pay for the full value of constant capital, but they pay for only part of the value created by living labor. The higher the rate of surplus value – the less they pay for the new value created by living labor – the more they will use living labor and the less they will use dead labor – machines and other forms of constant capital. And the more the industrial capitalists use living labor as opposed to dead labor the lower the organic composition of capital will be and the higher, everything else remaining equal, will be the rate of profit.

Here we see the vampire essence of capitalism, dead labor living on living labor. If you deny the vampire its source of living blood, it perishes.

But this situation contains the seeds of its own reversal. The more the capitalists use living labor the greater the likelihood that the balance of forces on the labor market will once again swing in favor of the sellers of labor power – the workers. A new generation of workers will have learned the hard way that the "no struggle" approach only brings disaster for the workers and the working population in general.

How capitalism avoids the absolute overproduction of capital

If there were no crises of relative overproduction, capitalism would face crises of what Marx called the absolute overproduction of capital.[4] Suppose capitalists having successfully converted the value, including the surplus value, of their commodities into money find that they cannot take the next step and transform any of the surplus value that they have realized in money form – profit – into variable capital – purchased labor power – due to the absence of workers who are offering to sell their labor power. The bosses find that they cannot increase their production of surplus value. Instead of workers ready to go to work producing surplus value, they simply have a sum of money. Money cannot produce an atom of additional value, let alone surplus value. Nor can money be converted into constant capital to produce surplus value. At this point, the whole process of expanded capitalist reproduction halts.

If such a situation becomes general, the competition among the buyers of labor power – combined with the reduction of the competition among the sellers of labor power – would reach such levels that the rate of surplus value would plunge to zero. The result would be an absolute overproduction of capital where the additional investment of capital leads to a smaller mass of profit, not a larger mass of profit. At this point, the entire process of the expanded reproduction of capital comes to a stop. How does capital avoid such a disastrous situation?

In the real world, crises of the absolute overproduction of capital are avoided by crises of the relative overproduction of commodities – which includes the elements of real capital. Real capital consists of factories, buildings, mines, machinery, raw and auxiliary materials, and, last and most important of all, additional labor power.

Overall, the effects of crises of general overproduction are to increase the rate of surplus value, slow down the growth in the organic composition of capital, and thus counteract the fall in the rate of profit. Crises, therefore, play a crucial role in converting the fall in the rate of profit due to a rise in the organic composition of capital into a mere tendency, a point correctly stressed by the Grossman-Mattick school.

Crises and the centralization of capital

There is another way that crises counteract the effects of the fall in the rate of profit. During crises, it becomes obvious that there are "too many" indus-

(4) Marx, Capital, Volume III, Part III. The Law of the Tendency of the Rate of Profit to Fall. Chapter 15. Exposition of the Internal Contradictions of the Law. III. Excess Capital And Excess Population https://www.marxists.org/archive/marx/works/1894-c3/ch15.htm

trial capitalists competing with one another for market share. The market is simply not large enough to accommodate all the industrial capitalists. The only solution is to reduce the number of independent industrial capitalists engaged in mutual competition among themselves. This can occur through bankruptcies that transfer some of the existing productive forces from the hands of relatively small capitalists into the hands of much larger capitalists, through capitalists simply going out of business and selling off some of their forces of production to stronger capitalists, as well as forced mergers where the productive forces of small capitalists are joined up with the productive forces of much larger capitalists; or through the outright destruction of surplus productive forces.

The crucial result is the growth of monopolies. In the middle of the nineteenth century light industry predominated. The transition to monopoly capitalism began around 1873, based on the new industries of the 19th century, such as railroads, the petroleum industry and the iron and steel industries.

Whether in the form of cartel agreements among a relatively few number of independent capitalists or in the form of trusts – a single capitalist or collective capitalists in the form of a corporation – monopolies end up owning productive forces that were previously owned by many independent capitalists and are therefore in a position to impose monopoly prices. That is, once the crisis has passed, they are able to maintain market prices in excess of the prices of production for a prolonged period.

These surplus profits, however, do not arise in the sphere of circulation, but are ultimately taken out of the pockets of the capitalists that operate in sections of production where capital is less centralized. The overall effect is that individual capitals become both fewer – centralization of capital – and larger – concentration of capital.

As individual capitals swell to monstrous size, a huge mass of profit is made even when the rate of profit is low. The more capital is centralized in the hands of a few very large capitalists, the more capital as a whole is "reconciled" to a low rate of profit. Here the low rate of profit is compensated for by a huge absolute mass of profit.

At a certain point, the centralization of the forces of production will become so great that it will no longer be compatible with the capitalist mode of production, which requires that capital exists in the form of "many capitals." The discussion of this belongs not here but in the chapters on the breakdown theory. However, we can say, along with Engels in *Socialism: Utopian and Scientific*, that the industrial cycle is not so much a circle that always returns

to its starting point but a tightening spiral that must end sooner or later with the transformation of capitalism into socialism. (5)

Some additional observations

We have seen how the periodic disproportion between the branch of industry that produces money material and all other branches of commodity production is not an accident but must be reproduced on an expanded scale during successive industrial cycles. If permanent prosperity could be achieved, prices would then rise forever and would lose all connection to their underlying labor values. But this would eventually cause the production of money material to cease. And without the production of a money commodity, capitalism cannot exist.

But this does not mean that accidental disproportions among the various branches of production, made inevitable by the anarchy of capitalist production, do not occur as well. In practice, these purely accidental disproportions do profoundly affect the development of individual industrial cycles.

In Chapter 5 on the disproportionality theory of crises, I noted that disproportionate production has a particular tendency to develop between the branches of industry that produce primary commodities and the branches that produce the final product. The increase in production of primary commodities such as industrial metals, petroleum and natural gas often involves the search for new mineral deposits, oil fields and so on. Such exploration projects are unlikely to be undertaken except during periods of high profits in the primary commodity industries.

Since such exploration can take considerable periods of time, the rise of raw material production has a tendency to lag behind demand during the upward phases of the industrial cycle. Very often by the time new mines, oil wells and so on are ready for production, the crisis has arrived and the demand for raw materials suddenly slumps. Not until the next boom, or sometimes several booms later, will prices and profits rise to levels that cause new exploration to be undertaken.

This plays an important role in real-world crises. This is especially true because at the peak of the boom and the beginning of the recession, the ability to further expand credit – and for the moment the market – is exhausted.

Therefore, the industrial capitalists are far less likely to be able to pass on any increase in cost prices than they were earlier in the industrial cycle.

(5) Engels, S*ocialism: Utopian and Scientific*, III. Historical Materialism https://www.marxists.org/archive/marx/works/1880/soc-utop/ch03.htm

Growing shortages of raw materials are indeed one of the best indicators of an approaching crisis.

This analysis can also be applied to the gold and gold refining industries, the industries that produce money material.

Remember, for the counter-cyclical gold industry, the boom means tough times. The gold industry has been forced to slash its exploration budgets during the preceding boom when other primary commodity industries are experiencing rising profits and are therefore increasing theirs. If the existing mines are badly depleted, it might be difficult for the gold mining industry to rapidly increase gold production even if the profitability of the existing mines is increasing rapidly due to falling commodity prices. If gold production cannot be quickly increased, the recession-depression phases of the cycle will last longer than would otherwise be the case.

True, falling commodity prices in terms of gold at a certain point make the gold mining industry profitable once again, and the gold mining industry will certainly progressively increase its exploration budgets. But even if the gold mining capitalists are successful in finding more gold deposits, the exploration process can take a considerable period of time. In addition, the new gold deposits must then be developed into actual mines, which takes additional time. I examine this more closely in Section 6 where I take up the whole controversial question of whether there are "long cycles" in capitalist production.

New industries and overproduction

Overproduction tends to be most pronounced in the new rapidly developing branches of production. In old established industries such as residential construction, the industrial capitalists have at least an approximate idea of the size of the market and how rapidly it is likely to grow over time. But in new industries, this is much harder to gauge.

For example, when the personal computer industry began to develop in the last part of the 20th century, it was not at all clear how many "consumers" there would be for the new devices. Up to then, people had done just fine without a home computer. Today, however, the majority of humanity – except for the very poor – most people cannot do without some type of computer, whether it is a smart phone, tablet computer, laptop or desktop.

As is always true in new branches of production, the pioneering capitalists have to create a need for the new type of use value. This is what the late Steve Jobs was so great at. When a new industry is born, it is is not at all clear how successful they will be.

Suppose they are very successful in creating the need for the new type of use value, and a rapidly developing industry is born. The market for the new type of commodity is expanding a lot faster than the growth of the world market as a whole. During this stage, the industrial capitalists who are engaged in the production of the new product must struggle to keep up with the surging demand, and the rate of profit in the new industry is far above the average rate of profit.

Capital flows into the new industry as great numbers of would-be entrepreneurs try their luck, lured by the expectation of making huge super-profits. This ends with massive overproduction, or as the business press puts it, there is a shakeout in the new industry as it approaches maturity.

At the beginning of the new industry, there are usually only a few pioneering small-time industrial capitalists operating with their small capitals. Then, as the industry develops, demand increases sharply and super-profits abound. As more capitalists enter the sector, capital in the new branch of production goes through a phase of decentralization, though production is already becoming more concentrated.

Sooner or later, the ability to produce the new type of commodity will inevitably exceed the monetarily-effective demand for it. The decentralization of capital is replaced by centralization of capital as many of the pioneers lose their shirts or withdraw from the market in defeat.

For example, at the very beginning of the personal computer industry in 1975, the industry consisted of one small-time industrial capitalist named Ed Roberts. Roberts owned a company that produced the Altair personal computer. This machine had to be assembled from a kit, had no software available for it – it had to be programmed in machine language – and had no output device beyond a series of lights.

Its only use value was that it enabled a "geek" to own his or her own computer – something not possible before 1975. If things had remained at this stage, the market for personal computers would have remained tiny. At this stage in the personal computer industry though, there was little concentration of capital. Roberts' operation was quite small and the centralization of capital was absolute – there was only one industrial capitalist in the entire industry.

Almost at once, however, personal computers were rapidly improved and were on their way to becoming devices that many of us cannot live without today. The market for personal computers expanded dramatically, and many more industrial and would-be industrial capitalists tried their luck. Capital

in the new-born PC industry was growing more concentrated but less centralized. The rate of profit in the PC industry rose far above the average rate of profit for capitalist industry as a whole, and soon the new industry was spawning a growing share of multimillionaires and then billionaires.

However, many of these capitalists either failed, or like Roberts – who rapidly realized he couldn't possibly keep up with "competition" and sold his business to a larger company in 1976 just a year after he introduced the Altair – voluntarily withdrew from the industry.

As the industry matured – that is, as the rate of growth of the PC market sank toward the rate of growth of the market as a whole – capital continued to grow more concentrated and became more centralized as more and more capitalists involved in the production of personal computers either failed or withdrew as the easy profits disappeared. Along the way, the PC industry passed through a series of violent crises – for example, the crisis of 1985, which not only coincided with a "slowdown" in the general economy but severely shook the PC industry.

The microchip spawned not only the PC industry but a whole series of related industries that have now completely revolutionized communications and are called "high tech." During the "Clinton boom" years of the 1990s, capital flowed into high-tech as though there were no limits to the demand for these commodities and related services. This ended with the "high tech" meltdown in 2001, which killed off all illusions that this new complex of industries was immune to the laws that govern capitalist production.

Indeed, new industries, where new needs for new use values are being established and where therefore the rate of growth of the market is much more uncertain than is the case with old established industries, are much more prone to violent cyclical fluctuations than are the old established industries. For example, the economy of California's Silicon Valley is extremely cyclical.

Accidental disproportions

Finally, we should take a look at accidental disproportions that inevitably occur in all industrial cycles as industries successively overproduce and underproduce. As long as industry operates at a low level of capacity utilization, this will not result in widespread bottlenecks and shortages. For example, at the low point of the Great Recession of 2007-09, the U.S. capacity utilization was just under 70%, according to the Federal Reserve. Suppose for the sake of argument that the Federal Reserve figures are accurate; this was only the average level of utilization.

Some industries, let's say the shoelace-producing industry, is operating at 85%, but the shoe manufacturing industry is operating at only 40%. Perhaps before the crisis broke out the high cost of shoelaces was dramatically reducing the profits of the shoe-manufacturing industry. With the outbreak of the crisis, only the most productive shoe factories remain in production. However, during the next period of prosperity, capacity utilization of the shoe-making industry will rise as people replace their worn-out shoes.

During the previous boom, let's assume the shoelace industry was working all out and making exceptional profits, while many shoes produced by the shoe-producing industry couldn't be sold due to a lack of shoelaces. Nobody wants to buy a pair of shoes if shoelaces are not included.

However, a period of bad business will allow such disproportions to be ironed out. The shoe-producing industry is forced to curtail production during the recession not because of a lack of shoelaces but because so many people facing either partial or full unemployment are cutting back on their shoe purchases. The shoe industry that was operating at 40% of capacity consequently reduces its capital spending, which perhaps had already been declining before the general crisis broke out, to virtually nothing. Idle shoe factories are ruthlessly closed down and society's capacity to produce shoes shrinks.

However, the shoelace industry, which is at the relatively high level of operating capacity at 85%, will largely maintain its capital spending. Even during this time of terrible business, it is still using most of its productive forces. As soon as business picks up again, it will find itself again operating at 100% unless it continues to expand its productive capacity. So capital flows into the shoelace industry. New shoelace factories are being built and will come online as prosperity returns.

As a result, by the time the next boom arrives, it is shoelaces that are overproduced relative to shoes. It is the shoe industry that can now make super-profits, since shoelaces are dirt cheap. Therefore, one of the functions of general crises of overproduction under capitalism is to iron out the bottlenecks in production that inevitably develop during the boom.

The stock market and the crisis phase of the industrial cycle

The stock market boom comes to an end usually due to the combination of rising long-term interest rates – remember, in the long run the prices of corporate stock are the stream of dividends capitalized at the long-term rate of interest – and the prospect of sharply lower profits and thus lower

dividend payments once the crisis breaks out. Sometimes rising long-term interest rates cause the stock market to anticipate the crisis and the bull market ends many months before the industrial cycle peaks.

Other times, the momentum of the "bull market" lasts right up until the cyclical peak and sometimes even slightly beyond. But once the crisis becomes unmistakable, the market will almost always sell off sharply in anticipation of the suddenly darkened prospect for corporate profits.

However, not every sharp drop in stock market prices indicates the arrival or imminent outbreak of a crisis. The stock market has its own internal cycles and can crash at any stage of the industrial cycle.

Sometimes the "bear market" once it starts will last until the end of the crisis. But usually the stock market turns up while the crisis of industrial production and employment is still in full swing. Why is this?

First, the crisis by brutally eliminating the preceding overproduction is greatly improving the prospect for future profits. The rate of surplus value is soaring, and even though this higher rate of surplus value does not translate into higher profits immediately due to realization problems, it inevitably will once the crisis has eliminated the surplus commodities and means of production. Higher profits – both in terms of rate and mass – mean more dividends and hence higher stock market prices at a given rate of interest. But during the industrial crisis, interest rates are not "given" but are falling.

The ratio of real wealth – wealth in non-money form – to wealth in money material drops. This occurs for three reasons. First, the prices of commodities drop; second, the quantity of commodities measured in terms of use values declines; and third, the production of money material is stimulated, causing the quantity of money material to expand.

All three factors work in the direction of lowering interest rates. Since the prices of corporate stocks – abstracting the inevitable swings of speculation – are simply the capitalization of the flow of dividends at the long-term rate of interest, lower interest rates tend to raise the prices of corporate stock. Once recovery begins, the rate of profit will recover rapidly while the long-term interest rates will rise very little or not at all for quite some time due to the accumulation of idle money capital during the crisis.

Finally, the large capitalists have learned from long experience that the best time to buy stocks is when their price has been severely depreciated as a result of a crisis. They hope to buy the stocks near the bottom of the market.

Very often bear markets end when a massive "selling climax" has driven the price of stocks down to levels that inspire the big capitalists to engage in a stock-buying frenzy.

Needless to say, these facts provide no foolproof way of making lots of money in the stock market. For example, after the stock market collapsed by 40% within three weeks in late October and early November 1929, it seemed to many capitalists at the time that a historic stock market buying opportunity had opened up. The economy was obviously in recession but in the normal course of things the recession would be expected to bottom out sometime in 1930. Long-term interest rates had already fallen considerably. And the mounting wave of layoffs was driving down wages promising much higher profits once recovery set in, which many capitalists confidently expected to occur in the course of the year 1930. Anticipating this development, many investors rushed into the market at the end of 1929 and the early months of 1930.

Unfortunately for them, this proved no ordinary recession and the stock market slump soon resumed. By the time stock prices finally hit bottom in July 1932, they had fallen far below the levels of November 1929. It turned out the stock market in the wake of the crash of 1929 was no bargain at all.

World Trade and Crisis Theory

In the last few chapters, we examined an ideal capitalist industrial cycle. To simplify, we assumed the capitalist world was a single country with a gold-bullion-standard currency system. Based on these assumptions, we saw that once capitalism developed to the point where it acquired the ability to carry out sudden expansions of industrial production, an industrial cycle with all its phases of crisis, depression-stagnation, average prosperity, and boom emerged.

Therefore, even if global capitalists could achieve a single unified state with a gold bullion currency in the future, they would not be able to avoid industrial cycles crowned by crises of overproduction.

The capitalist world has always been divided into multiple countries using different currencies. In addition to the gold bullion standard we have been assuming, there have been gold coin (and sometimes silver coin) standards, mainly used before World War I, gold bullion standards, and paper money standards, where paper currencies are declared legal tender for all debts, public and private. The latter systems – sometimes called fiat currency – have been used since the end of the Bretton Woods System in the early 1970s up to the time of this writing.

Therefore, we need to understand international trade to complete our theory of the industrial cycle and its crises. Such a theory must explain global prices, trade, currency exchange rates, and gold flows as they operate under different currency systems.

More than crisis theory

A correct understanding of international trade involves much more than crisis theory, as important as this is. It also involves the relationship between capitalistically developed countries and capitalistically underdeveloped countries. Do these countries have a common interest in "free trade" as is proclaimed by the so-called "Washington Consensus" and most professional economists?

Can one capitalist country exploit another if free trade prevails? Understanding international trade is also crucial to understanding the underlying causes of wars among capitalist countries.

In the following chapter, I will maintain the assumption that the entire world is capitalist and that all the countries engaged in international trade are capitalist. The question of trade between capitalist and pre-capitalist countries raises many questions of its own. So, of course, does the question of trade between capitalist countries and countries that are building socialism.

However, here I will deal only with trade among capitalist countries. In any case, we have to understand this before we can deal with the trade between capitalist and pre-capitalist countries or between capitalist countries and countries engaged in socialist construction.

As is the case with all questions involving economic theory, we must be on guard against allowing the often false and apologetic ideas of the professional bourgeois economists to creep into our analysis. An example of this is the widespread tendency of modern Marxists to describe crises as being something other than crises of the general overproduction of commodities. This is even though Marx and Engels themselves repeatedly – and not just in a few places – described capitalist crises as crises of overproduction from the 1840s to the end of their lives. We can also mention the tendency of modern Marxists to describe current paper currency as non-commodity money.

This does not mean we should reject a theory simply because it enjoys widespread support among bourgeois economists. On the contrary, Marx was the greatest student of bourgeois political economy who ever lived and drew most of his economic ideas from them. However, he did so critically accepting what was correct in bourgeois political economy while rejecting what was false or simply apologetic.

CHAPTER 13
The Ricardian theory of international trade

Our examination of the laws governing international trade begins with David Ricardo's theory of comparative advantage. This theory has dominated bourgeois political economy as regards the theory of international trade for the last two centuries. It has survived the transition from his theory of value based on the quantity of labor socially necessary to produce a commodity of a given use value and quality to the modern marginalist theory of value. It has also survived the transition from the gold standard to the universal use of so-called fiat money.

Marx did not live to write his planned book on the world market, but he did make many valuable observations about international trade, especially in Volume III of "Capital." He accepted much of Ricardo's work and built his critique of bourgeois political economy by extending as well as criticizing Ricardo's work. Therefore, it forms the starting point of our examination of international trade.

Ricardo's theory of value, money, and international trade

In the days before Marx and Engels, Ricardo attempted to develop a consistent theory of value based on embodied labor measured in terms of time. He, like other classical economists, realized what today's (bourgeois) economists deny, that in a capitalist economy, the products of human labor are not consumed by their producers but are exchanged for other commodities of different use values that – on average – require equal quantities of labor to produce.

Ricardo also assumed that everyday market prices are regulated on average by labor values. In addition, he showed – basing himself on earlier classical economists – that the division of labor among the various branches

of production is regulated by the relationship between market prices and values. Accordingly, value determines what Adam Smith called the "natural price" of commodities and what Ricardo called the price of production or cost of production.

Like other classical economists, he assumed that market prices fluctuate around commodities' values – or the costs of production. Ricardo made clear that his version of the cost of production included the average rate of profit. His cost of production is not the same thing as the cost price – the cost for the capitalist. Ricardo called the difference between the cost of production and the cost price the net product, what Marx called surplus value.

The classical economist's great accomplishment was to show that this was the mechanism that allows an unplanned capitalist economy where each person is pursuing only their private material interests to produce the commodities in the proper proportions – based on the capitalist relations of production – that the members of society need and desire so that capitalist society can reproduce itself.

Suppose a given commodity with a given use value and quality is produced in less than the desired proportion. Its market price will rise above its value, or in Ricardo's terminology, its cost of production. If it were to be produced in more than the desired proportion, its market price would fall below its cost of production. With these assumptions, capital flows from branches of production where capital makes a less-than-average rate of profit to branches where capital makes a greater-than-average rate of profit.

Ricardo's quantity theory of money

Ricardo assumed that money was a commodity, usually gold bullion, governed by the same laws that govern the production of any other commodity.

If gold is underproduced, gold will exchange with other commodities at a rate above its value. This will mean that gold miners and refiners will make a higher than average rate of profit. Ricardo assumed that, in this case, competition would equalize the supply and demand for gold bullion – money – because capital in search of an above-rate-of-profit would flow into the gold-producing industry. Then as gold production increases, the rate of profit in the gold mining and refining industry would then drop back to the average rate of profit.

Therefore, the effect on the real economy when commodity prices fall below values is that the capitalists invested in gold mining and refining will

temporarily make a super-profit. Over time, a portion of the capital will be invested in gold mining and refining, where it will realize a higher-than-average rate of profit until the increasing quantity of gold (money) relative to other commodities causes the price of commodities to rise back to their values.

Until this happens, the quantity of money – gold – will grow faster than most other commodities. The increased production of gold will cause the exchange rate of gold with other commodities to fall back to its value. Until gold production increases, the falling prices will adjust the actual quantity of money to the needs of circulation. If money is overproduced relative to other commodities, rising prices adjust the amount to the needs of circulation at the temporarily higher prices. In neither underproduction nor overproduction of gold is the circulation of commodities disrupted. The only result will be that the general price level will temporarily deviate from the underlying value of commodities. When prices deviate from the value of any commodity, they are brought back into line with their value through the movement of capital from sectors where the rate of profit is below the average rate of profit to sectors where it is above.

Therefore, the Ricardian quantity theory of money will mean no shortage of money when gold is underproduced and no accumulation of idle money when gold is overproduced. Instead, we get a fluctuation of prices of commodities around their values. However, the production of real wealth is not affected by the fluctuation of prices around value, only the production of nominal wealth. The doctrine that fluctuations in the quantity of money affect only nominal wealth measured in terms of money but not real wealth measured in terms of use values is known as the neutrality of money.

Ricardo explained that capitalists do not get rich by building up idle hoards of gold but by throwing any surplus money that passes through their pockets back into circulation. Therefore the profit motive itself will ensure a "full circulation," as 19th-century economists put it.

In equilibrium, the rate of profit is uniform in all branches of production, including the branch of production which produces the money commodity, [(1)] and the general price level will coincide with the values of commodities. Ricardo assumes that such an equilibrium exists. This leads to his assump-

(1) This is a simplification. In the sectors of production where there is a greater risk, the rate of profit will tend to be higher than average, while in sectors where risk is lower, the rate of profit will tend to be lower. However, this does not affect the basic argument. Also, for simplification, we are ignoring the problems of ground rent in gold mining. Again the basic argument is unaffected.

tion that prices of commodities equal their values not only in relation to one another but also in relation to money.

Therefore, unlike the mercantilists, Ricardo and other liberal economists concluded that changes in the quantity of money within a country did not affect the country's real wealth but only its nominal wealth as measured in terms of money. The mercantilists saw gold and silver as the essence of wealth, but Ricardo explained that the wealth of a nation consists of the total quantity of use values in the country. Therefore the flow of money into and out of the nation affected only nominal prices and wages but did not affect the real wealth of the nation.

The quantity theory of money and Say's Law

The view that prices are susceptible to changes in the quantity of money and that these changes have no effect on real wealth represents the quantity theory of money in its pure form. This theory sees money as merely a means of circulation that can, in principle, be dispensed with. Commodities are seen in the final analysis as being purchased by other commodities. This leads to "Say's Law," which claims that a general overproduction of commodities is impossible.(2)

Ricardo supported Say against Sismondi and Malthus in the debate on whether a general glut of commodities – a crisis of general overproduction – was possible. Sismondi and Malthus argued that general commodity gluts were a real danger.

Ricardo's theory of value and money applied to international trade

Ricardo drew counterintuitive conclusions about international trade using his combined law of labor value and the quantity theory of money. Do the same laws that govern prices within a nation govern international trade? Ricardo said no. Within a country, absolute advantage prevails – that is, the capitalist prevails who can produce a commodity of a given use value and quality with the least amount of labor, but in the home market only.

Suppose that within a country, a group of industrial capitalists compete with one another. We assume our industrial capitalists are producing the

(2) Say's law claims that commodities are bought by means of other commodities. A doubling of commodities would double the effective demand for commodities. Therefore, according to Say's Law, a generalized overproduction of commodities is impossible. At most, a partial overproduction of some commodities backed by a shortage of commodities is possible. Say's so-called law ignores the role of money. It is possible to have a generalized overproduction of commodities relative to the money commodity.

same commodity of the same quality. Which industrial capitalists will win the battle of competition?

Ricardo assumed that all capitalists must pay the same wages for labor. The price of labor, as he put it – he had no concept of the difference between labor and labor power – is determined by what is required to enable the workers to live and work and raise a new generation of workers.

Accepting Malthus's law of population, he assumed that if wages were higher than this, the workers would increase their number until their wages again fell to what is required for bare subsistence and the raising of a new generation of workers. If wages were lower than this, a portion of the working class would starve to death, or at least the number of young workers offering their labor for sale would decline, allowing wages to rise to bare subsistence once again.

Through this Malthusian mechanism, the number of workers is determined by the needs of the capitalists for labor in the long run.

Ricardo also assumed that since the same Malthusian law operates in all countries, wages should be more or less equal in all countries – just enough for the workers to survive, labor, and raise a new generation, and no more.

Suppose our industrial capitalists all operate within the same country and produce the same product of the same quality. But they produce it with different amounts of labor. For example, one industrial capitalist might produce X quantity with 100 hours of labor, another with 75 hours of labor, a third with 125 hours, and a fourth with 70 hours of labor.

The product produced by each industrial capitalist, while identical as far as the use value is concerned, is produced with different quantities of labor; some produce the product more cheaply than others. Therefore, in Marx's terminology, the individual value of the product produced by each industrial capitalist will be different.

Who then wins the battle of competition? That is a no-brainer. Ricardo, as well as Marx, answers that the industrial capitalists who can produce X amount of product with the least amount of labor will win. Those who produce the cheapest can always undersell the competition and drive them out of the market. The winners will be those who use only 70 hours of labor to produce X amount. The other industrial capitalists will have to either adopt the same methods of production or one that uses even fewer hours of labor to produce the same amount, or face bankruptcy.

As far as the national market is concerned, Ricardo would agree that it is absolute advantage that prevails. But when applying his theories of value, price, and money to international trade, Ricardo concluded that what was true for the national market was not true for the international market. While absolute advantage prevails in the national market, Ricardo held that what today's economists call "comparative advantage" prevails in the global market. What is comparative advantage?

In chapter 7 of his main work, "***Principles of Political Economy and Taxation***," Ricardo examined a hypothetical example of a relatively advanced industrial Portugal and a relatively backward industrial England.

Ricardo's example

Ricardo assumed that both England and Portugal produced both cloth and wine. "To produce the wine in Portugal," Ricardo wrote, "might require only the labor of 80 men for one year, and to produce the cloth in the same country, might require the labor of 90 men for the same time." England "may be so circumstanced, that to produce the cloth may require the labor of 100 men for one year; and if she attempted to make the wine, it might require the labor of 120 men for the same time."

Portugal has, in this example, an absolute advantage over England in wine and cloth production. If the same laws that prevail within a national market also prevail in international trade, then England will face ruin if it adopts a policy of "free trade." To produce a given quantity of cloth in a year, the labor of 90 workers is needed in England but only 80 workers in Portugal. Therefore, as far as cloth production is concerned, Portugal has an absolute advantage over England.

The situation is even worse for England when it comes to the production of wine. To produce a year's worth of wine, it takes the labor of 80 men in Portugal, but England requires the labor of 120 men for a year.

If the same law prevails in international competition as in national competition, the industrial capitalists of Portugal should, in both the wine and cloth industries, drive English industrial capitalists out of business. International trade, therefore, seems like a losing proposition for England. To justify free trade, Ricardo tried to prove that a different set of laws govern international trade than the law of absolute advantage that governs the domestic market.

Ricardian comparative advantage

In this example, Portugal employs 80 men for one year to produce its annual wine supply. By a year of labor, Ricardo meant the amount of labor

time the average worker performs in a given year, not a year of uninterrupted work. The labor value of Portugal's annual wine production is 80 person-years of labor, and the labor value of Portugal's cloth production is 90 person-years of labor.

Ricardo assumes England produces the same amount of cloth and wine in use value terms. However, cloth and wine have a higher labor value in England than in Portugal due to the lower productivity of labor in England. England must expend 100 person-years of labor to produce its annual supply of cloth – and 120 person-years of labor to produce its yearly quantity of wine.

Assuming for the sake of illustration that wine and cloth represent the total production of England and Portugal, England must expend 220 person-years of labor to produce its total annual product. Portugal expends only 170 labor years to produce its annual product, which is in use value terms equal to that of England. Taking Portugal and England together, a total of 390 labor years is expended on the annual production of both cloth and wine.

Suppose the world economy of wine and cloth were organized not on a capitalist but a planned basis. Imagine you worked on the central planning board and were instructed by the representatives of society to organize production on the most efficient basis possible in England and Portugal. All the workers of the world, both Portuguese and English, must be employed. No unemployment or idleness can be tolerated.

The forces of production in both England and Portugal are given; we cannot improve them. The productivity of labor is therefore fixed in both countries. Given these constraints, what is the most efficient way to organize production?

You proceed as you would if you were a factory manager that employed workers of different skills. You assign each worker the tasks they were individually best at. For example, a factory worker might be below average at sorting plastic parts into boxes but closer to average than any other job in the factory. The factory foreman will assign that worker to a sorting task.

The Portuguese workers are better than the English workers in wine and cloth production. However, we cannot just use Portuguese workers; we must also put English workers to work.

Note that if you use English workers to produce wine, they will need to work 120 labor years to produce the given amount. However, if we use the Portuguese workers, you get the same amount of wine with only 80 years of labor, a difference of 40 years of labor. Portuguese workers are 50% more productive than English workers in wine production.

To produce a given amount of cloth, we get the same amount in 100 labor years with English workers that we get with Portuguese workers in 90 labor years. The English cloth workers are not as good as the Portuguese, but the gap is much less in cloth than in wine. The Portuguese cloth workers are only 11% more productive than the English workers. Therefore, you will assign all the English workers to the task they are relatively best at, the production of cloth. You will also assign the Portuguese workers to the tasks that they are relatively best at, the production of wine.

How much will the consumption of wine and cloth increase due to the introduction of a division of labor between England and Portugal? Instead of having 80 Portuguese workers producing wine, we will have 170 producing wine. If half this wine is consumed in Portugal and half is sent to England, Portugal will get to consume the amount of wine it can produce with 85 labor years as opposed to 80 labor years previously. Portugal's wine consumption will rise by 6.25%.

How about cloth consumption? Portugal exchanges half its wine production, some 85 labor years, for half of the English cloth production, 110 labor years. Instead of getting to consume 90 years' worth of cloth produced by Portuguese labor, they now consume 110 labor years of cloth produced by less productive English labor. However, Portuguese workers are only 11% more efficient than English workers in cloth production, so 110 years of English labor can still produce about 11% more cloth than 90 years of more productive Portuguese labor. Portugal's cloth consumption rises by about 11%. Portugal benefits from this division of labor. It gets 6.25% more wine and 11% more cloth.

The division of labor works fine for advanced Portugal, but how about backward England? England is now spending all its annual 220 years of labor on cloth production. Half of this, 110 years, is sent to Portugal. This leaves 110 years of cloth for England compared to only 100 years before the division of labor. England gets 10% more cloth than it consumed before.

What happens to England's wine consumption? Before, England had to spend 120 labor years for its annual wine consumption. It now expends only 110 labor years for cloth that will be exchanged for 85 labor years' of Portuguese wine. Therefore, England consumes 70.8% as much labor time embodied in wine as before. However, this comes to 29.5% more wine for England in terms of bottles consumed.

So both in terms of wine and cloth consumption, not only developed Portugal but also underdeveloped England benefit from an international

division of labor organized on the principle of comparative advantage in terms of use value.

England exploited, but still richer in use value terms

Portugal exploits England because England must exchange 110 years of its labor in cloth to enjoy 85 years' worth of wine. Nevertheless, England is still better off regarding use values consumed than before the international division of labor was established.

Before, England had to spend 120 labor years for its annual wine consumption. Now it costs England only 110 labor years. Moreover, it gets 29.5 % more wine in the bargain. Though England suffers from an unequal exchange of labor, it comes out ahead in terms of what counts, use value, in both yards of cloth and bottles of wine.

Ricardo proved that, *assuming full employment*, the most efficient results are obtained by assigning all the available workers on the world market to the tasks they are best at. For example, I might be both a terrible carpenter and a below-average assembler, but I am not as far below average as an assembler than as a carpenter. Therefore I am assigned work as an assembler rather than a carpenter if production is to be maximized with a given quantity of labor with a given set of skills.

Alternatively, I might be an excellent carpenter and an above-average assembler. But I am much better than the average worker as a carpenter and only moderately above average as an assembler. So, I should be assigned work as a carpenter in this case.

How does comparative advantage assert itself based on capitalism and free trade? Or does it?

While comparative advantage might guide an individual factory owner in establishing the division of labor within one factory or for a future planned world economy under the management of associated producers, Ricardo was trying to analyze the workings of the international *capitalist* economy.

According to his labor law of value, the amount of labor needed under given conditions of production to produce a commodity establishes its natural price around which market prices fluctuate. Within a country, one industrial capitalist who can produce a certain amount of cloth of a given quality for 90 hours will be able to undersell a rival who must spend 100 hours of labor producing the same amount of cloth of the same quality. The inefficient rival wastes 10 hours of labor. Free competition will sooner or later eliminate such an inefficient industrial capitalist.

Yet in world trade, an inefficient English industrial capitalist who spends 100 years of labor producing a given amount of cloth of a given quality is supposed to beat out a more efficient Portuguese industrial capitalist who can produce the same amount of cloth of the same quality for 10% less labor. How, according to Ricardo, can the English cloth-making industrial capitalist pull this off?

Ricardo's world and assumptions

Ricardo made other assumptions, some of which are considered quaint today. He assumed that while profits tend to equalize in the home market, there is no tendency for an equal rate of profit to form internationally. In his time, there were no multinational industrial corporations but only family firms and partnerships, tiny by today's standards. An English industrial capitalist was extremely unlikely to set up shop in Portugal, even if the rate of profit was higher in Portugal than in England, and a Portuguese industrial capitalist was likewise confined to Portugal.

However, Ricardo did assume that real wages were almost the same everywhere – at rock-bottom biological subsistence.

Low wages, therefore, will not be able to save our cloth-producing English industrial capitalists. Yet, how can our inefficient English cloth producer, who wastes ten years of labor out of every hundred, not only hold on but drive the more efficient Portuguese cloth producers out of business? Don't we have to turn the laws of capitalist production, as analyzed by Ricardo himself, on their head to achieve these results?

Ricardo's theory of money and international prices

Suppose the gold producers are not in England or Portugal but in a third country, as they were both in Ricardo's time and our own. In Ricardo's time, gold (and silver) mines were generally located in colonial countries.

Assume that prices are equal to labor values. Suppose England has been following a strict policy of protecting its inefficient industry, both its cloth and wine producers. Market prices correspond with their respective national values in both England and Portugal.

Now, great economic reform occurs. Under the advice of Ricardian economists, England adopts a free trade policy. What will happen according to the Ricardian theory?

Since we assume that prices directly reflect labor values, the price of wine will be 50% higher in England than in Portugal, and the price of cloth

in England will be 10% higher. This doesn't look good for England. Anti-Ricardian opponents of "free trade" predict disaster for England.

To simplify as much as possible, suppose the currency system of both England and Portugal consists only of full-weight gold coins that can circulate internationally. As far as England and Portugal are concerned, gold is not only universal money; unlike the case with cloth and wine, gold has the same labor value, though not purchasing power, in both countries.

Since gold is universal money on the world market, Portugal and England share a common currency system. As free trade begins, England will run a massive trade deficit with Portugal since English prices are higher than Portuguese prices. Currency in the form of gold coins will flow out of England into Portugal.

The quantity theory of money to the rescue

Remember, Ricardo applied the quantity theory of money to metallic money. The money supply, which consists of circulating gold coins, will start to fall in England but rise in Portugal. According to this quantity theory of money, the level of prices in terms of gold is determined by the quantity of monetary gold relative to commodities in a given country. Since the quantity of money will fall in England, prices and money wages (though not real wages) will also start to fall.

In Portugal, the reverse situation will occur. Gold coins will be imported from England, swelling the money supply of gold coins. Prices and money wages will start to climb in Portugal. There will be inflation in Portugal and deflation in England. Soon the price of English-produced cloth will be lower in both England and Portugal than the price of Portuguese-produced cloth, even though the labor value of Portuguese cloth is still about 10% lower than the labor value of English cloth.

Therefore, English cloth producers will begin to win the battle of competition in both England and Portugal. Indeed, England will start to export cloth to Portugal. As a result, Portuguese cloth manufacturers will either shift to wine production or go out of business.

The price of wine in Portugal will also rise due to the inflation there, but it will still be below the price of English wine. Portuguese wine producers, therefore, will continue to win the battle of competition against English wine producers in both countries. Deflation in England and inflation in Portugal will not be enough to save the English wine producers.

Portuguese wine is still cheaper. However, with the collapse of the Portuguese cloth-manufacturing business, a vast new market has opened up for English cloth manufacturers. Not only is the English market theirs but now the Portuguese market as well.

According to the Ricardian theory, English cloth producers are doing vastly more business under free trade than they ever could under protection. The English wine producers will either go out of business or shift to cloth manufacturing. Soon nobody will be producing wine in England or cloth in Portugal. Therefore, *assuming the truth of the quantity theory of money*, England's comparative advantage in cloth production overrides Portugal's absolute advantage in that industry.

The quantity theory of money crucial to Ricardian comparative advantage

Notice that the ability of comparative advantage to prevail over absolute advantage depends entirely on the validity of the quantity theory of money. If the quantity theory is invalid, as both Marx and Keynes held, though these two economists had very different theories of value and money, the wonders of comparative advantage under the capitalist system fall to the ground. Like the Christian God, the god of free trade of the liberal economists consists of a trinity – Say's Law, comparative advantage, and the quantity theory of money.

Using these alleged economic laws, the economic liberals, including Ricardo and today's neoliberals, conclude that free trade in the national and international markets is in the interests of all individuals regardless of class and all nations irrespective of their degree of economic development.

Comparative advantage and marginalism

While economists dropped Ricardo's theory of value soon after his death, they kept his theory of comparative advantage. All that is necessary to show that a "high-cost producer" can win the battle of competition in international trade as long as that producer has a "comparative advantage" is the quantity theory of money. The entire Ricardian law of value can be dispensed with.

It does not matter whether you see "cost" in terms of the quantity of labor measured in terms of time, as Ricardo saw it, or in terms of "opportunity costs" that reflect relative scarcities, as the modern bourgeois economists see it, or leave the concept of "cost" undefined as the economists who wrote between the death of Ricardo in 1823 and the "marginalist revolution" of the 1870s did.

As long as the international gold standard prevailed, the quantity of money within a nation was still primarily determined by the fluctuations of its balance of trade – leaving aside the question of its internal gold production. In the form of the currency school, the theory now known as comparative advantage became the basis for the legislation governing Britain's central bank, the Bank of England. Comparative advantage was therefore put to the test in practice. The results of this economic experiment will be the subject of our next chapter.

Comparative advantage and fiat money

In the example above, Ricardo assumed a currency system of circulating full-weight gold coins. So how do today's neo-liberal economists imagine that comparative advantage works in a currency system of legal tender token money or fiat money? In this system, (bourgeois) economists explain that the level of gold production has nothing to do with the quantity of money. Instead, quantity is determined by the "monetary authorities."

For the sake of argument, we will assume that Portugal and England use different paper currencies. The quantity theory of money supporters apply the same laws to paper or token money as to metallic money's full-weight gold coins. According to this theory, assuming the number of commodities in circulation is fixed, nominal prices and wages will fluctuate according to changes in the quantity of money.

Retaining Ricardo's other assumptions, the only difference is that England and Portugal use paper currencies instead of full-weight gold coins. England has been following a protectionist policy, but now it adopts free trade.

As trade begins between England and Portugal, England runs a massive trade deficit in cloth and wine. As the trade deficit continues, England's paper money falls relative to the Portuguese paper currency. As this continues, the English currency becomes cheaper relative to the Portuguese currency. Therefore, the prices of English wine and cloth will fall in terms of Portuguese currency. In terms of English currency, the prices of imported Portuguese commodities, whether wine or cloth, will rise.

Therefore, according to the modern champions of the law of comparative advantage, England's trade deficit or Portugal's trade surplus will continue only until the price of English cloth falls below the price of Portuguese cloth in Portugal and England while the price of Portuguese cloth rises above the price of English cloth in both countries.

The English industrial capitalists producing cloth will start to win the battle of competition in both England and Portugal, while the Portuguese industrial capitalists engaged in wine production will win the battle of competition in that industry in both countries.

According to present-day neo-liberal economists, as with the gold coin currency, England will specialize in cloth production, and Portugal will specialize in wine production, with the same benefits to both countries regarding real wealth that prevailed under the pure gold currency.

Our modern neoliberals conclude that no matter how far behind a nation is in the productivity of its capitalist industry, free trade is always in its interest. Even if it is at an absolute competitive disadvantage in all lines of production, there will always be some industries with a comparative advantage. Therefore every country, whether capitalistically advanced or backward, benefits from free trade.

Notice how the modern version, as well as the Ricardian version, of the law of comparative advantage depends on the *quantity theory of money*: There is always a distribution of gold among the capitalist nations that will ensure that comparative advantage prevails, and the way to achieve this distribution of gold is through free trade. The market automatically takes care of the rest – no need for tariffs, quotas, or other trade regulations, which simply get in the way.

Today, the supporters of neoliberalism hold that there is always a set of exchange rates among the various paper currencies that will guarantee that comparative advantage rules on the world market. To ensure this happy outcome, trade must not only be free in the sense of no tariffs, quotas, and so on, but trade in currencies must be also be free. There should be no restrictions on buying and selling currencies, and the governments and monetary authorities stay out of the currency markets. Or, to use economic slang, the currency float must be "clean," not "dirty."

But won't the depreciation of the English paper currency against gold – implied by the fall of the English paper currency against the Portuguese paper currency – tend to raise the prices of imported commodities in England, such as Portuguese wine, and domestically produced commodities, such as cloth? For example, won't the prices also rise in terms of the now devalued English currency? And won't this negate the whole law of comparative advantage and instead impose absolute advantage?

Conversely, won't the appreciation of paper money against gold in Portugal lower prices in terms of paper currency there? For example, won't

the price of imported English cloth and domestically produced wine also fall since each unit of the Portuguese currency will now represent more real gold money than before? So doesn't absolute advantage rather than comparative advantage win the day after all?

No, because according to the quantity theory of money, assuming the number of commodities in circulation remains unchanged, the general price level is unaffected by changes in exchange rates or the gold value of the currency. Therefore, the devaluation of the English paper currency will raise the price of imported Portuguese cloth allowing English cloth producers to beat the Portuguese competition. However, the price of English cloth will not rise.

And as long as we retain the quantity theory of money – and not all modern bourgeois economists do – the theory of comparative advantage can also make the transition from the gold standard world of the 19th century to today's paper currency system fully intact.

Milton Friedman's theory of international trade

The neoliberal supporters of the quantity theory of money – sometimes called monetarists – such as the followers of Milton Friedman, insist that it is only changes in the quantity of money relative to commodities, not those in the value of the currency relative to other currencies, still less the change of the currency relative to gold, that affect the cost of living in a given country. With a fall in the currency's exchange rate, any rise in the price of imported commodities will be offset by a corresponding fall in the price of domestically produced exported commodities in countries whose currency exchange rates are falling.

Friedman and his supporters held that a fall in the currency's exchange rate is not inflationary as long as there is no increase in the quantity of money relative to the number of commodities in circulation. Therefore, they claim currency devaluations are not inflationary and are of no concern as long as they are determined by free trade, including free currency markets where exchange rates are determined only by the market. Indeed, the ever-changing exchange rates allow the law of comparative advantage to work under the current system of pure paper currencies.

Friedman reasoned that since comparative advantage works only if the exchange rates are determined solely by market forces, governments, and central banks should not maintain reserves of gold – which is just another commodity once it is no longer used as currency – or other currencies.

If this is done, neither the government nor the monetary authority – the central bank – will be tempted to interfere with currency exchange rates since they would no longer have any foreign currency to buy or sell.

Notice how the whole modern case for comparative advantage and free trade lies in the assumed complete *insensitivity* of prices in terms of a paper currency to changes in the gold value of the paper currency and the complete *sensitivity* of prices to changes in the quantity of the currency relative to that of commodities.

Ricardo's theory of comparative advantage has therefore survived both the abandonment of his theory of value shortly after his death by his liberal supporters and then the downfall of the international gold standard in the 20th century. It formed the theoretical basis of Britain's adoption of free trade following the "Corn Laws" repeal in 1846.

It also formed the basis of the British Bank Act of 1844. Using the Ricardian theory, the supporters of the currency school claimed that crises that had hit Britain in 1825 and 1837 would not recur if the act were passed. This is particularly important to crisis theory since the British Bank Act of 1844 was the first legislative attempt to suppress crises of overproduction within the capitalist economy.

Therefore, Ricardo's theory of comparative advantage forms not only the basis of the neoliberal economists' argument for "free trade" to this very day but is of particular interest to us since it was also the basis of the first attempt to abolish periodic capitalist crises without transforming capitalism into a higher mode of production. This attempt will be the subject of our next chapter.

CHAPTER 14
Ricardo's theories of international trade challenged by the crises of 1825 and1837

In 1825, shortly after Ricardo's death, the first global crisis of overproduction swept over Britain. A second global crisis erupted in 1837 with far more devastating results. It was followed by years of industrial depression and mass unemployment. Stormy class struggles broke out, from which came the Chartist movement, the first mass working-class political party. It was during the depression that followed the 1837 crisis that Marx and Engels were themselves radicalized.

External gold drains and the Ricardian theory

In Britain, the crises of 1825 and 1837 were preceded by major external drains of gold. To halt the drain that threatened the continued convertibility of the pound sterling into gold, the Bank of England raised its discount rate. This reversed the gold drain, but financial panic followed by severe recession hit and spread to other trading nations.

According to the Ricardian theory of world trade and comparative advantage, this was not supposed to happen. This theory predicted that trade would remain in balance among the trading nations. The gold reserves of the Bank of England would grow as newly mined gold flowed in, but there should be no severe external drains.

Ricardo said that any external gold drain implied prices were too high compared to Britain's trading partners. Further, such a situation could not be sustained, and prices and nominal wages would start to fall. At worst, a negative balance of trade and payments meant Britain had "too much" gold. So a reduction in gold reserves would reduce nominal prices and wages to levels where trade and balance of payments would again be in balance.

This process would unfold gradually on a day-to-day basis. It would ensure that the world's gold reserves would be distributed in proportions necessary to allow the law of comparative advantage to operate to the mutual benefit of all trading nations, regardless of their degree of development. Crises could not occur. However, what was excluded in theory occurred in practice in 1825 and again in 1837. Something was seriously amiss.

Ricardo's supporters surmised that the British currency system was too far removed from pure gold circulation. Banks were issuing banknotes well beyond the amount of gold in their vaults, keeping prices higher than they should be.

To deal with this problem, Ricardian economists, also known as the "currency school," proposed a series of reforms that would tie the number of banknotes to the quantity of gold held by the banking system. They expected these reforms would prevent any repeat of the crises of 1825 and 1837, with their mass unemployment and suffering leading to working-class radicalization.

The proposed reforms

The reformers argued that since both banknotes and gold were acting as money, it was necessary to ensure the number of banknotes was the same as the quantity of gold within the banking system. The problem was not the capitalist system or even the reigning Ricardian theories of international trade but rather a lack of proper bank regulation, which appropriate legislation could correct.

The centerpiece of the reform was the Bank Act of 1844. First, the right of commercial banks to issue banknotes was to be phased out. [1] The total quantity of Bank of England banknotes was then tied to the actual quantity of gold bullion in its vaults. The Bank of England was divided into the Issue Department and the Banking Department to achieve this.

The job of the Issue Department was to issue and cancel banknotes in proportion to the fluctuations in the quantity of gold in its vaults. The Banking Department was charged with taking deposits from commercial banks and the government; discounting or re-discounting commercial paper; and granting loans, mainly to commercial banks.

Except for a fixed fiduciary issue backed by government bonds,[2] the Issue Department could only issue banknotes backed by gold bullion. If gold flowed into the bank, additional banknotes were created in direct propor-

1 To this day, some commercial banks in Scotland still have a limited legal right to issue banknotes backed by legal tender Bank of England notes.

tion. If gold flowed out, banknotes were canceled in an amount that matched.

When the Banking Department needed additional banknotes, it would turn to the Issue Department to supply them – assuming it had enough gold to cover the request. The Banking Department could not simply print additional banknotes when it desired to increase its profits.

There were, however, no such restrictions on the number of checkable deposits the Banking Department could create. This meant the possibility existed that the Bank of England could run out of its notes and go bankrupt, even if the Issue Department had a substantial quantity of gold like an ordinary commercial bank could go bankrupt if it lacked the banknotes to meet demands for payments on its deposit liabilities to its depositors.

Under this legislation, if the balance of trade and payments began to turn against England, gold would flow out of the bank, and the number of banknotes in Britain would immediately begin to decline. Ricardo's theory of comparative advantage and the quantity theory of money was now put to the test.

The currency school predicted that the "general gluts" of commodities that followed the panics of 1825 and 1837 would not recur.

Ricardo's theory of comparative advantage and the quantity theory of money fails the test

It did not work. Three years after the Bank Act was passed, in October 1847, a new panic hit Britain. The Bank Act had to be suspended to quell the panic. A decade later, the crisis of 1857 forced the suspension of the Bank Act again. It had to be suspended a third time during the panic of 1866. Why wasn't the Bank Act working? Why did crises keep breaking out?

The problem was that prices did not react like the quantity theory of money claimed they would. Instead, *interest rates*, not prices, proved to be sensitive to an expansion and contraction in the quantity of gold in the vaults and the consequent changes in the number of banknotes.

Between 1844, when the legislation went into effect, and 1873, the trend of prices in Britain was upward, reflecting the fall in the value of gold relative to the value of most commodities in the wake of the gold discoveries of 1848 and 1851. And since these were years of rapid overall economic growth, the number of commodities in circulation within Britain expanded rapidly. But the number of banknotes in circulation progressively declined.

2 The Issue Department could also back the banknotes it created by silver to a certain extent – many countries were still on the silver standard in 1844 – but this does not affect the essence of the argument.

This is because banknotes were being replaced by checkable bank deposits, significantly reducing the need for banknotes.

When Britain suffered a gold drain, interest rates, not prices, reacted. Instead of prices falling, the rate of interest rose. These higher interest rates attracted "hot money" from abroad as money capitalists invested in Britain to obtain a higher return on their "moneyed capital."

Then, as the global industrial cycle approached a peak, Britain found it increasingly difficult to attract the additional money-capital necessary to finance its current account deficit in the face of a growing global money shortage. As explained in the preceding chapters dealing with an "ideal industrial cycle," the growing global money famine was merely the flip side of global overproduction.

As long as the balance of payments deficit continued, interest rates kept rising. And as the boom continued, prices rose at the cost of a growing strain on the British domestic money market. More and more bank money – checkable deposits – was being created, backed by less and less cash – banknotes and gold – in the banking system. Finally, panic erupted as the owners of the bank deposits tried to convert their deposits into banknotes all at once. Credit vanished, the stock market crashed, and commercial paper became un-discountable. Most importantly, commodities piled up unsold in warehouses, and industrial production plunged, leading to massive layoffs and unemployment.

The financial panic and subsequent industrial crisis finally lowered prices and wages, but at the cost of recession and mass unemployment. As the domestic market contracted, British industrial and commercial capitalists were forced to export more, while the contraction of the home market meant that Britain imported less. Instead of painless and gradual adjustments of prices and money wages, the balance of trade and payments deficits were indeed corrected but violently through the crisis itself.

The crisis then broke out successively in the various trading countries. For example, the crisis might begin in the United States as a negative trade balance drained gold from its banks. As the United States sank into recession, British exports to America declined, while American exports to Britain rose. British industries began to experience difficulties due to declining exports to the United States and increasing competition from U.S. products within the British home market. At the same time, gold began to flow from Britain to the U.S.

At first, this was a response to high interest rates in the United States as British money capitalists took advantage of these rates and the consequent opportunity to purchase American securities at rock-bottom prices. Prices of these securities then rose sharply as the U.S. crisis subsided, creating windfall profits for their new British owners.

As the recession took hold in the United States, its balance of trade and payments swung from deficit back to surplus. As a result, more gold returned to the U.S. banking system, and U.S. interest rates fell. However, much of the gold flowing into the United States came from the now-dwindling gold reserve of the Bank of England's Issue Department. Under the 1844 banking legislation, the number of banknotes created by the Issue Department was declining, causing interest rates to soar on the domestic British money market.

But prices in Britain only started to decline when the developing British recession brought about a contraction of monetarily effective demand within the British home market. Commodities piled up in British warehouses, leading to production cutbacks and mass layoffs. To get rid of the massive buildup in unsold commodities and meet the demands for immediate payment on the part of their creditors, British industrial and commercial capitalists were forced to cut prices while rising unemployment forced the sellers of the commodity labor power to cut their prices, that is, accept lower wages.

As recession-bound Britain imported less and exported more, Britain's balance-of-payments account swung back into surplus, leading to balance-of-trade and payments deficits in France, Germany, and other continental European countries. Soon, financial panics, or at least "tight money" and recession, spread throughout continental Europe.

Therefore, before the crisis finally subsided, it affected all the major trading nations of the time. Say's Law, the quantity theory of money, and Ricardo's law of comparative advantage, the holy trinity of economic liberalism, were all missing in action.

Bank Act made crises worse

The Bank Act of 1844 not only failed to eliminate crises but also worsened them. Why was this? Before the Bank Act, the Bank of England could always issue additional banknotes to meet the increased demand as a means of payment and means of hoarding during a crisis. True, the bank had to maintain the convertibility of its banknotes into gold. However, it still could issue additional banknotes while retaining their convertibility until the return flow of gold broke the crisis.

Under the Bank Act, however, the Bank's hands were tied. The demand for banknotes as a means of payment increased considerably during crises. The industrial, commercial, and money capitalists demanded immediate payment in banknotes of debts owed to them, fearing their debtors would go under.

However, the capitalist creditors knew that the Bank of England *could not* issue additional banknotes to meet the additional demand, not because of any *economic law* but due to the 1844 banking legislation. The banking regulation that was supposed to eliminate crises instead made them worse.

Public knowledge that the central bank could not issue additional banknotes to meet the extra demand whipped up the demand for banknotes into a frenzy. A debtor would drag down creditors. As runs developed on commercial banks, banknotes would flow out of the banking system into private hoards, and the industrial recession, with its mass unemployment, was greatly intensified.

Fortunately for British capitalism, the authors of the Bank Act of 1844 provided a loophole. With economic collapse threatening, the Bank Act could be suspended. During the suspension of the act, the Bank of England, though it was still obliged to pay five gold sovereigns for every five-pound banknote presented to it, was free to create additional banknotes.

As soon as the public got word that the Bank Act was suspended, the demand for banknotes would immediately plummet, and the panic would end. Banknotes would be returned to the commercial banking system and the Issue Department from private hoards. Interest rates would then fall, and the money market promptly eased. Then industrial overproduction, the real cause of the crisis, would gradually be liquidated, and the economy would begin to recover.

As it turned out, with a brief exception during the 1857 crisis, the Bank of England did not even have to issue banknotes over those allowed by the Bank Act. The mere knowledge that the bank could issue such notes so reduced the demand that no issue of extra banknotes was necessary. The crises of 1847, 1857, and 1866, unlike that of 1837, did not lead to prolonged depressions for reasons that will be explored when I examine the controversial "theory of long cycles" under capitalism.

Still, the Bank Act succeeded in making crises worse than they would have been otherwise. As Marx put it, no banking legislation can eliminate

banking crises – we have to abolish capitalism to accomplish that – but bad banking legislation can make the inevitable banking crises and the unemployment that results worse. Marx's observation should be borne in mind today when evaluating the consequences of various proposals to increase regulation of the banking system to eliminate banking crises in our day.

The Bank Act of 1844 turned out to be bad legislation even from the viewpoint of the capitalists because the theories it was based on – the quantity theory of money, Say's Law, and Ricardo's theory of comparative advantage – did not reflect the actual economic laws that rule the capitalist system.

Toward a correct theory of international trade and crises under capitalism

During an economic boom, when credit is freely available on the world market, some countries can run large deficits in their balance of trade and payments on "current account" by borrowing from other countries that can run offsetting balance of trade and payments surpluses. But when the crisis strikes and credit is paralyzed internationally and nationally, debtor countries are forced to slash imports, and creditor countries see a collapse of their export markets.

Here we see yet another function of crises. Crises force countries to keep their trade and payments more or less in balance *in the long run*. During the global crisis, deficit countries are forced to slash imports while surplus countries see their exports contract. The expansion of international credit during the boom enables the balance of trade and payments among the trading nations to become increasingly lopsided. The crisis forces things back into balance, more or less, once again.

Therefore, the first significant attempt to eliminate periodic crises of generalized overproduction, without eliminating capitalist production, through banking regulation reforms came to grief. In the following chapter, we will examine the work of John Maynard Keynes – the English economist whose name has become synonymous with attempts to eliminate or at least mitigate crises of overproduction under capitalism. Keynes himself was greatly influenced by both the debacles that occurred under the Bank Act of 1844 as well as the Great Depression of the 1930s.

Keynes and the attempts to mitigate capitalist crises of overproduction

The Ideas of John Maynard Keynes

The ideas of the English economist John Maynard Keynes achieved their greatest influence during the 1960s and early 1970s. Keynes was widely credited by his followers among the economists and others in those days for saving capitalism.

The story told by the Keynesian economists went something like this. In the dark days of the Depression of the 1930s, capitalism, to all appearances, was approaching the end of its road. When the Depression began, the traditional liberal – neoclassical – economists, who dominated the economics profession, claimed that capitalism would quickly recover from the Depression without government intervention. Therefore, these economists urged the government to do virtually nothing to encourage economic recovery.

After all, the traditional economists argued, this had always worked in the past. Recovery had always followed a recession. However, the Depression of the 1930s, the story goes, was different. The economy was showing no signs of recovering on its own. As a result, many young people, including a certain number from the ruling capitalist class – for example, the young Paul Sweezy – were turning toward Marxist ideas. The replacement of capitalism by socialism seemed increasingly likely.

Then Britain's leading economist, John Maynard Keynes, explained that capitalism could last indefinitely under the new conditions if certain traditional policies of the capitalist governments and central banks were changed. Looking back on the Depression years from the vantage point of the booming 1960s, the Keynesians smugly concluded that socialism was not coming after all.

To save capitalism, the Keynesians claimed, all the government had to do was run a sufficiently large deficit to make up for any shortfall in spending by the private sector. If this were done, unemployment would give way to "full employment," by which most Keynesians meant just enough unemployment to keep the trade unions in check.

To prove their point, the Keynesian economists pointed to the enormous deficits that enabled both industry and the younger generation of the working class to be fully mobilized for the mass slaughter of World War II. The huge armies of unemployed that characterized the Depression years gave way to armies in the literal sense of the word, and unemployment vanished.

In the years that followed the war, there was widespread fear that the Depression would return. Would all those returning soldiers be able to find jobs? Or if they did, wouldn't the Depression return once the reconstruction boom that would follow the war had run its course? The Keynesians of the 1960s claimed that the Depression would likely have returned if governments had not adopted the new policies advocated by Keynes and his supporters during the 1930s.

Keynesian economists held that government spending during the 1950s prevented Depression and mass unemployment on anything like the scale of the 1930s. However, according to these economists, the conservative Eisenhower – in the American sense of the word conservative – had only half-heartily adopted Keynesian policies. As a result, a series of recessions occurred that could have been avoided if full-blooded Keynesian policies had been in effect.

During the 1960s, the Democratic administrations of John F. Kennedy and Lyndon B. Johnson fully embraced Keynesian theory in a way that the Republican Eisenhower administration had not. For example, instead of raising taxes to finance its escalating war against Vietnam in the middle 1960s, the Johnson administration pushed a huge and highly regressive tax cut through the U.S. Congress. Johnson's Keynesian economic advisors held that the tax cut would increase effective demand and end the high level of unemployment that had marked the U.S. economy since the recession of 1957-58.

By the middle of the 1960s, the U.S. and world capitalist economies were again booming, and U.S. unemployment levels were falling toward lows not seen since the Korean War of 1950-53. In the future, the Keynesian economists claimed, not only would major depressions be banished, but even "milder" recessions such as those of the 1950s could be avoided as long as

the government made proper use of the "tool chest" of fiscal and monetary policies that the new Keynesian economics provided.

Keynesian doctrines were not only embraced by the U.S. Democratic Party. They were adopted by virtually all the major political parties of Western Europe and Japan, whether on the left or the right.

On the left, the Social Democratic and Labor parties and, increasingly, the Communist parties replaced Marx with Keynes. Parties on the right, such as the various Christian Democratic and Liberal parties in Europe, including the Conservative Party in Britain, also adopted Keynesian economics.

In the United States, even the Republicans were coming around. No less a right-wing Republican than President Richard Nixon is said to have declared, "We are all Keynesians now." Even if Nixon didn't exactly say this, it shows the spirit of the times.

If the economy started to slow, the reigning Keynesian doctrines held, the slowdown would be nipped in the bud by increased deficit spending by the central government backed up by interest rate cuts by the central bank. If inflation were threatening, the government would balance the budget or at least reduce deficits by slowing down the growth rate of spending and raising taxes. If necessary, the central bank would help out by raising interest rates.

Many, if not all, Marxists of those times seemed to concede the main Keynesian claims. However, these "Keynesian Marxists" pointed out that much of the Keynesian government spending was for war, such as the war against Vietnam and the Cold War against the Soviet Union and its allies, rather than on peaceful public works and public housing programs that would benefit the working class.

Postwar prosperity attributed to military spending

Starting as early as the late 1940s or early 1950s, when Keynesian ideas had already gained considerable influence, sections of the socialist press explained that postwar prosperity that was frustrating hopes for a radicalization of the working class in the imperialist countries was caused by enormous military expenditures of the early Cold War and the hot war in Korea.

These socialists claimed that the massive military expenditures were stirring up purely artificial prosperity. If the capitalist governments had not engaged in such expenditures, these socialists argued, the Depression would have returned, and with it, the expected radicalization of the trade unions and the working class. According to these Marxists, capitalism was still

bankrupt since it was only preparation for war that was holding off a return to Depression levels of unemployment.

Naturally, these were merely assertions, and no proof was offered. To the extent workers read these socialist papers, they would have been led to believe that as long as war with the Soviet Union threatened and military spending remained high, depression and unemployment would be kept at bay. But if real peace ever broke out, there would be Depression and mass unemployment! Indeed, bourgeois papers and magazines were making similar claims as they scrambled to build support for the anti-communist crusade of the Cold War.

Though few of us who grew up during the 1960s boom knew it, the capitalist economists had declared victory over the "business cycle," or trade cycle as the English call it, many times before. For example, in the last chapter, we saw how the authors of the British Bank Act of 1844 claimed that the reform would end capitalist economic crises.

Nor was the notion that war spending was the key to capitalist prosperity new. No less than Ricardo's chief opponent among the English economists, the arch-reactionary Thomas Robert Malthus had advocated massive government spending, including military spending, to counteract the danger of "general gluts" of commodities and the resulting mass unemployment.

In the following chapters, we will examine the real significance of the ideas of Keynes and put them into a historical perspective. Are Keynesian ideas more pro-working class than the traditional economic liberalism they challenged? What is the relationship between Keynes's critique of economic liberalism and Marx's critique of bourgeois political economy? And was spending on arms the key to the post-World War II prosperity, as many American and British socialists even today believe it was?

CHAPTER 15:
The origins of Keynes's views

Keynesian economics represented a major retreat from economic liberalism by bourgeois political economy under the blows of the Depression of the 1930s. But what was the doctrine that Keynesian economics reacted against?

In the last few chapters, we examined the liberal doctrine of international trade, which is known by our present-day economists as the law of comparative advantage. The theory of comparative advantage, the quantity theory of money, and Say's "law" of markets form the foundations of economic liberalism. Like many economic doctrines, economic liberalism has changed over time.

During its youth, which extends from the French Physiocrats and Adam Smith through David Ricardo, the economic liberals explained that surplus value originates in the sphere of production rather than in circulation. This overthrew the old doctrine held by the early economists, known as mercantilists, who believed that surplus value arises in the sphere of circulation. The first hints of labor value found in the work of such pre-liberal pioneers as the late 17th-century English economist William Petty were brought to the heights reached in the work of David Ricardo.

The law of labor value in its Ricardian form led straight to the conclusion that the incomes of the "propertied classes" – the capitalists and landlords – were produced by the unpaid labor of the working class. A series of pre-Marxist socialists, known as "Ricardian socialists," based themselves on this idea.

Therefore, the whole concept that the value of commodities is determined by the quantity of labor it takes on average to produce them under the prevailing conditions of production had to go. Economic liberalism had lost its youthful innocence and was converted into a doctrine that aimed not so much at investigating the workings of the capitalist economy but rather at justifying capitalist class rule.

But what was to replace the Ricardian theory of value? The bourgeois economists could come up with nothing better than the concept that objects

of utility have value because they are scarce relative to subjective human needs. As this idea was developed further and formalized mathematically during the last third of the 19th century, it morphed into what is known as "marginalism" or the "neoclassical school." This is what is taught to university economics students today, especially in the field of modern bourgeois economics known as microeconomics.

The marginalist theory of value

The marginalists begin with the value of consumer goods. According to the marginalists, items of personal consumption have value because they are valued by consumers according to their degree of scarcity relative to the subjective human needs of the consumers. It is, therefore, scarcity that gives them economic value.

The fact that items of consumption are scarce implies that the means of producing them, what modern economists call the factors of production, are also scarce. The economists explain that the factors of production, such as land, defined as means of production provided by nature; capital, defined as factory buildings, machines, tools, raw materials, and so on; and human labor, are all scarce to varying degrees.

If the means of production were not scarce, the objects of consumption would not be scarce either, and nothing would have economic value. Therefore, each factor of production produces value according to its relative scarcity. As long as there is "free competition," each factor of production – land represented by the landowners, capital represented by the owners of capital, and labor represented by the owners of labor – will receive incomes that correspond with the actual amount of value they produce.

According to the marginalists, as long as there is free competition, no factor of production can exploit another factor, at least not for very long. Suppose, for example, the workers get less value in wages than their labor produces. According to Marx, this must always be the case under capitalist production; otherwise, there would be no profit.

Not true, claim the marginalists. If the workers are producing more than they are receiving in wages, the capitalists will find it profitable to hire additional workers to take advantage of the situation. As a result, the demand for "labor" will go up, and so will wages. According to the marginalists, this will continue until the workers receive in wages the full value that their labor produces. Not a penny more, and not a penny less.

But where, then, does profit come from? The marginalists claim that free competition drives the economy towards an "equilibrium" position where

profit disappears! At most, the capitalists will earn "interest." Okay, but where does interest come from?

Interest, the marginalists explain, is produced by capital – just like rent is produced by land and wages are produced by labor – because capital is scarce. By abstaining from consuming their capital, the capitalists are providing a "productive service," just like the workers do when they choose to labor for the reward of wages over "leisure."

But the capitalists, being reasonable people, will not perform their productive "service" for free. Just as wages rise when labor grows "scarcer" and fall when labor becomes more plentiful, so "interest" – the capitalists' reward for not squandering their capital on personal consumption – rises when capital is scarce and falls when capital is relatively plentiful.

Marginalist economic liberalism and the trade unions

Economic liberals, or neoliberals as they are now called, vehemently oppose trade unions because they claim unions are monopolies that prevent free competition in the labor market. At most, the economic liberals will concede that unions benefit some workers at the expense of other workers.

The cause of unemployment, according to the economic liberals, is not the capitalist class, as it is in reality, but rather the unions and any pro-labor legislation that the workers' movement has forced capitalist governments to grant. The liberals – conservatives in the U.S. sense – hold that unemployment insurance, other forms of social insurance, minimum-wage laws, and unions are the real cause of chronic unemployment and the poverty it brings.

According to the economic liberals, because the unions keep the "price of labor" above the value created by unskilled labor, the less-experienced and less-skilled workers cannot find work. Since the unskilled cannot find work, they cannot improve their skills. This, according to liberal economists, is the vicious circle of poverty. The result is what modern neoliberal economists such as Milton Friedman call a high "natural rate of unemployment."

What, then, is the solution to chronic unemployment and poverty proposed by the liberal economists? Why, of course, bust unions, eliminate unemployment insurance and other social insurance, and repeal all minimum wage laws. This will, the economic liberals promise, reduce the "natural rate of unemployment" to something approaching zero. The neoliberals promise that chronic unemployment and, with it, poverty will disappear.

From the late 19th century until the 1930s, these were the ideas that dominated the university economics departments.

In the closing decades of the 20th century, these were the theories and policies associated with Ronald Reagan and Britain's Prime Minister Margaret Thatcher, who did their best to make these ideas again the basis of policy. Due to the resistance of the workers and their unions, Reagan and Thatcher were able to implement only a part of the neoliberal program.

The economic role of the state in liberal doctrine

The liberal doctrine of the state is sometimes called the doctrine of the "night watchman state." The state should not, according to liberal doctrine, either engage in production itself or attempt to determine what is produced by private capitalists. Nor should it concern itself with the plight of the unemployed and destitute. That should be left to private charity, or as it is said today, "faith-based organizations."

Assuming neither unions nor pro-labor legislation gets in the way, anybody who needs a job will always be able to find a job quickly. If they lack skills, the economic liberals argue, their wages will initially be low since their labor will create very little value. Unskilled labor is, after all, much less scarce than skilled labor.

But over time, they will become more skilled, and their wages will rise. Assuming there are no unions, minimum wage laws, and so on, only "frictional unemployment" – short-term unemployment of workers between jobs – and "voluntary unemployment" will exist.

The liberal theory of long-term unemployment

The long-term unemployed are choosing "leisure" over the wages they could earn, given their skills. If any of these long-term unemployed needed a job, they would always be able to find one, though perhaps initially at low wages corresponding to their lack of skills.

Therefore, the government should confine itself to enforcing laws that defend the "right to private property" and enforce contracts. The only legitimate function of the state, according to liberal doctrine, is, therefore, to serve as a police force.

The origins of economic liberalism

The rise of economic liberalism as an ideology coincided with the transition from early capitalist production, based on manufacture using artisan methods handed down from pre-capitalist times, to machine production with steam as the main motive power. This new stage of capitalism, which began to take hold in Britain in the latter part of the 18th century, is called industrial capitalism. The transitional period between early capitalism and

industrial capitalism – about 1760 to 1830 in Britain – is called by historians the "industrial revolution."

Before the rise of steam-powered industry, commercial capitalists, who dealt with commodities – commodity capital – rather than productive capital- dominated the capitalist world. However, industrial capitalists emerged as the dominant section of the rising capitalist class under industrial capitalism. The focus of the emerging science of political economy shifted from the accumulation of money capital in the form of gold and silver to the accumulation of ever greater quantities of industrial capital.

Economic liberalism and the climax of classical political economy

Just like a person goes through the stages of infancy, childhood, youth, mature middle age, and finally old age, so has bourgeois political economy gone through stages. In its youth, in the hands of the classical economists, the law of labor value was developed, and the origin of surplus value in the sphere of production as opposed to the sphere of circulation was discovered. And it was the English liberal classical economists who first realized that capitalist society is divided into three classes: landlords, whose income takes the form of rent on land; capitalists, whose income takes the form of profit on capital; and workers, whose income takes the form of wages of labor.

Thus, with the industrial revolution – the time of Ricardo – classical political economy reached its climax. But then, early representatives of the growing industrial proletariat began to turn Ricardo's law of labor value against capital itself. As mentioned above, the further development of the Ricardian theory of value would inevitably emphasize the origin of surplus value in the unpaid labor of the working class. Therefore, the whole concept of labor value had to go. Economics on a bourgeois basis had reached its end as a science.

The further development of the Ricardian theory of value and of economic science itself was therefore surrendered by the bourgeois economists to representatives of the working class, first to the Ricardian socialists and then to Marx and his successors.

With the end of the Ricardian period, around 1830, not long after the first worldwide economic crisis of overproduction in 1825, economic liberalism had already left behind its youth when it had been able to afford the luxury of actually exploring the economic laws of the rising capitalist system.

There could be no more Ricardos. The basic classes of capitalist society were replaced by "households," individuals, and "entrepreneurs" found in today's economics textbooks. Classical political economy was a weapon in the hands of the capitalist class to fight feudal reaction as well as the work-

ing class. Marginalism, on the other hand, is only useful for fighting the working class.

Among other things, marginalism bars the door to any scientific understanding of crises. Why is this so?

Since, according to marginalist theory, value ultimately arises from scarcity, there is no possibility of a general overproduction of commodities. How could commodities be "scarce" and "overproduced" simultaneously? At most, there could be disproportionate production that would quickly be eliminated through free competition, but no general overproduction.

Unlike the case with the classical system, where Say's Law was imposed from the outside, Say's Law is built right into the foundations of the marginalist system. If economic crises broke out in the real world – and though they were played down, crises could not be denied completely – they were dismissed as momentary imbalances between savings and investment or a matter of temporary disproportions between the commodities that the industrial capitalists were producing and consumers' ever-changing tastes.

According to the marginalists, while central banks such as the Bank of England would be expected to lower interest rates during periods of economic stagnation, any attempt by the government to go beyond that to combat an economic crisis would do more harm than good.

Therefore, basic marginalist theory implies that recessions will never happen, but if they do anyway, the government should take no measures to create jobs or help the unemployed. Any measures to help the unemployed will only lead to long-term involuntary unemployment since the unemployed workers might prefer to collect unemployment insurance rather than build up their skills. What begins as "voluntary unemployment" over time will then become "involuntary unemployment" due to a lack of skills on the part of the workers.

Sure, even the marginalists admit there are always workers looking for jobs. But this is, after all, a good thing. As the economics professors, who were invariably recruited from the propertied classes and never themselves had to worry about unemployment in their personal lives, explained, this was just short-term "frictional unemployment" that the government need not concern itself with.

Any long-term unemployment, the liberals economists explained, assuming the government followed liberal economic policies and trade unions were absent – was really "voluntary" unemployment. Furthermore, in a "free society," unlike in a slave or feudal society, didn't the people have a right to choose leisure over work? The government, the economic liberals

insisted, has no right to interfere with the free choices of individuals in a free society, after all!

Economic liberalism in its old age

However, just as the neoclassical marginalist system was being developed in the universities, free competition was beginning to break down in practice. Especially after the economic crisis that began in 1873, cartels and trusts began to grow within countries. Only Britain stuck with "free trade," but even here, Britain was increasingly getting the worst of it. Notwithstanding the claims of the marginalist economists, unemployment was growing during the "Long Depression" that followed the crisis of 1873.

A growing protectionist movement began to develop in Britain, though for the time being, it did not prevail. As the supply of commodities increasingly tended to exceed the demand – the very situation that the marginalists had "proven" mathematically to be impossible – practical governments responded with protectionist measures.

Beginning about 1896, however, world capitalism entered a period of accelerated growth and rising prices destined to last until the eve of World War I. During this "long wave of expansion," prices and profits rose, and unemployment was relatively low, thus giving the economic liberals entrenched in the university economics departments a breather.

After World War I, economic liberalism was undermined by chronic mass unemployment, especially in Britain, the country that dominated political economy. Unlike in the United States, in Britain, this mass unemployment began with the recession of 1920-21. It did not wait until 1929.

This created a fundamentally new situation. While the professors in Cambridge and Oxford could pretend that the unemployment that existed in Britain before World War I was really all "voluntary" and "frictional," or simply the fault of the trade unions, it was much harder to do this when unemployment hovered around the 2 million mark for an entire decade.

Against this background, the General Strike of 1926 broke out, the biggest movement of the British working class since the days of Chartism. Then came the crisis of 1929-33 itself. Mass unemployment was no longer confined to Britain and the countries that had been the losers in World War I. It now spread to the leading capitalist country, the United States. And the United States, with its very weak trade union movement and lack of any social insurance, was precisely the type of country that, according to the tenets of marginalism, should have virtually no unemployment problem.

John Maynard Keynes, the man

The collapse of the booming U.S. economy into the Great Depression profoundly shook the confidence of the capitalists in their system. Some of the scions of the ruling-class families who were studying economics in U.S. and British universities began to turn towards Marxist ideas. Even as the crisis of 1929-33 was raging, the marginalist professors were teaching a doctrine that explained why what was happening in the real world could not occur!

For example, Paul Sweezy, a banker's son, an economics major at Harvard in the early 1930s, and considered perhaps the most promising young U.S. economist of his generation, "defected" to socialism. Unlike many other intellectuals radicalized in the 1930s, Sweezy remained a socialist throughout his life.

In this climate, Britain's leading bourgeois economist, John Maynard Keynes, attempted to salvage bourgeois economics and prevent economists of the younger generation from turning toward Marxism and thus becoming allies of the working class. To do this, Keynes was forced to lead a retreat away from economic liberalism.

Keynes, born in 1883, was a true son of Britain's ruling class. His father, John Neville Keynes, was also an economist. After receiving an education at Eton, a school open only to sons of the ruling class, the young Keynes had planned to study mathematics at Cambridge University. Since Keynes was interested in politics as well as mathematics, Alfred Marshall – considered the leader of British marginalism – convinced him to study economics instead. In economics, Keynes could combine his interest in mathematics with politics.

A many-sided intellectual, Keynes had interests in literature and art as well as mathematics and economics. Among other things, he was a student of the life and collector of original copies of the writings of Sir Isaac Newton, Britain's leading natural scientist and considered by many the greatest natural scientist of all time. Nevertheless, economics was Keynes's primary interest. At Cambridge, Keynes mastered neoclassical marginalist economics.

A man with this background would not have been expected to become a champion of the working class, and Keynes proved no exception. However, I should note that Keynes belonged to one oppressed group. He was gay. In Keynes's time, gay men had to be discreet. No open homosexual would have been able to play a role in public affairs. Indeed, this sorry situation lasted until the rise of the modern gay liberation movement that followed the 1969 Stonewall Rebellion in New York City. I am sorry to say that, in the United States at least, there were socialist organizations that banned LGBTQ+ people from membership as late as the 1960s.

Perhaps Keynes's membership in this oppressed group did leave him more open to "unorthodox" ideas than would have normally been expected from a man of his class and background.

Keynes on the working class and bourgeoisie

"How can I accept the [Communist] doctrine," Keynes wrote, "which sets up as its bible, above and beyond criticism, an obsolete textbook which I know not only to be scientifically erroneous but without interest or application to the modern world? How can I adopt a creed which, preferring the mud to the fish, exalts the boorish proletariat above the bourgeoisie and the intelligentsia, who with all their faults, are the quality of life and surely carry the seeds of all human achievement? Even if we need a religion, how can we find it in the turbid rubbish of the red bookshop? It is hard for an educated, decent, intelligent son of Western Europe to find his ideals here, unless he has first suffered some strange and horrid process of conversion which has changed all his values." (John Maynard Keynes, *Essays in Persuasion*, p. 300 [W. W. Norton & Company, 1963])

Here Keynes describes the working class as "mud." No doubt Keynes was being ironic, which was indeed his style. Still, he does let slip his class attitudes and class loyalties. Opposite of Marx, Keynes makes clear that he takes the side of the exploiters, "who, with their faults, are the quality of life."

Today, it would be hard to find bourgeois economists or intellectuals who are as frank as Keynes when expressing publicly where they stand in the class struggle.

According to Ben Leach, writing in the Oct. 18, 2008, edition of the British newspaper The Telegraph, Keynes described eugenics as "the most important, significant and, I would add, genuine branch of sociology which exists." In his dreams of breeding a master race, however, Keynes was hardly that unusual among the scions of the British ruling class. Such racist ideas were commonplace among the ruling classes of Europe and the U.S. Hitler differed from these common ruling-class ideas only in the extremes to which he took them in both theory and practice and his willingness to apply them within Europe as opposed to Africa, Asia, and Latin America.

Keynes was not a stupid reactionary. He was an intelligent one. Keynes opposed the punitive provisions of the infamous Treaty of Versailles, for example. In his pamphlet "The Economic Consequences of the Peace," he pointed out that Germany could not possibly pay the sum demanded, and any attempt to enforce the treaty would destabilize the economies of not only Germany but Europe as a whole.

Starting in the 1920s, Keynes got together with the leader of the British Liberal Party, Lloyd George, to advocate a program of public works to combat mass unemployment. George and Keynes's proposal for public works was an attempt to undercut the new British Labor Party.

The rise of the British Labor Party

During the 19th century, Britain had a two-party system consisting of the Conservative Party, also known as the Tory Party, and the Liberal Party. The Conservatives had traditionally been the party of the large landed interests, while the Liberals had represented the industrial capitalists.

The British labor unions had historically supported the Liberals, much like the U.S. labor unions to this day support the Democrats, with similar results. After World War I, the unions shifted their support to the new Labor Party, a party based on the labor unions.

Though this party was in deeds, if not always in words, pro-capitalist and pro-imperialist, it was still a historic step forward for the British working class. One of the reasons why British workers enjoy a socialized health care system, under which health care is a right and not a privilege for those able to pay, as is still the case in the United States, is the existence of the Labor Party.

During the 1920s, the Labor Party under Ramsay MacDonald had failed to put forward any program to deal with Britain's unemployment crisis. The abandonment of the Liberal Party by the working class had left that party without its mass electoral base. Lloyd George and Keynes hoped to win this base back with their public works proposal.

For Keynes, however, there was a problem. He "knew," as a trained liberal neo-classical marginalist economist, that prolonged mass unemployment "could not" exist. Yet it plainly did. After the crisis began in 1929, Britain's already grave unemployment got considerably worse, even though the global economic crisis did not affect Britain as severely as it did the United States and Germany.

Unlike some of his more obtuse colleagues, the mathematical and trained Cambridge economics professor John Maynard Keynes was bothered by the glaring contradiction between marginalist theory and reality. In 1936, Keynes published his book, "*The General Theory of Employment, Interest, and Money*," in which he broke with many of the tenets of economic liberalism and considerably modified marginalist economic theory. In the next chapter, we will examine Keynes's "*General Theory,*" which is considered the founding document of Keynesian economics.

CHAPTER 16

Keynes on the 'Classical' Marginalist Economists

In the second chapter of his "*General Theory of Employment, Interest, and Money*," Keynes summarizes the theories of the "classical economists." Keynes uses the same terminology that Marx uses and indeed borrowed the terminology from Marx. However, Keynes referred to the "classics" of *marginalism*, or rather, he lumped together the marginalists with the classical economists in Marx's sense of the term.

To Marx, the classical economists were those pre-1830 bourgeois economists who lived in a time when the contradiction between the capitalists and the working classes was still underdeveloped. Therefore, bourgeois economists could still analyze the laws of capitalist production scientifically rather than merely apologetically.

Keynes's "classical economists" were the "classics" of marginalism, especially Keynes's teacher Alfred Marshall. In his critique of the "classical" marginalist doctrine, Keynes did not dump neoclassical marginalism and return to anything like classical economics in the Marxist sense. Instead, he gave neoclassical marginalism a facelift so it would no longer be in such obvious contradiction with capitalist reality, especially the reality of the Depression years of the 1930s. Keynes aimed to develop a form of marginalism that could explain the existence of persistent mass unemployment under capitalism.

Keynes's modified marginalism was designed to serve two purposes: First, he hoped to halt the spread of Marxist ideas among students of economics and other members of the young intelligentsia that was occurring under the impact of the Depression. This more plausible version of marginalism, Keynes hoped, would help turn the newly radicalized young intellectuals back towards a "safe" bourgeois version of economics. Second,

Keynes's revised marginalism would also justify massive government deficit spending, which he believed was necessary to combat the Depression in a way that "classical" marginalism did not.

Keynes's critique of the marginalist theory of wages and prices

In Chapter 2 of the "*General Theory*," Keynes presented the postulates of the liberal marginalist economists. These postulates are still defended today by neoliberal economists. All the following quotes are from Chapter 2 of Keynes's "*General Theory*."

The first, and perhaps the most important, postulate of traditional marginalism is this: "The wage is equal to the marginal product of labour. That is to say, the wage of an employed person is equal to the value which would be lost if employment were to be reduced by one unit (after deducting any other costs that this reduction of output would avoid); subject, however, to the qualification that the equality may be disturbed, in accordance with certain principles, if competition and markets are imperfect."

This postulate holds that the worker's wage is equal to the marginal product of the worker's labor under conditions of "perfect competition" – no trade unions, no minimum wage laws, and no social insurance. It assumes that the capitalists do not exploit the workers. According to marginalism, when a new worker is hired, production will rise by a certain amount. The extra production is the marginal product produced by workers of that particular skill.

As more workers of that particular skill are hired, the value of the worker's marginal product will decline for two reasons: First, the more workers that are hired, the amount of capital – in Marxist terminology, constant capital – remaining unchanged, the lower will be the extra amount of production – marginal product – in physical use value terms. Second, the products produced with the help of the newly hired workers become less scarce relative to subjective human needs, all things remaining equal, and therefore less valuable.

On the other hand, the more workers of a given skill that are hired, the stronger the demand for labor and the higher the wage will be. This process continues until the value added by the last worker hired equals that worker's wage. According to the marginalists, equilibrium is reached at this point. In equilibrium, therefore, each worker, through their labor, produces a quantity of value that is exactly equal to the value of their wages.

How the marginalist economists used mathematics to 'refute' Marx

This "postulate" boils down to the statement that the source of surplus value is not the unpaid labor of the working class, since the worker's wage is equal to the value that the worker produces. What mathematical proof do the marginalists provide that this is indeed the case? Furthermore, what exactly is the meaning of the word postulate?

Postulate" is a mathematical term. In mathematics, a subject with which Keynes was very familiar, "postulate" has a precise meaning. It is defined by the CliffNotes "Postulates and Theorems" web page as "a statement that is assumed true without proof."

Therefore, we see how the mathematical marginalist economists refuted Marx's explanation of surplus value. They merely assumed without proof that surplus value is not produced by the working class.

The second "postulate" is that "the utility of the wage when a given volume of labor is employed is equal to the marginal disutility of that amount of employment." The marginalists assume that no worker wants to work at all. Performing labor for a capitalist boss is a definite "disutility" from the worker's point of view. On the other hand, the money that workers obtain in exchange for their "labor" enables them to buy commodities that have a definite utility. Indeed, without the "utility" provided by the wage, which the worker can only obtain by selling his or her "labor," the worker could not live at all.

"That is to say," Keynes explains, "the real wage of an employed person is that which is just sufficient (in the estimation of the employed persons themselves) to induce the volume of labour actually employed to be forthcoming; subject to the qualification that the equality for each individual unit of labour may be disturbed by a combination between employable units analogous to the imperfections of competition which qualify the first postulate." Keynes continues, "Disutility must be here understood to cover every kind of reason which might lead a man, or a body of men, to withhold their labour rather than accept a wage which had to them a utility below a certain minimum."

Therefore, according to the "classical marginalists," the worker does a kind of unconscious mathematical calculation. As long as the utility of the wage exceeds the "disutility" to the worker of working for the boss, the worker continues to work. At some point, however, the worker will decide that the disutility of working for the boss exceeds the utility provided by the extra wages the worker could earn if they continued to work. At that point, the worker says enough is enough and clocks out.

It is just as well for our economists that this statement is a postulate and therefore does not need to be proved. Anybody who has ever had a job under the capitalist system will immediately see that this "postulate" is completely divorced from reality. Suppose a worker who has read the marginalist economists explained to their boss that they had reached a point where the marginal disutility of their labor equals their wage for the day. Following the postulate used by professional economists, they are clocking out.

If he is mathematically educated, the boss might explain that economists do not have to prove this postulate since a postulate is a statement in mathematics that does not have to be proved. However, I, your boss, will disprove this particular postulate used by the economists for you. If you clock out now, you are fired. There are many other people out there who would be more than willing to take your job.

The second "postulate" of the classical economists is disproven whenever a boss schedules "forced overtime." Even at "time and a half," the worker would often be more than willing to give up the overtime, but cannot do so because if they refuse the overtime, they will be fired. That is why it is called "forced overtime."

Perhaps the professors who taught at Oxford or Cambridge who discovered this "postulate" might have been in a position to refuse to teach more than, say, two hours a week. In late 19th-century Britain, almost all professors were recruited from ruling-class families who drew a large income from the rents on their families' landed property and interest and dividends on their families' investments.

After two hours of teaching the spoiled brats that constituted the rising generation of the ruling class the rudiments of marginalist economics, our professors would naturally prefer leisure for the rest of the week over continued teaching. Perhaps these professional economists who taught at such great institutions as Cambridge and Oxford did not realize that their conditions of employment were not the same as those of the workers who labored in the mills, mines, and fields. Unlike most professional economists, real workers had no other source of income except their wages. This postulate of marginalism, however, does provide an interesting illustration of Marx's materialist theory of ideology. Being does indeed determine consciousness.

Using these two postulates of marginalism – both at odds with reality – the marginalists construct their "proof" that, assuming "free competition" prevails in the labor market, the only kind of unemployment that can exist

is either frictional or voluntary. If a worker quits a job, it might take them a few days to find another one to their liking. Such a situation is an example of "frictional unemployment."

The other type of possible unemployment is voluntary. For example, I might be able to find a job that will pay $500 a week. But I make the following calculation. While I certainly would like the commodities that I could obtain if I had an extra income of $500 a week, the utility that I would obtain from these commodities is less than the disutility of getting up in the morning and working for eight hours. I, therefore, choose leisure over work.

Indeed, voluntary unemployment was a growing phenomenon among the ruling class in Britain in the period when marginalist economics was being developed. The last quarter of the 19th century witnessed the transition from industrial capitalism based on free competition to monopoly capitalism, or imperialism. Members of the capitalist class were increasingly withdrawing from the active direction of their businesses – leaving it to hired managers – and becoming transformed into mere collectors of interest and dividends. Increasingly, these members of the ruling class were indeed choosing "leisure" over any extra income they might have been able to earn directing businesses; as members of parliament; or serving in the upper reaches of the military, civil service, or the church or as professors or other similar occupations that might do honor to a "gentleman."

However demoralizing the growth of this kind of mass idleness among the members of the ruling class was, it did represent the free voluntary choice of the individuals concerned. Idleness among the working class was a different matter altogether. Unlike the idle capitalists and landowners, idleness among the working class meant poverty. Few workers would voluntarily choose the extreme poverty that the unemployed experienced in late 19th-century England rather than hold a job. Basing itself on these two absurd postulates, marginalism "proved" that long-term mass unemployment among the working class – except perhaps in unionized industries – was simply impossible.

It was this "proof" that only voluntary and frictional unemployment could exist in a capitalist economy that Keynes challenged. After the experience of the mass unemployment of the 1920s, followed by the even higher unemployment after 1929 of the Depression, Keynes realized something was wrong with the marginalist "proof." But where did the "proof" go wrong?

The diehards of economic liberalism, especially the leaders of the Austrian school of marginalist economists such as Friedrich von Hayek and

Ludwig von Mises, supported in England by Lionel Robbins, insisted that the way out of the slump was through massive wage cuts.

According to these economists, if the capitalists hired the unemployed workers at the prevailing level of wages, the workers' labor would produce far less value than the value of the wages the bosses would be paying them. The workers would exploit the poor capitalists! In a free society, the capitalists would not put up with that. Economists of the Hayek, Mises, and Robbins schools claimed the only way out was through major wage cuts. Once wages dropped to a level that corresponded to the actual value that the workers' labor was capable of producing, mass unemployment would disappear.

What was standing in the way, Hayek, Mises, and Robbins claimed, was the power of the trade unions and "socialist" government policies that were either encouraging mass "voluntary" idleness on the part of the working class or keeping wages so high that the capitalists could not afford to hire them at the prevailing wage levels.

In his "*General Theory*," Keynes rejected the claim that cutting nominal wages would eliminate unemployment. The bosses, during the Depression years, certainly knew how to take advantage of the mass unemployment. There was no lack of wage cuts. Yet contrary to the predictions of Hayek, Mises, Robbins, and their supporters, there was no sign that full employment was being restored. On the contrary.

Keynes, by no means, completely disagreed with Hayek and Company. He shared their basic marginalist assumptions. But Keynes's marginalism was more pragmatic and flexible in the British manner, as opposed to the rigid dogmatism of the "Austrians." Keynes agreed with the Austrians that "real wages" must be cut to restore "full employment."

However, he argued that cutting money wages was not the same thing as cutting real wages. Instead, according to Keynes, it was real wages that must be cut to restore full employment. "Whilst workers will usually resist a reduction of money-wages," Keynes explained, "it is not their practice to withdraw their labor whenever there is a rise in the price of wage-goods."

Keynes almost certainly was greatly influenced by the General Strike of 1926, the greatest social and political crisis in recent British history. How could he not have been? The General Strike occurred less than a decade after Russia's October Revolution of 1917. Could something similar happen in Britain? This was, of course, the ultimate nightmare of all members of the British ruling class, Keynes included.

Back in the mid-1920s, the chancellor of the exchequer, Britain's finance minister, Winston Churchill, in the face of considerable opposition within the British ruling class, including Keynes, moved to restore the convertibility of the British pound into gold at the old exchange rate. Since the pound had fallen about 10% since the suspension of gold convertibility in 1914, that amounted to a revaluation of the pound by about 9% against both gold and the U.S. dollar. (Unlike the pound, the U.S. dollar had not been devalued against gold due to World War I.)

The effect of this currency revaluation was to raise the price of labor power in terms of gold and the dollar by about 9%. The bosses, especially in the declining British coal mining industry, responded by attempting to lower the wages in revalued pounds by about 9% to wipe out the effects of the pound's revaluation. The struggle against these wage cuts in terms of revalued British pounds led straight to the great General Strike of 1926.

But what would have happened if the pound had been devalued instead of a revaluation? Suppose the pound devaluation was such that the prices of commodities that the British workers consumed to reproduce their labor power rose by 10% in terms of pounds while nominal pound wages had remained unchanged. Real wages would have fallen about 9%. Would the response of the workers have been so strong? Would the General Strike of 1926 have occurred anyway?

Keynes suspected the answer would be no. Therefore, he concluded, it is always better to avoid cutting nominal money wages, which the trade unions and workers will strongly resist. Instead, Keynes implied that the government should pursue policies encouraging the cost of living to rise. This will lower the living standard of the workers in a way that will be less obvious to them and, therefore, he hoped, avoid any repetition of the "unpleasantness" of 1926 that had brought the continued rule of Keynes's beloved capitalist class into question.

Keynes feared that lowering money wages would not lower real wages

In addition to opposing cuts in nominal wages, because they provoked the trade unions and the working class, Keynes also argued that cutting nominal wages was simply ineffective when it came to lowering the workers' standard of living:

"Moreover, the contention that the unemployment which characterizes a depression is due to a refusal by labour to accept a reduction of money-

wages is not clearly supported by the facts. It is not very plausible to assert that unemployment in the United States in 1932 was due either to labour obstinately refusing to accept a reduction of money-wages or to its obstinately demanding a real wage beyond what the productivity of the economic machine was capable of furnishing. Wide variations are experienced in the volume of employment without any apparent change either in the minimum real demands of labour or in its productivity. Labour is not more truculent in the depression than in the boom – far from it. Nor is its physical productivity less. These facts from experience are a *prima facie* ground for questioning the adequacy of the classical analysis."

Following the logic of the classical marginalist analysis, why would the value that the workers' labor produced suddenly collapse in the early 1930s, causing their wages to exceed that value? In terms of "physical productivity," as Keynes put it, or in terms of use value, as the classical economists and Marx would put it, the workers' labor was capable of producing more than ever.

Indeed, the decade of the 1920s, which preceded the Depression, saw an extraordinarily rapid increase in the productivity of labor in the United States as electricity finally drove out steam as the main motive power in industry. Yet the United States was hit hardest and longest by the Depression and experienced the most persistent and highest levels of mass unemployment among the imperialist nations.

Great Depression or 'Great Vacation'?

According to the classical marginalists, in the United States during the terrible year of 1932, the unemployed were "choosing leisure" rather than accepting wages representing the value their labor was producing. Indeed, one wag even suggested that if the marginalist analysis is correct, the Great Depression should be renamed the "Great Vacation."

Indeed, this is not far from Milton Friedman's analysis of the Depression. If the Depression was not simply a "Great Vacation," it was at least a "Great Misunderstanding." According to Friedman, real wages had risen due to the fall in prices brought on by a contraction of the money supply. Therefore, when the Fed allowed the money supply to contract by one-third, the workers received a huge wage increase in real terms that was only partially counteracted by cuts in their nominal wages. The workers, not realizing how much the cost of living had fallen, were withholding their labor because they wrongly interpreted cuts in money wages as reductions in real wages.

One obvious problem with this "analysis" is that if it were true, workers should have been quitting their jobs in large numbers as the bosses moved to cut money wages rather than being laid off as they were in reality. The implication of the "classical marginalist theory," defended by the neoliberal Friedman, was that once the workers got sufficiently bored with the "Great Vacation" and began to realize just how much cheaper everything was, they would gladly return to work at lower money wages – but the same real wage – and "full employment" would return.

By recognizing that the Great Depression was no "Great Vacation," Keynes was making a point that was obvious to every worker, indeed to virtually every member of the lay public who was not a trained professional economist. But Keynes was very much a trained professional economist of the marginalist school. How, then, could he square the marginalist analysis with the facts that were so obvious to everybody except for marginalist economists?

Keynes did this by appealing to an even older economic fallacy than marginalism. This fallacy is the claim that the level of money wages determines the general price level. This view holds that all things remaining equal, if wages go up, prices go up as well, leaving real wages unchanged. Conversely, if wages go down, so will the general price level, also leaving real wages unchanged.

In the past, this argument had been used to "demonstrate" the futility of trade union activity. The argument was that if the unions succeeded in winning higher money wages, the workers would gain nothing from it because the bosses would pass on the extra costs in the form of higher prices.

"The classical theory," Keynes wrote, "assumes that it is always open to labor to reduce its real wage by accepting a reduction in its money-wage. The postulate that there is a tendency for the real wage to come to equality with the marginal disutility of labor clearly presumes that labor itself is in a position to decide the real wage for which it works, though not the quantity of employment forthcoming at this wage."

In other words, the marginalists assumed that if there is serious unemployment, the workers will accept lower wages, resulting in lower money and real wages. The "classical marginalists" claimed this would lead to a speedy restoration of "full employment."

"Now the assumption that the general level of real wages depends on the money-wage bargains between the employers and the workers is not obviously true," Keynes wrote. "Indeed it is strange that so little attempt should have been made to prove or to refute it. For it is far from being consistent

with the general tenor of the classical theory, which has taught us to believe that prices are governed by marginal prime cost in terms of money and that money-wages largely govern marginal prime cost."

According to economists of the Friedman type, even the stupidity of the Federal Reserve System in "allowing" or even "causing" the one-third drop in the U.S. money supply between 1929 and 1933 would not have been enough to cause the Depression. The stupidity of the Fed had to be backed up by the stupidity of the workers in not understanding the difference between a fall in real wages and a mere fall in money wages.

But Keynes was arguing that workers are not so stupid. Even if the workers fully "understand" that real wages must be reduced so that they can again get work, they will not be able to lower their real wages as opposed to money wages. According to Keynes, the more money wages fall, the more prices fall. The workers are thus powerless to lower their real wages. To lower their real wages so they can return to work, Keynes was implying that workers need the assistance of an inflationary policy on the part of the government and central bank.

The claim that "prime costs" – which are supposed to come down to wage costs – govern the general price level is not a marginalist notion but a return to a false idea of Adam Smith that Ricardo later refuted. Smith used the theory of labor value in places, but in a far less consistent way than Ricardo.

Essentially, Smith assumed that commodities would exchange in proportion to the labor socially necessary to produce them under conditions of simple commodity production, where the separation between wages and profits did not yet exist. But once capitalist production came into existence, it was the equalization of the rate of profit that drove capitalist production.

Capital is constantly flowing from industries where the rate of profit is below the average to industries where the rate of profit is above the average. Therefore, according to Smith, under capitalist production proper, the value of commodities – what Smith called "natural price" – is not proportional to the quantity of labor socially necessary to produce them. Then what determines the value of commodities under profit-driven capitalist production?

Smith believed that "constant capital," to use Marx's later terminology, could be reduced ultimately to variable capital. Smith argued that commodities necessary to produce a given commodity other than labor (power) are produced with both constant and variable capital. In turn, the commodities that produced these commodities other than labor power are produced with

both constant and variable capital. Therefore, Smith claimed, if you go back far enough, all capital consists of variable capital alone. All capital is therefore reduced to wages! A fine theory indeed.

Smith concluded that the value of a commodity is reducible to the three forms of income – or revenue – of capitalist society – wages, profits, and rents. Therefore, Smith reasoned, if wages rise, the values and, thus, the prices of commodities must also rise.

Keynes, in the passage quoted, is replacing the vulgar theory of marginalism with an older vulgar theory. Changes in wages, Keynes insisted, govern changes in prices.

I should make clear here that even if the quantity theory of money is invalid, which it indeed is, this does not mean that the claim advanced by Keynes that changes in wages determine changes in prices is true. This claim will be examined in the next chapter.

Was Keynes really a friend of the working class?

During the first deflationary years of the Great Depression, compared to the economists of the Austrian school and other marginalist economists, Keynes appeared more friendly to the working class. The trade unions and the working class were resisting cuts in their wages, and Keynes, for his own reasons, also opposed cuts in nominal wages.

The workers were trying, to the extent it was possible, to defend their standard of living under the extremely unfavorable conditions of the early years of the Great Depression. On the other hand, Keynes opposed the cuts in nominal wages partly because he believed they were ineffective in lowering real wages.

However, in the inflationary years that were to follow, Keynesian economists came to the aid of the supporters of "wage moderation" on the part of the trade unions. During the "Great Inflation" of the 1970s, Keynesian economists, backed up by the bourgeois media, constantly talked about the "wage-price spiral." Higher wages were raising the "cost of production" – shades of Adam Smith's old theory – and therefore were driving up prices. The Keynesian economists called this alleged process "cost-push" inflation, which they distinguished from "demand-pull" inflation.

Keynesian economists, therefore, urged the trade unions to practice wage moderation and were delighted when Republican President Richard Nixon imposed wage-price controls that were mostly wage controls in practice.

The Keynesian economists, who had proclaimed victory over the "business cycle" in the 1960s, claimed that prosperity could be maintained by so-called expansionary policies – large budget deficits financed by massive borrowing by the government combined with rapid increases in the quantity of token money by the central banks – without inflation rising to "intolerable" levels if only the trade unions maintained wage moderation.

Unfortunately, the unions, especially in the United States, followed the advice of their mostly Keynesian and Keynesian-influenced economic advisers and went along with the wage moderation program. The result? Inflation continued to accelerate, and the U.S. economy went through the back-to-back monster recessions of 1974-75 and 1979-82.

Both the inflation rate and the official unemployment rate eventually rose into the double digits. As for real wages, measured on an hourly basis, they have never returned to the levels that prevailed in 1973, shortly after the controls were imposed, despite the considerable growth in labor productivity over the last quarter of a century.

The failure of the trade unions to resist wage controls greatly weakened them, not only economically but politically. This weakening of the trade unions made possible the reaction of the Reagan-Thatcher years and the long reign of "neoliberalism" that followed.

CHAPTER 17
Ricardo and Marx vs. Keynes

Ricardo, unlike Adam Smith, attempted to use the law of labor value consistently. He sensed that this law applied not only to simple commodity production but also to capitalism proper. Ricardo was only partially successful in this, but he was on the right track. He realized that price is a relationship between the commodities whose price is being measured and the money commodity – gold – in which the commodity's price is reckoned.

According to the Ricardian law of labor value, market prices tend to fluctuate around an axis determined by the relative values of gold and the commodity whose value gold measures. Ricardo realized that a rise or fall in wages would affect the rate of profit but not the overall prices of commodities.

Marx developed Ricardo's law of labor value further, resolving the contradictions that Ricardo himself was unable to overcome. However, even the Ricardian version of the law of labor value is quite sufficient to refute Keynes' claim that wages determine prices.

As for Marx, he demonstrated in the first three chapters of Volume I of "*Capital*" that price must always be measured in terms of the use value of the commodity that serves as the universal equivalent. Assuming gold is the money commodity, exchange value, or what comes to the same thing, price, is always a specific quantity of gold measured in terms of weight.

Value, unlike exchange value, is not mediated by a physical substance such as gold but is a purely social substance – abstract human labor. While gold as a material use value is measured in terms of weight, abstract human labor, though it is a social substance, not a physical substance, also has to be measured in some unit of time.

Unlike Ricardo, Marx, in his mature writings from 1857 onward, made the distinction between labor and labor power. Since labor in the abstract is the very substance of value, labor cannot have value. Labor, therefore, cannot itself be a commodity.

What is a commodity is the worker's ability to work – that is, labor power. The workers must sell their labor power to the industrial capitalist. When the industrial capitalist buys the labor power from the workers themselves, the capitalist comes into possession of the workers' ability to work. The industrial capitalist, the boss, then orders the workers to perform work to produce a product that will take the form of a commodity. The workers' direct labor embodied in the commodity plus the labor embodied in the constant capital used up during the production of the commodity – called indirect labor – is the value of that commodity.

The labor embodied in the commodity produced by the workers is, in turn, divided into two parts. One part, the necessary labor, replaces the value of the worker's wages. The other part, surplus labor, which under capitalist production takes the form of surplus value, is the labor that workers perform without payment for the capitalists, landowners, and other eaters of surplus value. The industrial capitalists do not get to keep all the surplus value produced by the workers. They are obliged to share it with money capitalists, landowners, the state, and other hangers-on.

The value of labor power

Though labor is not a commodity, labor power is. Like all commodities, it has both a value and an exchange value. The commodity labor power's price, or the exchange value, is a wage. A wage is a sum of money representing a certain weight of gold that industrial capitalists must use to purchase a certain quantity of labor power measured in some unit of time.

As a use value, labor power is measured in terms of time. The fact that the unit of measure of both labor and labor power is time leads to the common error of equating the two. This confusion creates the illusion that all the work performed by the worker is paid.

With the marginalist economists, including Keynes, this confusion is formalized mathematically by declaring it to be a postulate, a statement that does not have to be proved.

Determination of the value of labor power

In order to work, workers must first live and then produce the next generation of workers. Under the capitalist system, workers must consume the commodities they purchase with the money they receive in exchange for their labor power. As workers consume these commodities, they transfer the value – the amount of abstract human labor needed to produce these com-

modities under the average prevailing conditions of production – to their own labor power, as well as the developing labor power of their children.

Therefore, the value of the worker's labor power consists of the value of the commodities that the workers must consume to reproduce their labor power daily, as well as produce the next generation of workers. The value of labor power can change for two reasons. The first reason is a change in the productivity of labor in the industry that produces "wage goods" that the workers must consume to reproduce their labor power and raise the next generation of workers. The second factor is a change in the quantity and quality of use values the workers consume.

What determines the quantity and quality of these commodities in terms of use values that workers consume to reproduce their labor power? Marx explained that the wage consists of two elements. One is the biological minimum. The biological minimum, in turn, consists of two sub-elements. The first sub-element is the wage portion needed to reproduce the worker's labor power daily. The second sub-element is the wage portion necessary to reproduce the next generation of workers.

If the wage fell below the level necessary to reproduce the workers' labor power daily, capitalist production would collapse within days or weeks as the working class starved to death. If the wages were to fall below the level necessary for the workers to produce and raise a new generation of workers, capitalist production would collapse within a decade or so, as there would be no replacements for the workers that would be dying off. The biologically determined minimum sets the limit below which wages can never fall, at least not for very long.

The other element of the wage is the social element. Over generations of class struggle, the workers have managed to add to the biological element an additional element beyond it. This additional element allows the workers, as Marx put it, to participate to some extent in the progress of civilization.

For example, workers do not need radios, TVs, cell phones, personal computers, and so on to live and reproduce their labor power. The apologists for capitalism like to point out that in the past, even the wealthiest people had to go without these and many other commodities that, at least in the imperialist countries, we take for granted today. They then conclude that today, the workers live better than the wealthy did just a few generations ago. Many of these new commodities, such as cell phones, have become necessities within a remarkably short period.

Wages and trade unions

The struggle of the labor unions revolves around this extra wage that is added to the bare biological minimum wage. The capitalists are always pushing wages downward toward the biological minimum. Indeed, in the oppressed capitalist countries, wages are often very close to the biological minimum. On the other hand, labor unions try to defend and, under favorable conditions, increase the extra portion of the wage added to the biologically determined minimum wage.

Wages and prices

Now, what do changes in the level of wages have to do with the prices of commodities? In the last chapter, we saw that Keynes claimed that a rise in money wages would lead to a rise in prices. However, changes in the level of money wages, or real wages for that matter, have only very modest effects on prices. Assuming all else is equal, Keynesian economists notwithstanding, a rise in money wages will not affect the overall cost of living.

Instead, what is affected is the rate of surplus value, or what comes to the same thing, the ratio of unpaid to paid labor. As Ricardo explained, a wage rise will not raise prices but will lower the profit rate. The capitalists and their spokespeople among the professional economists and the mass media oppose wage increases not because they are inflationary but because they lower the rate of the capitalists' profits.

The total mass of commodities that serve as articles of personal consumption can be divided into two parts, necessaries and luxuries. Necessaries are consumed by both the working class and the capitalist class. For example, whether you are Bill Gates or a worker in a Los Angeles garment factory, you still have to eat, wear clothes, and so on. Luxuries are consumed only by members of the capitalist class. For example, Gulfstream personal jets are purchased and used as items of personal consumption only by the capitalists, indeed only by members of the wealthiest section of the capitalist class, the 1%.

However, what commodities consist of necessities or luxuries is not set in stone and can change over time. Here, the struggle of the labor unions under favorable conditions can have a considerable impact. For example, automobiles were luxuries in the first years of the 20th century. If we go back a few years, before the turn of the 20th century, the automobile did not exist. The closest thing was a horse-drawn carriage. However, starting with the introduction of mass production of automobiles during the 1920s, the value and, consequently, the price of automobiles fell considerably. Indeed,

they fell so much in value and price that the better-paid workers in the United States could afford to purchase them.

Today, in imperialist countries, automobiles are not luxuries but necessities. Especially in the United States, with its poor public transportation system, many workers would not be able to commute to their workplaces and, therefore, would be unable to sell their labor power without owning an automobile. In most of the world, however, automobiles are still beyond the means of the workers. In these countries, the automobile remains very much a luxury. What commodities represent luxuries and what commodities represent necessaries varies over both time and place.

Suppose in a given country at a given time, the labor unions are strong enough to achieve a general rise in money wages. Then, according to Keynes, this would lead to a rise in marginal prime costs, leading to a general rise in prices. But what, in fact, would happen?

A rise in money wages will increase the purchasing power of the working class. But the rise in the purchasing power of the workers will be offset by a fall in the purchasing power of the capitalists. This is why the capitalists are so bitterly opposed to any proposals to increase money wages. The rising purchasing power of the workers will increase demand for consumer necessities like food, clothing, cell phones, and TVs. Certain articles that were considered luxuries in the past might even enter into the consumption of the working class, allowing the working class to take part in "the progress of civilization."

Even if that happens, it is safe to say that there will be no increase in the demand for personal Gulfstream jets. Instead, higher wages will mean that the demand for Gulfstreams will fall since the capitalist class will have less purchasing power than before. But won't the rise in the purchasing power of the working class drive up the prices of the necessities that enter into the consumption of the working class? That might happen. Perhaps the prices of food, essential medicines, and other necessities would rise.

But as economists have understood since Adam Smith's days, the profit rate in different industries tends to equalize. Capital, in its constant search for the highest profit possible, flows from sectors where the rate of profit is below average to sectors where the rate of profit is above average.

Immediately after the rise in wages, the rate of profit in the industries that produce necessities will be above the now lower average rate of profit, while those industries that produce luxuries, such as Gulfstreams, will find that their rate of profit is now below the new lower average rate of profit. The rate of profit will fall in all branches of industry, but it will fall much more in

industries that produce commodities such as Gulfstreams than in the food and basic clothing industries, for example.

Capital will therefore start to flow out of industries that produce commodities consumed by the capitalists into industries that produce commodities for the workers. As this process unfolds, prices of necessities will fall while the prices of commodities such as Gulfstreams will rise. Soon, the rate of profit will be more or less equal once again. However, the new average rate of profit will be lower than before the rise in wages.

Second, more of the total labor time of society will be devoted than before to producing commodities for the workers and less to producing commodities such as Gulfstreams for the capitalists. There will be a greater chance that a given group of workers will be producing commodities for their fellow workers and less chance that these workers will be producing commodities for their capitalist exploiters.

This does not mean that prices will be the same as before. This is because commodities tend to sell at prices that do not exactly express their values but rather at prices that equalize the rate of profit among the various branches of industry, called by Marx prices of production. In more labor-intensive branches of production, or, to use Marxist terminology, in those branches of industry that have a lower than average organic composition of capital, prices will rise as wages rise and fall as wages fall because these branches of industry spend more on their "labor costs" than the average for industry as a whole.

Conversely, industries with a higher than average organic composition of capital, what the economists call "capital-intensive industries," are less affected by a rise in wages. Immediately after a rise in wages, the rate of profit in industries with an above-average organic composition of capital, though they will suffer some decline in their profit rates, will now exceed the now lower average rate of profit in industry as a whole. Capital will flow into these industries from the "labor-intensive" industries. Therefore, the prices of commodities produced by these industries, in direct contradiction to the claims of Keynes, will fall as wages rise. This effect is one of Ricardo's great economic discoveries.

Here, I should make a few qualifications. First, I assume that the rise and fall in money wages are "across the board." If the workers win a rise in wages in just one industry that fails to inspire a rise in wages in other industries, this may cause a price rise for the commodity produced by that particular industry. This is because profits will fall in the face of rising "labor costs" in

that industry, causing the industry's rate of profit to fall below the average for industry as a whole.

All other things remaining equal, a wage rise will cause an outflow of capital from that industry. Even in this case, however, the rise in prices in one industry would lead to a slight fall in the prices of commodities produced in all other industries as capital flows out of the industry that has experienced a rise in wages into all the other industries that have not. So, in this case, too, there would be no general rise in prices.

The same is true on an international scale. It is well known that wages in Asia, excluding Japan, are a tiny fraction of wages in the United States, Western Europe, and Japan. That is why we have seen a flow of capital out of industries in the United States and Western Europe toward Asia in recent years. Industry had developed at a feverish rate in many Asian countries, while there was little expansion of industrial production in the United States and Western Europe. Indeed, in these countries, that trend for a generation now has been toward "de-industrialization."

These extreme differences in wages, which were unknown in the days of Marx, allowed the industrial capitalists operating in Asia to charge considerably lower prices and still realize the overall global average rate of profit.

However, these lower prices are offset by a rise in the prices of commodities still produced in the United States, Western Europe, and Japan by industries with a very high organic composition of capital. So again, the general price level remains unaffected when looking at the world market.

The only way that the general price level could be affected by changes in wages would be if such a change affects the "price" of the commodity that serves as money. As I have explained in earlier chapters, the "price" of the money commodity is simply all price lists read backward.

For example, if the wages were to rise in all countries and the average organic composition of capital in the gold mining and refining industry was lower than the global industrial average, the "price" of the money commodity – price lists read backward – would rise. Or, what comes to the same thing, a rise in wages in the gold industry would lower the general global price level, assuming that the gold values of the currencies remain unchanged.

How apartheid helped the 'free world' win the Cold War

While we are on this subject, we should examine the effect of artificially low wages in the gold mining industry after World War II on global commodity prices. Under the prevailing Bretton Woods international monetary

system – which collapsed between 1968 and 1971 – currencies, unlike today, were still more or less stable against gold. South Africa, which in those days was ruled by the ultra-racist regime of apartheid, was the world's largest gold producer.

Under apartheid, normal labor union activity was impossible for the African workers who mined and refined the gold. Assuming that gold was selling at its "price" of production, this would mean that the rate of profit in the gold industry would be well above the average rate prevailing on the world market.

As the post-Depression, post-World War II boom gradually raised prices on the world market, the rate of profit began to decline in the South African gold industry. But since the rate of profit was abnormally high in that industry due to the extremely low wages under apartheid, it took a long time for the rate of profit to fall to the point where the production of gold began to decline.

Indeed, gold production did not begin to level off until the mid-1960s and did not start to drop until 1971. Therefore, the extremely low level of wages of African gold miners made possible by apartheid, along with the devaluation of the dollar against gold by U.S. President Franklin Roosevelt in 1933-34, explains why dollar prices in the United States and the world were so much higher in the post-World II years than they were in the years before World War II – though in dollar terms, they were still much lower than prices today.

Higher money wages, therefore, had absolutely nothing to do with the "high cost of living," though the higher cost of living did lead to higher money wages in terms of devalued currencies rose in reaction to the rise in the cost of living. Indeed, if money wages had not risen after World War II, real wages would have fallen to starvation levels or even below the biologically determined minimum wage.

The high level of gold production that prevailed after World War II and the consequent expansion of the world market that the newly produced gold made possible meant that the boom phase dominated the early postwar industrial cycles. And as I showed in earlier chapters, one of the effects of booms is to raise the general level of commodity prices. Therefore, higher money wages were an effect, not a cause, of a rise in the cost of living. In contrast, the extremely low wages of the South African gold miners did contribute to the high and rising price levels that prevailed under the post-World War II Bretton Woods international monetary system.

What really does cause inflation?

Ricardo and Marx proved scientifically that rising wages, whether by "rising wages" we refer to money or real wages, do not cause inflation. The effect of higher wages, all other things remaining equal, is to lower the rate of profit. So, if rising money wages do not cause inflation, what does cause inflation? Several factors can cause a general rise in commodity prices.

Price increases caused by booms

First, as we saw in the chapters on an "ideal" industrial cycle, during the industrial cycle's boom phase, the demand for commodities at the existing price levels tends to exceed the supply. Therefore, prices must rise so that supply and demand can again be equalized.

However, these higher price levels are temporary. As soon as the industrial cycle turns down, supply will exceed demand at the existing price levels. As a result, prices again drop to their values and below their values. Indeed, one of the main functions of crises is to keep market prices in line with values in the long run. Therefore, changes in the phases of the industrial cycle cannot explain the almost continuous rise in prices that we have seen since 1933. At most, booms partially explain the rise in prices between 1945 and 1968, when industrial cycles were dominated by their boom phases.

Price increases caused by a fall in the value of the money

Commodity prices as a whole will rise if the value of the money commodity falls relative to the values of other commodities. For example, when gold and silver were discovered in the Americas during the 16th century, the opening up of these rich new mines lowered the value of gold and silver relative to most other commodities. This caused prices measured in terms of these precious metals to rise.

This phenomenon was observed again after the discovery of gold in California and Australia between 1848 and 1851. The previous falling trend in prices was reversed, and prices continued to rise until 1873. The introduction during the 1890s of the cyanide process in gold refining, which enables gold to be extracted from very poor ores, combined with the discovery of rich new gold fields in Alaska and the Yukon, considerably lowered the value of gold. This set off a significant rise in world commodity prices that began in 1896 and continued until 1913.

Price increases caused by wars

Wars, particularly world wars that curtail the production of civilian commodities, both articles of personal consumption and capital goods, lead to sharp rises in prices. This was observed, for example, during the world war that followed the French Revolution of 1789-93, as well as during World War I and World War II. However, once the war ends and normal "peacetime" patterns of production resume, prices inflated by war, all other things remaining equal, will drop sharply. This was observed in Ricardo's time after the end of the world war that followed the French Revolution and again after World War I and World War II.

Price increases caused by currency devaluations

Nominal prices, as opposed to prices in terms of fixed weights of gold (or, in the past, silver), will rise if the amount of precious metal represented by the unit of currency is reduced. In the days before the rise of the international gold standard, governments often reduced the gold or silver content of their coinage. Or they might define the currency unit – the pound sterling, for example – as a lesser amount of precious metal. This was a common practice in the pre-Gold Standard days of mercantilism.

Today, a rise in the "price of gold" in terms of a given currency accomplishes the same thing, as I explained in the chapters dealing with money. For example, the devaluation of the U.S. dollar by 40% between 1933 and 1934 set off a long period of rising prices in the U.S.

A far more violent inflation occurred in the 1970s, when the U.S. Federal Reserve System, following the advice of Keynesian economists, refused to curtail the growth rate of its token money in the face of declining gold production. Instead, in a failed attempt to maintain the post-World War II prosperity, the Fed moved to overcome the effects of the global "shortage" of gold by attempting to replace gold with its token money. This caused the U.S. dollar to lose about 90% of its gold value in a decade.

The 2007-09 Great Recession refutes marginalism and its Keynesian variant

During the sharp economic crisis of 2007-09, known as the "Great Recession," the cost of living in the U.S. dropped only slightly, according to official government statistics. Most of the fall was due to a gasoline price drop.

In the days before the Great Depression, a far milder recession would have led to a much greater fall in the cost of living. Indeed, real wages before

1933 would generally rise during economic downturns. In the last chapter, we saw how Keynes, just like the more "orthodox" marginalists, blamed the tendency of real hourly wages to rise during periods of falling prices for cyclical unemployment. The rise in real wages on an hourly basis partially compensated workers for the reduction in the hours of work during economic downturns.

Remember, according to marginalist theory, workers get back in wages all the value they produce. The workers do not, according to the marginalists, produce surplus value. If the marginalists hold, the general price level drops for any reason and money wages do not drop as fast as other prices, the workers get what amounts to a general wage increase in real terms. Unless the value produced by the workers increases, the marginalists claim, the workers will now be paid more than the value they are producing. Labor will be exploiting the capitalists!

On this much, both the traditional marginalists – Keynes's classical economists – and the Keynes of the "General Theory" agree. The capitalists, unwilling to pay the workers wages more value than they are producing, respond by laying off workers. According to the marginalists, including Keynes, this explains the rise in unemployment during recessions.

Therefore, according to marginalist theory, as long as the cost of living remains unchanged as it did during the 2007-09 Great Recession, there should have been no employment contraction or rise in unemployment. However, in defiance of all versions of marginalist theory, employment fell sharply, and unemployment soared during the "Great Recession." In the United States, four years after the beginning of the "Great Recession," total employment was still far from returning to its pre-crisis levels, though the cost of living is not lower, nor are real wages higher than they were on the eve of the crisis in 2007.

The 2007-09 "Great Recession" provides only one illustration of the failure of the marginalist theory of wages and employment in this regard. An even more extreme refutation of the Keynes-marginalist theory of wages and employment is provided by the stagflation-era recessions of 1969-70, 1974-75, and 1979-82. During these recessions, the cost of living rose sharply. As a result of the inflation, real wages dropped on an hourly basis. The workers' standard of living was doubly squeezed. They were hit by inflation, falling real wages, recession through reduced hours of work, and a considerable rise in unemployment.

According to the marginalist-Keynesian theory, falling real wages should have ensured "full employment." Therefore, every recession since the 1950s, whether mild, moderate, or severe, has refuted the Keynes-marginalist theory of wages and employment.

In the natural sciences, if only one observation contradicts a theory, it is considered enough to refute it. If the same standard prevailed in economics, the entire marginalist theory of value in all its forms would have been abandoned long ago. The fact that marginalism is still taught – including in its Keynesian form – in the universities shows that present-day bourgeois economics is not a science but is simply a cover for the class interests of the ruling, exploiting capitalist class.

How to react and how not to react to currency devaluations – two examples from history

Almost as soon as he assumed office in 1933 at the bottom of the Great Depression, Franklin Roosevelt began to tamper with the U.S. currency system. He ordered the Reconstruction Finance Corporation to buy gold on the open market at higher and higher dollar prices. During 1933 and 1934, the Roosevelt administration pushed the dollar price of gold from the $20.67 that had prevailed since 1879 to $35. This amounted to a 40% devaluation of the dollar against gold.

This was a move by the New Deal to raise dollar prices, supposedly to help indebted farmers who were an important part of the base of the Democratic Party. Prices began to soar, and industrial production also began to rise rapidly as industrial and commercial capitalists began to buy commodities with the expectation that their prices would soon rise. This "expectation" on the part of the capitalists – entirely rational in the face of Roosevelt's deliberate reduction in the gold value of the currency – quickly became a reality, and prices started to rise sharply.

U.S. workers, whose money wages and living standards had already been battered by the first three and a half years of the Depression, responded with a wave of strikes demanding union recognition and wage increases to compensate for the inflation caused by Roosevelt's deliberate devaluation of the dollar. Within a few years, industrial unions organized basic industry for the first time in U.S. history, and the CIO was born.

The rise in wages neutralized the effects of the fall in the dollar's value on the standard of living of U.S. workers. Perhaps Roosevelt halted his devaluation of the dollar in 1934 because of the resistance it provoked in the

form of strikes and union-organizing drives. Therefore, indirectly, the push for higher money wages by the workers may have halted further inflation at that time.

This is in sharp contrast with what happened in the 1970s. During 1968-71, the U.S. government broke its promise to keep the dollar at 1/35th of an ounce of gold, and the dollar price of gold began to soar. It rose from $35 an ounce in 1970 to $875 at the peak during the winter of 1980. In terms of U.S. dollars, the price of gold never fell below $250 again.

Unfortunately, the AFL-CIO unions, listening to Keynesian economic advisers, practiced wage restraint, the exact opposite of what happened in 1933-34 during the Roosevelt devaluation. As a result, unlike after 1933, the workers' real wages were devastated. And in direct contradiction with Keynes's marginalist analysis of employment, the unemployment rate also soared.

Since the unions largely failed in their most elementary role to defend their members' standard of living, they became increasingly discredited. So far from launching new unionization campaigns – with few exceptions – as they did in the 1930s, the unions retreated across the board. This opened the whole era of political reaction and counterrevolution that was to dominate world politics for the remainder of the 20th century.

CHAPTER 18
Keynes attempts to generalize marginalist theory

In previous chapters, we saw that Keynes denied that the unpaid labor of the working class produced surplus value. So, how does surplus value – profit, interest, and rent – arise, according to Keynes, if the working class does not produce it?

"It is much preferable to speak of capital as having a yield over the course of its life in excess of its original cost, than as being productive," Keynes wrote in chapter 16 of the "*General Theory*." "For the only reason why an asset offers a prospect of yielding during its life services having an aggregate value greater than its initial supply price is because it is scarce; and it is kept scarce because of the competition of the rate of interest on money. If capital becomes less scarce, the excess yield will diminish, without its having become less productive – at least in the physical sense."

To use Keynes's terminology, the difference between the "aggregate value" and the "supply price" – the cost to the capitalist of that asset – is the surplus value that the asset yields (not produces) to its owner. But where does this surplus value that is "yielded" come from if it is not produced – if it does not arise in the sphere of production?

According to Keynes, neither the working class nor capital "produces" surplus value. Contrary to the Physiocrats or the Smith-Ricardo school, surplus value is not, according to Keynes, produced in the sphere of production. From where, then, does the surplus value come?

According to Keynes, capital "yields" a surplus value only because it is "scarce." If capital were not scarce, there would be no surplus value.

The marginalists, including Keynes, have reverted to the views of the mercantilists and Malthus – Keynes held Malthus in especially high regard – that surplus value arises not in the sphere of production but in the sphere

of circulation. In its flight from the law of labor value, marginalism negates the most outstanding achievement of the liberal classical political economists. This is the discovery that surplus value arises in production, not circulation. Therefore, according to both Keynes of the "General Theory" and classical marginalist economists, surplus value is simply the result of the scarcity of capital.

Keynes on profit and interest

Keynes broke with traditional marginalism in his view of the nature and relationship between the two different fractions of surplus value that constitute profit – the profit of enterprise and interest. Unlike Marx, who explained "interest" as simply a sub-fraction of profit, which itself is only a fraction of the surplus value produced by the unpaid labor of the working class, Keynes saw interest and profit as the "yield" of money capital and the "yield" of real capital, respectively. Real capital "yields" a profit because it is "scarce," just like money capital "yields" its owner an interest because it, too, is "scarce."

In contrast to Keynes, the classical marginalists claimed that capital – not just money capital – yields interest because capital is a scarce factor of production. To the classical marginalists, money capital does not have any real existence since money capital is merely the reflection of the value of scarce real capital. The pre-Keynesian marginalist held – and neoliberals still do – that the interest rate is determined by the degree of scarcity of real capital alone.

By the time he wrote the "*General Theory*," Keynes had come to reject this argument. Instead, Keynes came to distinguish between the profit of the industrial and commercial capitalists – the profit earned by the entrepreneurs, to use Keynes's preferred terminology – and the interest earned by the money capitalists – or rentiers, as Keynes called them.

The marginal efficiency of capital

Like the "classical" marginalists, Keynes generally avoided the term "profit" or "rate of profit." Instead, he introduced a new term to distinguish the profit "earned" by the "entrepreneurs" from the "interest" appropriated by the "rentiers."

Keynes called the profit appropriated by the industrial and commercial capitalists – or, rather, the profit they expected to appropriate – the marginal efficiency of capital. Here Keynes used the marginalist method to analyze what, in plain language, is the expected rate of profit.

Keynes reasoned like this: If an additional unit of capital is employed, the commodities that will be produced with it will, all other things remaining equal, become less scarce relative to the demand for them, causing their prices to decline. Realizing this will happen, the industrial or commercial capitalists will expect a lower profit rate on each additional unit of capital they invest. The rate of profit expected by the industrial (or commercial) capitalists on an additional – or marginal – unit of capital Keynes called the marginal efficiency of capital.

Marx versus Keynes on profit and interest

According to Marx, assuming the industrial or commercial capitalists make the average rate of profit and work with their capital, these capitalists appropriate the interest on their capital plus an additional profit, the profit of enterprise. The average profit, according to Marx, consists of interest plus the profit of enterprise.

Keynes, however, because of his peculiar definition of interest, denied that entrepreneurs realize "interest" on their capital. According to Keynes, interest is the "reward" that a money capitalist – or rentier, in Keynes's terminology – gets for not holding money.

According to Keynes, the marginal efficiency of capital – which plays the same role in Keynes's system as the rate of profit in the classical and Marxist schools – arises due to the scarcity of real capital, and interest arises due to the scarcity of money capital. Therefore, unlike the classical marginalists, Keynes, like Marx, sharply distinguished between real and money capital.

The distinction that both Marx and Keynes made between real and money capital is incompatible with the quantity theory of money. According to that theory, changes in the quantity of money relative to the number of commodities have no effect on real wages and profits. The modern version of the quantity theory of money associated with Milton Friedman would amend this to say, no effect in the long run on real wages or real profits.

According to the traditional marginalists – including the neoliberal followers of Milton Friedman – if the quantity of money is insufficient to fully realize the value of commodities at existing prices, prices will fall to a level that will realize their values. If the total quantity of money consisted of only one dollar or one euro, for example, all the commodities produced would still be sold, though the prices of commodities would be quoted in terms of tiny fractions of a cent.

Therefore, in the long run, the quantity of money should not affect the rate of interest. At most, according to traditional marginalism, if the rate of growth in the quantity of money exceeds the rate of growth in the number of commodities, an "inflation premium" will be added to the "natural rate of interest," which is determined in turn by the scarcity of real capital.

For example, according to Friedman, if the natural rate of interest is 3% and the expected rate of inflation is 4%, the nominal rate of interest will be 7%. But even then, the real rate of interest, that is, the actual quantity of commodities that a given interest income can buy once the effects of inflation are factored out, will not be affected. Keynes rejected this analysis.

As we saw in the preceding chapter, Keynes, in contrast to Ricardo, Marx, and marginalist supporters of the quantity theory of money, such as Milton Friedman, claimed that the level of money wages determines the level of nominal prices. Therefore, a contraction in the quantity of money will raise interest rates, according to Keynes, not lower the general price level. Only if the contraction of the money supply and the consequent rise in the rate of interest leads to mass unemployment that, in turn, drives down the level of money wages, will the general price level finally be lowered. Therefore, Keynes of the "*General Theory*" rejected the neutrality of money and admitted the possibility, not the inevitability, of a general overproduction of commodities.

Marx versus Keynes

Marx and Keynes are in partial agreement here, a point emphasized by the Keynesian Marxists. Both Marx and Keynes rejected the quantity theory of money, the neutrality of money that goes with it, and the consequent denial of the possibility of a "general glut" of commodities – Say's Law. Marx and Keynes rejected the claim that a contraction in the quantity of money would lower prices and agreed that a contraction in the metallic money supply in a given country would increase the rate of interest in that country.

Conversely, they agreed that expanding the quantity of metallic money, all else remaining equal, would lower interest rates and not increase prices. Both Marx and Keynes recognized that the split between money and commodities makes general crises of overproduction possible.

Some Keynesian economists are quite cool toward the theory of comparative advantage as well. This is not surprising since, as I have demonstrated, the view that comparative advantage as opposed to absolute advantage applies in trade between nations under capitalism stands or falls – it falls – with the quantity theory of money.

How compatible are the theories of Marx and Keynes

Pointing to these very real areas of agreement, many Marxists have jumped to the conclusion that Keynes's theories represented a significant turn in the direction of Marx. The most Keynesian Marxists have implied that the differences between Marx and Keynes are merely terminological, though they admit that, unlike Marx, Keynes failed to draw any socialist conclusions from his critique of "classical" marginalist economics.

If the differences between Marx and Keynes are merely terminological, it should be possible to integrate Keynes's entire system into Marxism. All we would need is a dictionary to translate the different terms. But is this really the case?

Fundamental differences between Keynes and Marx

Indeed, even leaving aside the fact that Keynes did not draw any socialist conclusions from his work, the differences between Marx and Keynes are much more than terminological. They involve the most fundamental question in all economic science – the origins and nature of surplus value.

In addition, they involve the very nature of value, money, and price. Why do products of labor under certain historically determined conditions of production take the form of commodities at all? What determines the magnitude of the value of a given commodity? What is the meaning of the word value? Marx and Keynes gave radically different answers to these basic questions.

For example, take the economic category of "money," which plays a far more critical role for both Marx and Keynes than for traditional marginalists. As we have seen in earlier chapters dealing with the theory of money, metallic money, token money, and credit money are, according to Marx, governed by quite different laws.

However, Keynes – much like Milton Friedman – applied the same laws to all three forms of money. According to Keynes and Friedman, whether money takes the form of gold coins, banknotes convertible into gold, or paper money, changes in the quantity of money will have the same effect. To Friedman, an expansion of the quantity of money, everything else remaining equal, will, over time, simply affect nominal prices and wages. To Keynes, in contrast, unless "full employment" already exists, an expansion in the quantity of money will lower interest rates, increase production and employment, as well as the market.

To be fair to Friedman, he did distinguish between what he called "high-powered money" – hard cash – that can be used to form bank re-

serves that enable the banking system to increase the quantity of bank money – deposits that can be transferred by check or electronic means to make purchases and payments through the system of fractional reserve banking. Friedman disliked the whole system of fractional reserve banking for this very reason since it undermined the ability of the "monetary authority" to determine the rate of growth of the quantity of money. However, he tended towards the view that, because of the great inherent stability that he claimed characterized the capitalist system, a "monetary authority" that has a monopoly on the creation of "high-powered money" should still be able to control the rate of growth of the money supply as a whole.

But to Friedman, it makes no difference whether the "high-powered" money that serves as a reserve behind bank money consists of full-weight gold coins and bars, convertible into gold banknotes, or legal tender paper money issued by a monetary authority. According to Friedman, gold only functions as money when it is coined and circulates as currency.

The neoliberal followers of Milton Friedman, therefore, wrongly apply the laws that govern token money – paper money – to metallic money. Keynes and his followers make the reverse error, wrongly applying the laws that govern metallic money to token money. Keynes believed that an increased issue of paper money by the "monetaryauthority" is exactly the equivalent of a rise in gold production or an influx of gold from abroad.

Where Marx agrees with Friedman

When it comes to the effects of an increase in the quantity of token money issued by a monetary authority, Marx was closer to Milton Friedman than Keynes. Marx and Friedman agree that if the monetary authority doubles the quantity of the token money it issues, the quantity of metallic money and commodities remains unchanged, doubling nominal prices and wages, but otherwise, it has no effect. According to both Marx and Friedman, the doubling of wages would reflect the doubling of prices, not cause the doubling of prices.

However, Marx would be closer to Keynes regarding the effects of an increase in the quantity of metallic money. While Friedman would see this as just as inflationary as an increase in the quantity of paper money, Marx would agree with Keynes that an increase in the quantity of metallic money, all other things remaining equal, will bring about a fall in the rate of interest, not higher prices, and form a basis for the actual extension of the market which brings with it higher production and employment.

Keynes saw a rise in money wages as inflationary because they raised the "prime costs," which, according to Keynes, govern prices. But Marx did not agree. Since Friedman believed that inflation was always caused by an excessive expansion in the quantity of money relative to commodities, he, like Marx, did not believe that higher wages were inflationary.

Where Marx and Friedman do not agree

Unlike Marx, however, Friedman would oppose a rise in money wages, not because he thought it would be inflationary but because he would claim it would increase unemployment. Eager to safeguard his reputation as the darling of the business world, it is hard to imagine the old University of Chicago professor ever supporting a wage hike in any real-world situation.

Marx, in contrast, as the champion of the working class, supported demands for higher wages by the workers. He also explained that the real liberation of the workers could not be achieved by raising wages – which can only reduce the rate of surplus value or at least prevent its increase. Liberation is won by abolishing the wage system – capitalism.

No Friedmanite-Marxists

No Marxist, trade unionist, or left winger that I know of ever claimed that Milton Friedman's "anti-Keynesian counterrevolution" was a move toward Marx on the part of the academic bourgeois economists, though as we have shown, there are points where Marx is closer to Friedman than he is to Keynes.

Just because Marx and Keynes agree on some questions does not demonstrate that the views of the two economists are close enough to create a consistent "Keynesian-Marxism," just like the fact that some points of agreement between Marx and Friedman do not make possible a logically consistent "Friedmanite-Marxist" school.

Keynes on the effects of changes in the rates of profit and interest on production and employment

The "classical" marginalists claimed that when the economy is in "equilibrium," profit of enterprise will disappear, leaving only interest. They argued that if there were branches of industry where profits exceeded interest, the industrial capitalists would invest in those areas as part of their ceaseless drive to maximize profits. They would expand their production in those areas until prices dropped and the profits, as opposed to interest, vanished.

Assuming that there is "free competition, especially in the labor market," the only possible economic equilibrium, according to this view, would be an equilibrium of full employment, with the industrial and commercial capitalists earning only "interest." For many years before he wrote the "General Theory," Keynes's view was the same.

Keynes breaks with classical marginalism

However, Keynes was bothered by the obvious contradiction between the reality of mass unemployment in Britain during the 1920s and 1930s and the great "discovery" of the marginalists that the capitalist economy could only be at equilibrium when it was at "full employment" – leaving aside the effects of labor unions and social legislation.

In his "*General Theory*," Keynes held that the economy tends toward an equilibrium where the rate of interest equals the marginal efficiency of capital – that is, in terms of algebra, the marginal efficiency of capital = rate of interest. Or in plain language, where the interest rate equals the expected profit rate. Industrial capitalists, in their never-ending search for profit, will cease to expand production at the point where they expect that a further investment of capital will yield only the rate of interest.

In Keynesian economics, as production increases – all else remaining equal – commodities become less scarce, causing their prices to fall, reducing the rate of profit on additional units of capital applied to production. The marginal efficiency of capital falls as production increases. However, the industrial capitalists will keep increasing production, despite the prospects of a falling rate of return, as long as the expected rate of profit exceeds the prevailing rate of interest.

However, this process will halt the moment the rate of profit yielded by additional units of capital invested in industry is expected by the industrial capitalists to yield a return less than the rate of interest. At that point, the economy has reached an equilibrium where the rate of interest and the marginal efficiency of capital are equal.

Here Keynes makes his break with traditional marginalism. According to Keynes, the point of equilibrium where the expected rate of profit equals the rate of interest may or may not coincide with "full employment." In Keynes, unlike "classical" marginalism, the rate of interest is determined independently of the rate of profit on real capital. As we have seen, the rate of interest is determined in the Keynesian system by the relative scarcity of money relative to the demand for money – what Keynes called liquidity preference.

Keynes held that no mechanism in a capitalist economy automatically ensures that the point where the rate of interest is equal to the marginal efficiency of capital corresponds to full employment. According to Keynes, the rate of interest and the marginal efficiency of capital could equalize at a level corresponding to mass unemployment.

In practice, Keynes assumed that the level of employment would fluctuate around this equilibrium point, just like in classical economics and Marx, market prices fluctuate around the prices of production of individual commodities.

Keynes on the industrial cycle

Keynes reasoned that sometimes production and employment would be below the equilibrium point where the marginal efficiency of capital and the rate of interest are equal. In this case, the industrial capitalists expect that the additional capital investment will yield a rate of profit greater than the interest rate. Under this type of disequilibrium, industrial production and employment in the economy are increasing. This corresponds to the rising phase of the "trade cycle."

At some point, however, as production increases and prices and profits start to fall, the marginal efficiency of capital will fall below the prevailing rate of interest. The industrial capitalists will then start to reduce production and lay off workers. The economy enters the downward, or recession, phase of the industrial cycle, or trade cycle, as Keynes called it. If, according to Keynes of the "General Theory," the equilibrium level of production – the point where the marginal efficiency of capital is equal to the rate of interest – corresponds to mass unemployment, the level of unemployment across "the trade cycle" will be high with much "involuntary unemployment," such as it was in Britain during the 1920s and 1930s.

In contrast, the traditional marginalist position that Keynes was breaking with in the "General Theory" held that since the only possible capitalist economic equilibrium was "full employment," any rise in unemployment caused by a recession would be short-lived since, by definition, any level of unemployment except "full employment" represents a disequilibrium. Therefore, the conclusion was that if a recession did occur, the capitalist economy would always rapidly return to full employment without any government intervention. At most, the central bank – Bank of England – would only need to lower its (re)discount rate to restore "full employment" quickly.

Starting with the "*General Theory*," Keynes, in contrast, held that the economic equilibrium could just as well be reached at levels of mass unemploy-

ment. In such a situation, which he certainly believed was the case when he wrote the "*General Theory*," Keynes believed that – barring appropriate action by the government – mass unemployment could persist – with cyclical fluctuations – indefinitely.

According to Keynes, the traditional marginalist claim that assuming free competition, especially in the labor market, the capitalist economy would constantly return to "full employment" after a recession was true only in the special case where the level of employment and production that equates the rate of interest with the (expected) rate of profit happened by chance to coincide with "full employment." Therefore, according to Keynes, the "classical" marginalists made the mistake of confusing what was only a special case – where economic equilibrium happened by chance to coincide with "full employment" – with the many real-world situations where equilibrium coincided instead with mass unemployment.

According to Keynes, the marginalist classics correctly analyzed the "special case" where the rate of interest equals the rate of profit at "full employment." Their only mistake was their failure to realize that this was only a special case. Keynes aimed to complete marginalist theory by analyzing the cases where the rate of interest equals the rate of profit at other than "full employment." If the equalization of the rate of interest and profit occurs at a point where there is a considerable amount of "involuntary" unemployment, which Keynes believed was becoming more and more the norm, the intervention of the state would be necessary to ensure a "reasonable approximation to full employment."

Keynes's conservative conclusions

Therefore, according to Keynes, there was nothing fundamentally wrong with marginalist economics, or indeed the capitalist society it champions. The only necessary thing was to analyze not only the "special case" where economic equilibrium happened to coincide with "full employment" but the other cases where it did not as well. Once this was done, it would become evident that there was an important role for government to play in ensuring that economic equilibrium does coincide with "full employment." It is this conclusion of Keynes that makes him so popular with progressives and even some Marxists. His conservatism stemmed from the fact that he was confident that full employment could be achieved within his beloved existing order of society – the system of capitalist class rule and exploitation.

Keynes remained a marginalist

The great 20th-century physicist Albert Einstein did not break with his special theory of relativity – which applied to the special case where acceleration is absent – when he expanded it to take into account cases where acceleration is present. Einstein's generalization of his theory of relativity is known as the general theory of relativity.

Einstein could generalize his special theory of relativity into the general theory because the special theory, at least within a broad domain, corresponds to physical reality. In contrast, Keynes's attempt to generalize neoclassical marginalist economics to situations where equilibrium coincides with less than full employment is based on a set of postulates that are in basic conflict with the economic and social reality of the capitalist system.

CHAPTER 19
Keynes on the 'Trade Cycle'

Keynes, throughout the "*General Theory*," was concerned with explaining how his marginalist equation of "equilibrium" – marginal efficiency of capital = rate of (money) interest – could correspond to mass unemployment. The industrial cycle itself was of secondary concern for him. Nevertheless, in Chapter 22, entitled "Notes on the Trade Cycle," Keynes does deal with the industrial cycle, or as he called it in the English manner, the "trade cycle."

When he did deal with the industrial cycle, marginalism hindered Keynes at every step. Unlike the classical economists and Marx, the marginalists do not distinguish between use value and exchange value. As a marginalist, even if an unorthodox one, Keynes had problems explaining how commodities could be overproduced yet be "scarce" simultaneously.

Keynes, like other marginalists, tended to treat capitalism as though it were a system of production for human needs. Or, as Marx often complained about the bourgeois economists he criticized, Keynes tended to treat capitalist production for profit as though it were socialist production for human needs.

For example, Keynes assumed that as long as capitalism operated properly, the market size would be determined by the size of the total population. As a great admirer of Malthus, Keynes saw big dangers in both the growth and the lack of growth of the population.

One danger Keynes saw was absolute overpopulation, with all the accompanying Malthusian horrors. Unlike Malthus, however, Keynes was fairly optimistic that population growth could be restrained. Already in his time, the growth rate of the population was declining in the imperialist countries.

Therefore, if the population growth were restrained and eventually ceased, as Keynes was convinced it would sooner or later have to, wouldn't this imply a halt in the never-ending expansion of the market, abstracting cyclical fluctuations, that is an essential feature of the capitalist system?

Wouldn't the cessation of the market expansion mean chronic overproduction and growing chronic mass unemployment? Indeed, it is the tendency of population growth to slow down or even halt in the imperialist countries altogether that Keynes believed was the fundamental cause of the Great Depression.

Keynes did not believe surplus value is produced, as we saw in the last chapter. Instead, like the mercantilists and Malthus, he believed that surplus value originates in the sphere of circulation due to the scarcity of use values. Therefore, Keynes could not conceive of the contradiction between the conditions that favor the production of surplus value and those that favor the realization of surplus value.

Keynes, however, did see the fluctuation of the rate of profit, or the marginal efficiency of capital, to use Keynes's preferred terminology, as the main factor that determines the changes in the phases of the industrial cycle:

> "Now, we have been accustomed in explaining the 'crisis' to lay stress on the rising tendency of the rate of interest under the influence of the increased demand for money, both for trade and speculative purposes. At times, this factor may certainly play an aggravating and, occasionally, perhaps, an initiating part. But I suggest that a more typical, and often the predominant, explanation of the crisis is not primarily a rise in the rate of interest, but a sudden collapse in the marginal efficiency of capital." (This and the following quotes from Keynes in this chapter are from Chapter 22 of the "*General Theory*.")

Now, we have seen that changes in the rate and mass of profit can occur due either to changes in the amount of surplus value produced, both absolutely and relative to the existing capital or to changes in the amount of surplus value that can be realized in money form. The main problem for Marxist crisis theory is to what extent the collapse in the rate of profit that occurs at the beginning of the crisis is caused by the growing difficulties of producing surplus value versus the increasing difficulties of realizing surplus value.

Keynes, however, as we saw above, could not even pose the question, let alone answer it. He wrote: "We have seen above that marginal efficiency of capital depends, not only on the existing abundance or scarcity of capital goods and the current cost of production of capital goods, but also on current expectations as to the future yield of capital goods. In the case of durable assets it is, therefore, natural and reasonable that expectations of

the future should play a dominant part in determining the scale on which new investment is deemed advisable. But, as we have seen, the basis for such expectations is very precarious. Being based on shifting and unreliable evidence, they are subject to sudden and violent changes."

Here Keynes sees changes in the degree of scarcity of "capital goods" and, ultimately, the scarcity of the consumer goods that the "capital goods" produce as determining the rate of profit. But according to Keynes, the rate of profit is determined not only by the underlying scarcity of material use values relative to human needs but also by the changing expectations of future profits by the industrial and commercial capitalists. Keynes defines the marginal efficiency of capital as the rate of profit that capitalists expect to make. He believed that the capitalists' expectations play a crucial role in determining the actual rate and mass of profit.

Here Keynes, in the manner so typical of vulgar economics, was adopting the view of the industrial or commercial capitalist engaged in the daily struggle of competition. For now, business is good, and demand is outstripping the supply of commodities that our industrial capitalist is producing at current prices. The rate of profit on new investment is very high. Since the human mind tends to assume that the current trend will continue, our industrial capitalist is optimistic about the future and accelerates his plans to increase the productive capacity of his factories and other productive forces.

But suddenly, as Keynes sees it, business goes sour, and the yield on existing industrial assets collapses. Instead of being wildly optimistic about the prospects for profit on the new investments, our industrial capitalist now falls into complete despair. The personal psychological depression is said to lead to general economic depression.

Keynes saw these violent psychological swings in mood among the "entrepreneurs" as the cause of the extreme instability characteristic of a highly developed capitalist economy. In contrast, Keynes believed that the expenditures on capital investment that depend on the expectations for profit on the part of the active industrial capitalists, the expenditures on articles of personal consumption and the government's expenditures are reasonably stable.

"In conditions of laissez-faire," Keynes wrote, "the avoidance of wide fluctuations in employment may, therefore, prove impossible without *a far-reaching change in the psychology* [emphasis added –SW] of investment markets such as there is no reason to expect. I conclude that the duty of ordering the current volume of investment cannot safely be left in private hands."

Is Keynes advocating that society take over the means of production so that the level of investment can be stabilized, eliminating the violent swings of the capitalist industrial cycle? By no means.

That would mean an end to the "current order of society." Keynes most certainly did not want a planned socialist economy to replace capitalism. However, Keynes's opposition to the "classical" marginalists and other schools of economic liberalism did lead him to see the need for large-scale intervention on the part of the capitalist state in the operations of the economy. He admitted that highly developed capitalism left to its own devices is a dangerously unstable system.

Where Marx and Keynes agreed

In this respect, he agrees with Marx and profoundly disagrees with Milton Friedman, who stubbornly insisted that capitalism was a stable system.

Paul Sweezy praised Keynes for his profound understanding of the psychology of the business world. Sweezy, I assume, was contrasting Keynes to the professors of economics at Harvard who, in the 1930s, had taught him marginalist economics during the Great Depression. Undoubtedly, Keynes was superior to these academic hacks.

While I am no expert on psychology, I assume the active industrial and commercial capitalists do experience mood swings as the market, and consequently, their profits, fluctuate wildly. Keynes, however, implied that capitalism would be stable like the classical marginalists, and later Milton Friedman claimed it was if the "psychology" of the capitalists could be changed.

Here Keynes's view is subjective and, in the philosophical sense, idealist. The real world is not reflected in the human mind, but rather the human mind somehow creates material reality. Indeed, the entire marginalist theory of value is subjective, while Ricardo's and Marx's concept of labor value is objective.

In contrast to Keynes, Marx saw the changes in the minds of the active industrial and commercial capitalists as reflections of the objective contradictions of capitalist production.

Liquidity trap

According to Keynes, industrial capitalists will expand their enterprises as long as they believe that the rate of profit on their productive capital – marginal efficiency of capital – is above the prevailing rate of interest. But once the crisis or recession replaces the boom, the marginal efficiency of

capital falls to or below the interest rate – indeed, profits often turn into outright losses.

Keynes wrote: "Later on a decline in the rate of interest will be a great aid to recovery and, probably, a necessary condition of it. But, for the moment, the collapse in the marginal efficiency of capital may be so complete that no practicable reduction in the rate of interest will be enough. If a reduction in the rate of interest was capable of proving an effective remedy by itself, it might be possible to achieve a recovery without the elapse of any considerable interval of time and by means more or less directly under the control of the monetary authority."

The view that it was well within the power of the "monetary authority" to prevent violent swings in investment, production, and employment is the view of Milton Friedman and his so-called "monetarist school." Keynes, however, drew the opposite conclusion. "But," Keynes wrote, "in fact, this is not usually the case; and it is not so easy to revive the marginal efficiency of capital, determined, as it is, by the uncontrollable and disobedient psychology of the business world [emphasis added –SW]. It is the return of confidence, to speak in ordinary language, which is so insusceptible to control in an economy of individualistic capitalism. This is the aspect of the slump which bankers and businessmen have been right in emphasizing, and which the economists who have put their faith in a 'purely monetary' remedy have underestimated."

As Keynes saw it, in a depression, the "marginal efficiency of capital" falls so low – or even becomes negative – that it becomes impossible for the "monetary authority" to lower interest rates to the point where interest rates are below the "marginal efficiency of capital."

Once the investment of the boom collapses, it will usually be three to five years, Keynes observed, before investment begins to recover. To check massive involuntary unemployment during the three to five years following a crisis, Keynes believed that the central government should step in with massive deficit spending and thus compensate for the contraction of demand brought on by the collapse of investment – in Marxist terms, expanded reproduction – by the industrial capitalists.

Keynes understood that in a situation where the rate of profit is low or even negative, no possible lowering of the rate of interest could revive the economy. Such a situation is called by Keynesian economists a "liquidity trap." Like Marx before him, Keynes understood that the rate of profit must rise substantially after a crisis before a new period of capitalist prosperity can set in.

A permanent liquidity trap?

Therefore, both Marx and Keynes realized that a low interest rate is a necessary but insufficient condition for a healthy recovery. The key variable that leads to recovery is not the rate of interest but the rate of profit. Marx pointed out that a "healthy" upturn in the industrial cycle requires both a low rate of interest and a rapidly rising rate of profit. Keynes would agree with Marx on that point.

In the years following the publication of the "General Theory" in 1936, the Depression dragged on, even though the already very low rate of interest fell further. Many of the more radical followers of Keynes – especially after the Roosevelt recession of 1937-38 – began to suggest that this time the "liquidity trap" was not part of a passing if unpleasantly prolonged depression phase of the industrial cycle but permanent.

The more radical of the younger generation of economists influenced by Keynes claimed that ever larger doses of government spending in the future would be necessary to avoid "secular stagnation," which they believed a "mature" capitalist economy naturally tends toward. Here we find the origins of the Monthly Review school.

Liquidity trap a necessary phase of the industrial cycle

Keynes did not understand that a liquidity trap that follows the crisis is a necessary phase of the capitalist industrial cycle. During the liquidity trap, the accumulation of capital takes the form of the accumulation of money capital, not real capital. As a result, while the world's supply of hoarded gold grows at an accelerated pace, the actual forces of production stagnate. At a certain point, the growing mass of idle money capital begins to burn a huge hole in the collective pockets of the capitalists. This makes possible the next "sudden expansion of the market" that brings about recovery and thus ushers in a new phase in the development of the forces of production.

Keynes's proposals for suppressing crises

Keynes wanted to find a way to prevent the crisis from creating a liquidity trap in the first place while retaining the capitalist mode of production: "The remedy for the boom," he wrote, "is not a higher rate of interest but a lower rate of interest!"

Keynes was saying that if the monetary authority, instead of raising interest rates during the boom – "taking away the punch bowl," as William McChesney Martin, a former head of the U.S. Federal Reserve System, once

famously put it – lowered interest rates, especially long-term interest rates, the crisis, and the liquidity trap would be avoided altogether.

Indeed, if this were possible, it would be possible for the monetary authority to stabilize the capitalist system after all, though not by the method advocated by Milton Friedman – stabilizing the growth rate of the quantity of money. This more conservative aspect of Keynes's thought appealed to pro-business "neo-Keynesians," as opposed to left-wing socialist Keynesians and Keynesian-Marxists.

Keynes suggested that as the "marginal efficiency" of (real) capital falls, the monetary authority should print more money – make money less scarce – causing the interest rate to fall faster than the marginal efficiency of capital. Then the investment boom would continue, and there would be no sharp collapse in the marginal efficiency of capital, no liquidity trap, and no depression with its associated massive involuntary unemployment.

While practical Keynesian economists are often seen as advocating a series of policies aiming to moderate and shorten a recession once it begins, Keynes here was more ambitious. He was suggesting that recessions with their unemployment can be abolished altogether – itself a worthy aim – without abolishing the capitalist system.

Assume we have a boom. The "scarcity" of capital goods is declining, and it is only a matter of time before the "marginal efficiency of capital will fall. If the monetary authority can lower interest rates sufficiently at this point, then the industrial capitalists will still be able to find fields of investment that, though they will yield a rate of profit lower than before, will still be at a rate above the now even lower rate of interest.

Traditionally, the central banks have followed a course opposite to the one that Keynes suggests here. Instead of lowering interest rates during a boom, they raise them. The reason for this policy – besides the need to "fight inflation" – is that the central banks must restrain the boom to limit the inevitable recession that will follow. If a general overproduction of commodities causes recessions, this makes sense within the brutal logic of the capitalist system.

Since the overproduction occurs during the boom, if you limit the overproduction of the boom by raising interest rates, the recession, which represents the forcible termination and liquidation of the boom, will be less severe than it otherwise would be.

But what happens if the monetary authority followed Keynes's advice in the "*General Theory*" to expand the supply of token money to such an ex-

tent that the interest rate falls rather than rises during the boom? Wouldn't this whip overproduction into a frenzy, leading to an even worse crash? The long practical experience of central banking has generally taught the central bankers – practical men like William McChesney Martin, head of the Federal Reserve from 1951 to 1970 – that this would happen.

However, Keynes challenged the traditional central banker view. Keynes reasoned like this: As the production of capital goods rises during the boom, the reduced scarcity of capital goods reduces the marginal efficiency of capital. What Keynes was aiming for, however, was a gradual decline in the rate of profit without the dramatic collapse in the rate of profit that occurred at the beginning of the crisis, which he believed was caused by the psychological reaction of the capitalists to rates of profits that were lower than the prevailing rates of interest. Keynes wanted to reconcile the capitalists to what he saw as the inevitable fall in the rate of profit. Instead of periodic crises with their mass unemployment, we would have a gradual long-term fall in the rate of profit as the means of production become less scarce.

The fatal flaw in Keynesian economics

Keynes, like Marx, realized that, contrary to the claims of the traditional marginalists, the rate of interest does not equalize the demand for and supply of capital, or what comes to more or less the same thing in marginalist economics, savings, and investment, but rather the total quantity of money with the demand for money.

So far, so good. The problem is that Keynes did not understand what "money" really is. Nor could he because he never broke with the marginalist theory of value that holds that the value of a commodity is not determined by the quantity of labor socially necessary to produce it but rather by its scarcity relative to subjective human needs.

In the final analysis, we have seen that money must be a commodity like gold bullion produced by human labor. The demand for commodity money – gold bullion – is equalized in the final analysis with the current quantity of the money commodity by the fluctuations in the rate of interest.

If the interest rate is "too low," the demand for gold bullion is greater than the supply of bullion at current interest rates. If interest rates are "too high," the demand for bullion is lower than the current supply of bullion. The problem with the Keynesian idea is that the rate of interest tends to equalize the supply and demand for metallic money, whether within a country or the world market.

Now, if under the capitalist system, we could replace commodity money with "non-commodity" money whose quantity could be controlled by a monetary authority, the monetary authority would then be in a position to lower the rate of interest by making money less scarce whenever it is necessary to do so to avoid a crisis.

However, if money must ultimately be a real commodity like gold, the monetary authority will be powerless to do this. Instead, the quantity and the rate of production of money material will be regulated by the law of value, as is the case with all commodities.

In the case where the rate of monetary growth, or what comes to the same thing, the level of gold production, is insufficient to prevent a rise in the rate of interest, no increase in the rate of growth of the token money created by the monetary authority can prevent – at least not for very long – the rate of interest from rising. If the monetary authority attempts to lower the interest rate anyway by simply printing more money, the result will be a monetary crisis in the form of a panicky run out of paper money into gold, leading to a sharp devaluation of the paper money with all its inflationary consequences.

Remember, one of the primary functions of crises is to lower the prices of commodities in terms of gold, thereby increasing the rate of profit in the gold mining and refining industries. This stimulates the production of gold, thus lowering the rate of interest. Through this mechanism, the law of value, in the long run, sees that money material is produced in sufficient quantities to keep the interest rate below the profit rate.

What would happen if crises were abolished?

If crises were abolished, prices in terms of gold would rise, even if only gradually, without limit. Sooner or later, prices would lose all connection with the actual labor value of commodities. Gold production – or whatever commodity represents money material – would halt. The rate of interest would then rise without limit.

However, this it cannot do in the real world. As soon as the rate of interest swallows up the entire profit, it wipes out the profit of enterprise. If this happens, the incentive to produce surplus value is destroyed, and a crisis can no longer be staved off. The resulting crisis again lowers the interest rate below the profit rate. This enables capitalist production to continue, but precisely at the price of a crisis. This is why, contrary to Keynes, capitalist crises cannot be abolished without abolishing capitalism itself.

Through the succession of booms and crises, not only is the rate of interest kept below the rate of profit in the long run, but commodity prices are kept in line with labor values. In effect, Keynes was trying to find a way to abolish the law of value while retaining the capitalist system. This is pure utopia.

Keynes did not understand that his proposals were utopian, nor do the professional bourgeois economists today, whether they belong to the Keynesian or, for that matter, the Friedmanite schools, which also believe that crises can be abolished within the framework of the capitalist system.

Keynesian 'stimulus policies' throw monkey wrenches into the mechanism that brings about recovery

An expansion of token currency that does not, in the long run, match a real expansion in the quantity of metallic money will increase rather than reduce the rate of interest. This has consequences fatal for Keynesian economics.

During the great boom of the 1960s, when the influence of Keynes was at its flood tide, there was an attempt to follow something like Keynes's advice. The results of this experiment gave a real-life demonstration of why Keynesian suggestions for crisis-free capitalism cannot work in practice.

In the early 1960s, the Bretton Woods system – the final stage of the international gold standard – was still in effect. The cornerstone of the Bretton Woods system was the definition of the U.S. dollar as 1/35th of a troy ounce of gold, or what comes to the same thing, the dollar price of gold was fixed at $35 a troy ounce.

The Federal Reserve System and its satellite European central banks formed an agreement to buy and sell gold to keep the price of gold on the open market – not just in dealings among central banks and governments – at $35 an ounce. Under the gold pool, the central banks agreed that if the price of gold began to rise above $35 an ounce on the open market, they would sell gold; if it began to fall below $35, they would buy gold.

The crisis of 1968

In March 1968, however, the gold pool collapsed when the demand for gold at $35 an ounce became so strong that, had it continued, it would have drained all the remaining gold reserves of Fort Knox and the central banks within weeks. The immediate cause of the gold pool collapse was the decision of U.S. President Lyndon Johnson to sharply increase the number of U.S. troops in Vietnam in the wake of the "Tet Offensive" launched by the Vietnamese resistance in January 1968.

But the Tet Offensive was only the immediate cause for the collapse of the gold pool and the Bretton Woods System, not the fundamental cause. Even if the Vietnam War had not occurred, the Bretton Woods system was doomed, though the Vietnam War did move up the timing of its collapse. Why is this so?

Academic, government, and central bank economists had convinced themselves that they could avoid another prolonged deep depression if only they could prevent the general price level from falling. They reasoned that deflation not only brings on credit crises in the form of banking panics, that lead to a sudden contraction of demand. It also causes potential buyers of commodities to postpone purchases in expectation of further price declines. This results, the policy makers reasoned, in prolonged economic stagnation.

While they were powerless to prevent the purchasing power of gold from periodically rising, they saw no reason why the monetary authorities could not arrange for a gradual but permanent fall in the value of the legal-tender token money they issued. However, in the absence of a massive fall in prices in U.S. dollars as the purchasing power of gold was declining, it became inevitable that, at a certain point, the relative and absolute profitability of gold production would decline. The declining profitability of gold production would result in a growing shortage of gold as production fell, making a devaluation of the U.S. dollar and its satellite currencies inevitable.

However, such a devaluation of the U.S. dollar was in a fatal conflict with the Bretton Woods system and the gold pool, which, like any other form of the gold standard, required that the gold value of the currencies be maintained at the existing level.

The Bretton Woods system did allow for devaluations and revaluations of currencies against the U.S. dollar under certain conditions, but it made no provision for the devaluation of the U.S. dollar itself against gold.

As we have seen, however, the law of labor value does not permit permanent inflation in prices in terms of the use value of the commodity that serves as money material. If the actual relative labor value of gold bullion fell too much against other commodities leading to a permanent rise of prices in terms of bullion, gold would, like silver, be increasingly demonetized on the market and replaced by a more precious metal.

The followers of Keynes did not have any understanding of these economic laws since, to understand them, we need Marx's law of value. Instead, following the "General Theory," they reasoned like this. The 1960s boom

meant that the number of capital goods was steadily increasing. As a result, capital goods were becoming less scarce. Sooner or later, there would be a drop in the "marginal efficiency of capital," just as was the case after every previous capitalist economic boom.

Interest rates have to be lowered to prevent the postwar boom from collapsing. According to the logic of the "*General Theory*," the boom would continue even if the marginal efficiency of capital falls as long as interest rates fall even more.

However, if the rules of the Bretton Woods system had been followed, not only would a fall in the rate of interest have been impossible, interest rates would have had to be increased sharply to reduce the exploding demand for gold bullion that had brought the Bretton Woods system to the brink of collapse.

The run on and collapse of the gold pool in March 1968 showed that the money capitalists wished to hold more gold than they did at the prevailing level of interest rates; indeed, more gold than existed in the combined vaults of the central banks, governments, and the private gold hoarders combined. Only by sharply raising the "reward" – the rate of interest that money capitalists get for not holding gold – would the demand for gold be once again lowered to the supply of gold that was available.

But due to the long postwar boom, the interest rate was already extremely high. If the central banks had raised interest rates sufficiently to bring the demand for gold back into balance with the actual supply of gold, Keynesian policymakers reasoned, the rate of interest would surely rise above the falling, or soon-to-be-falling, marginal efficiency of capital. A violent crisis would occur, and then it would be back to the liquidity trap and all that goes with it – depression and mass unemployment.

And this was in a world in which the United States was not only losing the war against Vietnam, but where the Soviet Union was still powerful, China was still in the throes of the radical phase of its great revolution, Cuba's socialist revolution had occurred less than a decade before, and unions and labor-based political parties in the Western world were still near the peak of their post-World War II power.

To some extent, the governments and the central banks yielded to the inevitable and raised interest rates. This reduced the demand for gold to its actual supply for a time, but also began to slow down the real economy. The Keynesian policymakers were determined to prevent the "slowdown," or "mild recession," from turning into a major new liquidity trap and depression.

A 'managed currency' at last

To avoid this, Keynesian policymakers decided to abandon the gold pool and let the price rise on the free market. Keynes hated the gold standard anyway and looked forward to a "managed currency" where gold would play no role. Now, the Keynesians in the universities and policymaking circles believed it was time to put Keynes's ideas of a managed currency into effect. With the end of gold's "residual" role in the international monetary system, Keynesian economists believed they were removing the last obstacle to truly crisis-free capitalism.

The right-wing Republican U.S. president of the time, Richard M. Nixon, was on board with the plan to demonetize gold. Interest rates were not raised sufficiently or for a sufficient period to stabilize the gold value of the dollar and the currencies linked to it under the Bretton Woods system on the open market for very long. Government and central bank policymakers applying the marginalist theory of value, which they had learned in their "microeconomic" courses in their university days, predicted that the price of gold probably would not rise; instead, it would fall.

They reasoned that as gold was finally completely "demonetized," it would lose its main "utility," its "utility" as money. The market would soon be flooded with gold since, besides its monetary function, gold had relatively few other utilities or use values. The price of gold, the marginalist economist predicted, would then fall, perhaps quite sharply. This allowed for a kind of "experiment" which pitted the Marxist theory of value and price against the marginalist theory of value and price to take place in real life.

Much to the delight of the Keynesians, the last vestiges of the convertibility of the U.S. dollar into gold bullion were removed between March 1968 and August 1971. Contrary to the predictions of Keynesian and other marginalist economists, the dollar price of gold soared – using that economic slang term for the gold value of the dollar.

As each dollar represented less gold – real money – prices in terms of dollars began to rise faster than the central banks expanded the quantity of token money and faster than commercial banks could expand the supply of credit money based on the token money created by the central banks. Whenever the central banks tried to drive down interest rates – or at least check their rise – by expanding the rate of growth of their token money, the price of gold would leap upward, generating a new wave of inflation.

The Keynesian economists and the government kept hoping that the nightmare of high inflation, high unemployment, and economic stagnation,

which was dubbed "stagflation," would go away. While there were occasional minor improvements, stagflation continued to worsen.

The crisis of 1979 and the coming of the Volcker shock

In the fall of 1979, things came to a head. Alan Greenspan, the Republican economist who later became chairman of the Federal Reserve Board, explains in his memoir, "The Age of Turbulence," that the administration of Democratic President Jimmy Carter appointed fellow Democrat Paul Volcker as chairman of the Federal Reserve Board. "He'd been Fed chairman barely two months," Greenspan writes, "when a crisis erupted." What was the nature of the crisis? "The interest rates on ten-year Treasury Notes leaped to nearly 11% on October 23. Suddenly, investors [money capitalists –SW] began to picture an oil-induced inflationary spiral leading to breakdowns in trade, a global recession, or even worse."

A combination of a dramatic and prolonged rise in interest rates to levels never before seen in U.S. history, severe recession, and eventually, a new rise in world gold production brought on by the collapse of commodity prices in terms of gold finally stabilized the U.S. dollar. This made possible the Great Moderation – but not a new "great boom" – of 1983-2007.

But even this limited recovery only occurred once official unemployment rates had risen into double digits. As a result of the prolonged siege of astronomical interest rates, much of basic U.S. industry and British industry, where the crisis was even more acute, collapsed. The heartland of U.S. basic industry, that had dominated world industrial production for most of the 20th century was transformed into the "rust belt" and has never recovered. Keynes would have been horrified if he had lived to see it.

Interest rates were so high that it took many years for them to return to historically normal levels. The result of the extremely high interest rates dragged on – the exact opposite of what Keynes would have wanted. The result was financialization, deindustrialization, wave after wave of corporate downsizing, and a vast weakening of the position of the trade unions as the balance of forces on the labor market swung in favor of the buyers of the commodity labor power.

Indeed, the level of employment in U.S. manufacturing, at least according to official government figures, has never again returned to the levels that prevailed when the crisis erupted in the fall of 1979. All this made a mockery of Keynesian economics. The monetary authorities proved completely powerless to prevent the explosion of the rate of interest and all the disastrous consequences that followed.

The attempt of the central banks to follow Keynes's advice and hold down interest rates by expanding the supply of their token money backfired big time. In reality, Keynesian economics works only when the evolution of the industrial cycle already favors an upturn. It works best of all after a period of brutal deflation. At best, therefore, Keynesian policies can accelerate an upturn that is already on the way. A combination of the increased purchasing power of money combined with strong gold production enables the central banks to issue much more token money without it depreciating even as interest rates fall to very low levels.

Keynesian economists take credit for the cyclical boom

Keynesian economists are glad to take the credit for such happy results as they did after World War II. But when conditions favor a major downturn in the industrial cycle, the attempts by the monetary authorities to hold down interest rates by expanding the rate of growth of their token money lead to rising inflation and soon to skyrocketing interest rates, which inevitably ends in a violent recession. When interest rates are already rising rapidly, increasing deficit spending by the central government will only drive interest rates higher, paralyzing the "stimulative" effects of deficit spending, as Keynes himself understood. He believed that under those circumstances, the solution was for the monetary authority to increase the growth rate of the quantity of money, but that would whip up the demand for "real money" – gold bullion – to a frenzy, driving interest rates even higher.

The Keynesian "tool chest," then, turns out to be completely powerless to prevent the crisis. All it can do is change the form of the crisis somewhat, from a classic deflationary depression to a 1970s-style "stagflationary crisis" that combines high inflation, extremely high interest rates, falling real wages for the workers, and mass unemployment.

All this would be bad enough. But even worse, Keynesian "stimulus" policies disrupt the cyclical mechanism that brings about a "healthy recovery" and a new "great boom." This was shown by the abnormal evolution of the world capitalist economy during the "Great Moderation" of 1993 to 2007.

Normally, at the beginning of the recovery, we have a low interest rate combined with a high rate of profit. This encourages capitalists to act as industrial capitalists rather than money capitalists. The "spirit of enterprise" is thus stimulated, and a "great economic boom" develops. Instead of inflation of credit, the market expands through the mobilization of the great hoard of idle money created during the preceding liquidity trap. Only when over-

production again begins to develop do we again see a new inflation of credit. This is exactly what we saw after World War II.

In contrast, at the beginning of the "Great Moderation," interest rates were very high. Many U.S. corporations that had been predominantly industrial corporations – collective industrial capitalists – transformed themselves into collective financial capitalists to take advantage of this situation. The result was the "financialization" that fascinated Paul Sweezy during his final years. The huge credit expansion finally lowered interest rates, but at the expense of creating an unprecedented credit bubble.

From the viewpoints of the inner needs of capitalist production – as opposed to the needs of the working class and the overwhelming majority of the people – the "mistake" of the Volcker Fed was to "ease" prematurely. Volcker "should" have held firm until long-term interest rates had fallen to low levels. Then the Latin American debt crisis of the 1980s would have brought down many U.S. banks and other financial institutions, but the necessary liquidity trap would have been created that would have brought on a new "great boom" by the late 1980s or early 1990s that would in time have also ended in a new crisis.

To eliminate crises, an entirely different "tool chest" is required, a working-class revolution that ends once and for all the contradiction between socialized production and private appropriation that is the ultimate cause of crises.

CHAPTER 20
Keynes and the falling rate of profit

Keynes, along with Adam Smith, Ricardo, Marx, and even the classical marginalists, believed that the long-term trend of the rate of profit was downward. However, Keynes and other marginalists gave different explanations than Marx for this tendency.

Marx applied his perfected law of labor value, which, unlike the Ricardian version, distinguished between (abstract) labor, the social substance of value, and labor power, which is purchased by the industrial capitalists. He showed how the tendency of the ratio of constant capital – fixed capital plus raw and auxiliary materials – to rise relative to variable capital with capitalist development would mean a fall in the rate of profit if the rate of surplus value – the ratio of unpaid to paid labor – and the turnover time of variable capital remained unchanged.

Marx also demonstrated that even if the rate of surplus value increases, the rate of profit can still fall if the ratio of constant to variable capital – the organic composition of capital – rises sufficiently.

In analyzing the effects on the rate of profit of a rising organic composition of capital, Marx abstracted a fall in the rate and mass of profit associated with problems of the realization of surplus value that are so important for analyzing short-term cyclical fluctuations. An inability to realize surplus value either fully or in part will cause a temporary fall in the rate of profit or the mass of profit, or even lead to outright losses.

In contrast, a long-term rise in the organic composition of capital, all other things remaining equal, causes a permanent fall in the rate of profit.

Keynes, as we have seen, had no notion that surplus value is even produced in the production process, let alone that surplus value is produced by variable capital alone. Keynes, in the manner of vulgar economics, assumed that profits arise in the sphere of circulation due to the scarcity of capital. Or, as Marx might have put it, Keynes's theory of profit is profit upon alienation.

According to classical marginalism, capital yields interest to its owner because it is a scarce factor of production. Keynes modified this and said real, as opposed to money, capital has what he called marginal efficiency. He defined the marginal efficiency of capital as the expected rate of profit that real capital yields to its owner. According to Keynes, real capital bears its owner a profit only because it is scarce.

What is real capital scarce relative to? It is, according to Keynes, scarce relative to the varying needs for material use values that the real capital helps produce for the individual human beings who make up the total population. If the quantity of capital is fixed, then, according to Keynes, the scarcity of capital will be governed in the long run by the total size of the population. Therefore, Keynes held that if the quantity of real capital increases relative to the population, the total amount of real capital will become progressively less scarce, and the rate of profit will fall.

Since the population growth rate was falling in Britain – Keynes was, above all, an Englishman – he assumed that the accumulation of capital was proceeding faster than the population growth. Therefore, Keynes reasoned, in the post-World War I period, the tendency of the rate of profit, or marginal efficiency of capital, was strongly downward.

All quotes from Keynes that follow are from the concluding chapter of Keynes's "*General Theory*," entitled "Concluding Notes on the Social Philosophy Towards which the General Theory Might Lead."

"I feel sure," Keynes wrote, "that the demand for capital is strictly limited in the sense that it would not be difficult to increase the stock of capital up to a point where its marginal efficiency had fallen to a very low figure. This would not mean that the use of capital instruments would cost almost nothing, but only that the return from them would have to cover little more than their exhaustion by wastage and obsolescence together with some margin to cover risk and the exercise of skill and judgment. In short, the aggregate return from durable goods in the course of their life would, as in the case of short-lived goods, just cover their labour costs of production plus an allowance for risk and the costs of skill and supervision."

Keynes believed the value of capital goods, as he put it, is made up of the cost of (scarce) labor, including the labor of superintendence, plus a profit that is added to account for "risk" and the scarcity of capital goods. As society grows relatively and absolutely richer in capital, the profit included in the selling price of these goods, reflecting their scarcity, will fall and eventually disappear as the scarcity of capital goods is overcome.

If the cost of capital goods doesn't fall to zero, it is only because the labor that is necessary to produce them remains "scarce" enough so wages don't fall to zero, and a certain allowance for "risk" must be included; otherwise, there would be no incentive for any person to function as an industrial capitalist.

Keynes and Marx on the historical direction of the rate of interest

Marx explained that interest is merely a portion of profit, which consists of interest plus profit of enterprise. This total profit is itself a fraction of the total surplus value, which also includes rent.

Marx believed that the rate of interest would fall in the long run, not only relative to capital but also relative to the total rate of profit – interest plus the profit of enterprise. Or, what comes to the same thing, in the future, more of the total profit would go to the industrial capitalist in the form of the profit of enterprise and less to the money capitalist in the form of interest.

The lower the rate of profit, the lower the maximum rate of interest can be and still allow a positive profit of enterprise. In addition, if the rate of profit is low, the rate of interest has to be that much lower still if the rate of the profit of enterprise is to be high enough to provide sufficient incentive to produce surplus value.

Keynes, as we have seen in the preceding chapters, unlike most economists, including Marx, denied that the industrial or commercial capitalists appropriate interest. Instead, Keynes defined as interest only the "reward" the money capitalist receives for not holding money – or in Marxist terms, the fraction of the surplus value appropriated by the pure money capitalist is the reward received for not acting as a miser. Since Keynes, unlike Marx, believed that the rate of profit, or marginal efficiency of capital, and the rate of interest tended toward equality, he believed that the fall in the rate of profit would bring about a parallel fall in the rate of interest.

The euthanasia of the rentier

Keynes wrote that "though this state of affairs [where the rate of profit has fallen to extremely low levels –SW] would be quite compatible with some measure of individualism [that is, capitalism –SW], yet it would mean the euthanasia of the rentier, and, consequently, the euthanasia of the cumulative oppressive power of the capitalist (Keynes means here the money capitalist -SW) to exploit the scarcity-value of capital."

This is one of the few places in the "*General Theory*" where Keynes used that ugly word "capitalist." And significantly, he referred to the exploitation

by the capitalists not of the working class but of the scarcity-value of capital. Here, we see Keynes remains very much a marginalist economist.

Also, as was common in the 19th century, Keynes used the word capitalist to refer to the money capitalist who appropriates a share of the total surplus value under the title of interest. Marx liked to use the term "industrial capitalist" to emphasize that the owners of industrial enterprises who employ wage labor and appropriate both the interest on the capital they own – as opposed to the capital they borrow – and the profit of enterprise were also capitalists.

Keynes continued: "Interest today rewards no genuine sacrifice any more than does the rent of land. The owner of capital can obtain interest because capital is scarce, just as the owner of land can obtain rent because land is scarce. But whilst there may be intrinsic reasons for the scarcity of land, there are no intrinsic reasons for the scarcity of capital. An intrinsic reason for such scarcity, in the sense of a genuine sacrifice which could only be called forth by the offer of a reward in the shape of interest, would not exist, in the long run, except in the event of the individual propensity to consume proving to be of such a character that net saving in conditions of full employment comes to an end before capital has become sufficiently abundant. But even so, it will still be possible for communal saving through the agency of the State to be maintained at a level which will allow the growth of capital up to the point where it ceases to be scarce."

Here Keynes seems to forget his distinction between interest that reflects the scarcity of money capital, and the marginal efficiency of capital – profit – which reflects the scarcity of real capital. However, according to Keynes's equilibrium equation – marginal efficiency of capital equals interest – if real capital were to cease to be scarce and the marginal efficiency of capital were to fall to zero, so would the interest rate.

Like some other marginalists, Keynes saw the decline of the rate of profit not as pointing toward a revolutionary transformation in the mode of production but rather as representing a progressive softening in the antagonism between the capitalists and the working class. The early marginalists claimed that as capital becomes less scarce relative to labor, the rate of interest – meaning profit, will fall relative to wages. More of the total product would go to the working class and less to the capitalists.

This is the opposite of what Marx predicted. Therefore, according to the marginalists, as capital accumulation continues, the working class would be progressively reconciled to the capitalists and the capitalist mode of production.

Mass unemployment

On the way to this happy reconciliation of the capitalists and the working class, however, Keynes held that a major hitch had developed. This hitch, according to him, was, as we have seen in the preceding chapters, the growing tendency of the capitalist system to reach an equilibrium at mass unemployment, not "full or near to full employment."

Remember, according to Keynes, capitalist equilibrium is defined as marginal efficiency of capital = rate of interest. According to Keynes, under the new conditions that prevailed after World War I, interest rates and the marginal efficiency of capital were increasingly equalizing at rates that corresponded to mass unemployment.

The problem was that in the new era, the rate of profit was very low and therefore required a corresponding extremely low rate of interest if full employment was to be achieved. In practice, it was becoming very difficult to drive interest rates down to the levels that would make full employment possible.

Unless major corrective action was taken by the government, Keynes feared, there might be a miserable outcome for the capitalist class in the form of a working-class socialist revolution. However, Keynes was convinced that if the government adopted the correct policies, things would get back on track for the happy reconciliation of the capitalists and the working class foreseen by the marginalist "classics."

Keynes on the causes of the Great Depression

The causes of the Great Depression of 1929-40 are not only of interest to economic historians but all concerned with modern society's fate. Why did this unprecedented economic collapse, so much worse than any of the crises that preceded it, occur in the first place? What are the chances of something like the Depression repeating itself? And is it within the power of capitalist governments to prevent a repeat of such a debacle in the future?

And finally, what is the relationship of the Depression as a concrete historical economic episode in the history of capitalism to the ultimate historical limits of capitalist production?

Since the Great Depression of 1929-40 occurred long after the deaths of Marx and Engels, the founders of Marxism wrote nothing about it. The Depression also happened after the deaths of Rosa Luxemburg and V.I. Lenin, so they, too, had nothing to say about it. We examine the Great Depression and its causes in the sections that deal with the controversial theory of

long cycles or long waves, and take yet another look at this question in the section on the so-called breakdown theory.

But here, since I am dealing with Keynes, I will summarize Keynes's view of the Depression, which clearly inspired him to write the "*General Theory*."

Keynes's explanation of the Depression

According to Keynes, during the 19th century, the high rate of population growth caused the rate of profit, or marginal efficiency of capital, to be high. Or, what comes to the same thing, the marginal efficiency of capital was high because capital was scarce. Therefore, economic equilibrium as defined by Keynes – the marginal efficiency of capital = the rate of interest – was pretty close to, if not at, full employment. There was, of course, the unemployment associated with trade cycle "recessions" and "panics," but nothing like the chronic mass unemployment that Britain experienced in the 1920s and 1930s.

Therefore, Keynes reasoned, because in the good old days before World War I, the unemployment created by recessions was short-lived, this misled the classical marginalists into believing that the only equilibrium possible in the capitalist economy was at full employment. This was qualified only by the influence of the labor unions, which kept the labor market from being completely free.

But according to Keynes, as population growth slowed after World War I, the increase in the quantity of real capital began to exceed the change in the population. The marginal efficiency of capital – the rate of profit – began to plummet. Indeed, the fall in the rate of profit was far beyond anything that Marx would have thought possible due to the increase in the organic composition of capital, with all its counteracting forces.

However, according to Keynes, since the equilibrium equation – marginal efficiency of capital = money rate of interest – still held good, the level of employment was still fluctuating around its equilibrium. But now, the equilibrium was increasingly an equilibrium of mass unemployment, not full or near-to-full employment as it had been before World War I.

But the central bankers, unaware of the radical change in economic conditions after World War I – after all, they could not have read the "*General Theory*" before Keynes published it – mistakenly kept interest rates too high. In addition, the banking interests, which dominated the central banks, profited from high interest rates. Finally, because the marginal efficiency of capital had fallen to such low levels, especially after the crash of 1929, it was very difficult to lower the interest rate to the low level that would correspond to full employment equilibrium.

Keynes's solution

Keynes was well aware that the persistence of the mass unemployment that prevailed during the Depression would threaten the very existence of his beloved capitalist system. His ultimate nightmare was that sooner or later, the British working class, radicalized by endless mass unemployment, would rise up much as the workers in Russia had done in October 1917.

If the rate of population growth picked up again and real capital again became scarcer, the rate of profit would recover, making full employment or at least fuller employment easier to achieve. But Keynes did not look forward to such a solution since that would push capitalist society into the horrors of Malthusian overpopulation.

Keynes did not, however, think the situation was hopeless for capitalism; far from it. On the contrary, he felt he had a program that would save capitalism. One plank of Keynes's solution was that everything should be done to lower interest rates as much as possible by ending the gold standard and printing plenty of money to drive down interest rates, particularly long-term interest rates. But he suspected that would not be enough. Secondly, he thought that investment would have to be socialized.

At first glance, this would indicate that Keynes, who had been an economic liberal during most of his professional life, had become a socialist, at least to a certain extent, under the influence of the Depression.

But Keynes did not mean that productive investment should be socialized since that would imply the end of private property in the means of production. One of the reasons Keynes, in some passages, seems much more radical than he was is that marginalists had dropped the distinction made by the classical economists and Marx between productive labor that produces surplus value and unproductive labor that does not. If you don't make the distinction between productive and unproductive labor, you can't make the distinction between productive investments that produce surplus value on an increasing scale and expenditures that merely consume the existing capital of bourgeois society.

What Keynes was actually advocating was an increase of what the classical economists and Marx would have called unproductive expenditures. The government would not be spending more to produce surplus value and accumulate capital, acting as an industrial capitalist, but instead would consume capital already in existence. This was very similar to the program that Malthus had advocated in the days of, and against the strong opposition of, Ricardo.

An increase in the number of productive investments by the state would only increase the quantity of real capital and thereby lower the rate of profit even more. What was needed, according to Keynes, was the kind of government expenditures that would increase demand without increasing the quantity of capital, thereby raising, not lowering, the rate of profit.

As the rate of profit, or marginal efficiency of capital, rose, it would become possible to achieve full employment without interest rates being driven lower than was possible. The rate of profit and economic growth would be lower than in the pre-1914 days, but there was now less need for economic growth since society was approaching the age of genuine abundance, and "full employment" would return.

What Keynes wanted was to reconcile increasing economic stagnation – that is, the cessation or slowing down of the development of the productive forces, which he saw as inevitable, indeed even desirable – with the continued existence of the capitalist system. Keynes had no use for Ricardo's "production for the sake of production" philosophy.

In essence, Keynes foresaw a capitalism that would have only simple, not expanded, reproduction. Marx, in contrast, considered this to be impossible.

Public works in a growing, as opposed to a stagnant, capitalist economy

During the 19th century, the political parties that championed industrial capitalism in the United States, such as the Federalists and the Whigs, and later the Republican Party, had strongly supported public works' internal improvements against the opposition of the Democratic Party, which represented the slave-owning interests.

Rapidly developing capitalist countries like the 19th-century United States often find themselves short of both money and real capital. Developing railroads, canals, and later roads and airports usually requires raising sums of money far beyond the ability of individual capitalists or even corporations to raise.

Also, it is not always possible to run basic infrastructure projects on a for-profit basis. Once upon a time, highways were run as private, for-profit toll roads. But if this practice had continued, the U.S. auto industry would never have developed to the extent it did during the last century. If infrastructure projects such as highways or airports are not run on a for-profit basis, they cannot be developed by for-profit corporations. Therefore, the government must step in and finance them directly through taxes or borrowed funds.

In a country where capitalism is developing rapidly, internal improvements, to use the 19th-century U.S. term for government public works programs, act as a powerful lever for increasing the rate of economic growth – and stimulating capitalist expanded reproduction. This is true whether these are financed directly through taxes or borrowed funds.

For example, the development of canals, railroads, and highways greatly increases the turnover of (variable) capital, thereby increasing the rate of profit. The resulting higher rate of profit increases private investment and thus accelerates the whole process of capitalist expanded reproduction.

But these kinds of public works were not what Keynes had in mind. The Keynes of the "*General Theory*" was a prophet of economic stagnation, not growth. Characteristically, Keynes pointed to the full employment of World War I as an example of full employment created by the deficit spending he advocated to reduce unemployment.

It would be unfair to Keynes to claim that he advocated war to achieve full employment. Keynes hoped that the increased government expenditures would somehow produce useful things. But since the real purpose of this kind of deficit spending was to increase demand and not produce additional wealth, the production of useful things was not necessary.

Therefore, military Keynesianism is very much in the spirit of Keynes's economics. When the government buys bombs, tanks, bombers, and destroyers and purchases the labor power of soldiers, it does not produce surplus value. Indeed, the use value of these commodities to their buyer, the government, is not that it increases wealth but instead that it destroys wealth as well as human lives.

Keynes on the redistribution of the national income

Unlike the classical economists, especially Ricardo, who emphasized economic growth, Keynes was the economist of stagnation. If continued economic growth would be neither possible nor desirable in the future, why not redistribute the national income in favor of the workers? The workers, after all, spend almost their entire incomes on personal consumption, as opposed to the capitalists, whose historical justification is that they, unlike the workers, are in a position to spend a substantial portion of their much larger incomes on expanding the productive forces of society.

Keynes answered this question in the affirmative, with reservations. Indeed, as we saw above, this is exactly what the classical marginalists predicted would happen. In the future, there would be little, if any, net investment.

If capitalist society, Keynes reasoned, depended on net investment, the very heart of expanded capitalist reproduction, to generate demand, it would suffer from a chronic insufficiency of demand and resulting mass unemployment. If the amount of personal consumption increased in the economy so that it took the place of net investment – in other words, if expanded reproduction gave way to simple reproduction – the economy, Keynes believed, would become more stable.

As we saw in the preceding chapter, Keynes believed that violent swings in (productive) investment corresponding to the mood swings between excessive optimism and excessive pessimism about future profits were behind the violent booms and slumps of the trade or industrial cycle. Wouldn't an economy in which a much larger percentage of the total expenditures was for personal as opposed to productive consumption be more stable, even if there would be little or no economic growth? Keynes answered yes to both questions.

At first, you would think that Keynes would have been a great champion of labor unions. Isn't the elementary function of labor unions to increase wages and reduce profits? But no. Remember, Keynes claimed that if the labor unions win higher money wages, this leads to higher prices. Therefore, labor union activity, the independent activity of the working class through its own organizations, though at its most elementary level, would not be able to bring about the necessary redistribution if we accept Keynes's assertion that higher money wages mean higher prices.

But undoubtedly, Keynes, a very class-conscious bourgeois, had another reason in mind. Though labor union struggles are simply about the rate of exploitation and not about the continued existence of exploitation, it still involves the actual organization of the working class on a class basis. Wouldn't a labor union organization lead sooner or later to political organization?

Indeed, by the time Keynes wrote the "General Theory," the British workers had already organized the Labor Party, a party based on the labor unions. While the British Labor Party, like the labor unions it was based on, did not challenge the existence of the capitalist system, couldn't the Labor Party turn out to be simply a first step toward an eventual conquest of political power by the British working class?

The fact that the British working class had progressed from organizing itself on a labor-union basis to organizing itself as a political party reflected this historical trend. Keynes was unhappy about this trend and sought ways to reverse it. In his politics, Keynes leaned toward the Liberal Party; he never supported the Labor Party.

Keynes first began to advocate practical "Keynesian economics" – large-scale deficit-financed spending by the government on public works to combat mass unemployment – after the General Strike of 1926. Keynes had teamed up with British Liberal Party leader Lloyd George in advocating a public works program to be financed through government borrowing to combat the mass unemployment Britain was already experiencing.

Keynes hoped to lure the British workers away from the Labor Party and back into the Liberal Party. Indeed, Keynes wrote the "*General Theory*" largely to find a theoretical justification within bourgeois marginalist economics for the practical economic policies he had advocated for some time.

Despite the thoroughly bourgeois policies of the British Labor Party, Keynes was no supporter of the Labor Party any more than he was a supporter of redistributing the national income through labor union struggles against his beloved capitalist class. Instead, Keynes advocated a redistribution through the spending and taxing mechanisms of the state. In this way, the redistribution of the national income would be achieved through the bourgeois state, perhaps headed by a government led by a revived Liberal Party, thus keeping the whole process of income redistribution safely under the control of the ruling class itself.

Keynes's view of a future society

According to Keynes, economic growth would peter out as the scarcity value of capital vanishes. Expanded reproduction would give way to simple reproduction. Interest rates would fall to zero or very close to zero, causing the gradual extinction of the hateful money capitalists, who perform no work but simply "save." This would leave the industrial and commercial capitalists, who receive the wages of superintendence and can earn windfall "economic profits" by satisfying and creating consumer wants. So even in the absence of overall expanded reproduction, Keynes believed, capitalism could continue, with the growth of some capitalist enterprises balanced off by the contraction or disappearance of others.

However, ownership of the means of production would remain safely in private hands. Since real capital would have lost most of its scarcity value, the gap between the incomes of these entrepreneurial working capitalists and the ordinary wage workers would shrink, though by no means disappear altogether. After all, "entrepreneurial" labor is scarcer than the labor of most workers. But the income gap would be less than it was in the period when real capital was "scarce" and profits were high. Just like the case with the classical

marginalists, the working class and the capitalist would be happily reconciled.

Unlike Ricardo, who championed the boundless development of the productive forces and supported industrial capitalism precisely because it tended to develop the productive forces without limit, Keynes looked forward to the end of the development of the forces of production. Marx pointed out that in Ricardo's time, Malthus had advocated the development of the productive forces only to the extent that it enabled the members of the old semi-feudal class to enjoy a higher standard of living.

Keynes, who greatly admired Malthus, was afraid that further development of the forces of production would pull the rug out from under the feet of the capitalist class. Marx pointed out that Ricardo was always willing to sacrifice classes and sections of classes if it meant the further development of production – humanity's mastering of the forces of nature. In contrast, Keynes wanted to sacrifice the development of production to preserve capitalist class rule for its own sake.

Ricardo was the economist of the rise of capitalism. Keynes, in contrast, was the economist of the decay and decline of capitalism.

The fate of Keynesian economics

The traditional marginalists gradually launched a counterattack against the "*General Theory*." Pointing to the ultimate contradiction between Keynes's admission that overproduction is possible under capitalism and his retention of the marginalist notion that use values acquire value because of their scarcity, they were able to show, using marginalist assumptions accepted by Keynes, that contrary to Keynes the economy would still move in the long run toward an equilibrium of full employment.

Assume that the economy is in a deep depression and its associated liquidity trap. Wouldn't prices, the marginalist traditionalists argued, including the price of labor, inevitably fall until all excess capacity would disappear and labor would again be fully employed?

The marginalist critics gave an affirmative answer to this question. Even if the monetary authority fails to expand the money supply during a deep depression, they claimed, the consequent fall in prices, including the price of labor, will expand the real money supply allowing interest rates to fall to whatever level is necessary to allow once again a positive rate of profit on new investment. And once the positive rate of profit appears on new marginal investment, wouldn't the economy start to recover? Ultimately, no matter how you throw the marginalist cat, it always lands on its full-employment feet.

The traditional marginalists split into two camps. One is made up of the diehards of economic liberalism, primarily economists of the so-called Austrian school, represented by men such as Frederick von Hayek and Ludwig von Mises. They blamed the Depression on the labor unions, the alleged inflationary policies of the central banks, and the "socialist" policies of governments. These economists are the founders of what today is called "neoliberalism." They say the old-time marginalism is good enough for us; we don't need all these Keynesian qualifications.

Many of these economists were to find jobs at the University of Chicago, where a young economist named Milton Friedman had also found employment. The department of economics of that university became the center of the neoliberal counterattack against Keynesian economics. They became the darlings of business interests opposed to the concessions, limited though they were to the working class by the New Deal under the pressure of the CIO industrial unions and other mass struggles.

Neo-Keynesians

But more moderate marginalists were chastened by the Depression. Even if the capitalist economy tended toward full employment in the long run, the long run was much longer than the classical marginalists had assumed. The 1930s, and in Britain the 1920s as well, showed that in practice, mass involuntary unemployment could drag on for decades.

The moderate marginalists agreed with Keynes that increased government spending, accompanied by tax cuts during periods of recession, was a good idea, even necessary if capitalism were to survive. Deficits during periods of recession were now viewed as a positive good, not a necessary evil, as in the past. The marginalist moderates also agreed that governments and monetary authorities should follow policies encouraging a moderate but persistent rise in prices of about 1% to 3% yearly.

As the marginalist moderates saw it, the necessary reduction in interest rates during a recession could be achieved in two ways. One, the traditional method, was to allow prices to fall, thereby increasing the real money supply, which would help lower interest rates. But didn't falling prices encourage buyers, especially the industrial capitalists, to postpone purchases until prices fell even more? This, the moderate marginalists argued, tended to transform recessions into prolonged depressions with all the accompanying mass unemployment. If another Great Depression were to occur, the workers might finally rise and overthrow capitalism.

But there was another way to achieve the necessary reduction in interest rates, the moderate marginalists claimed, the way advocated by Keynes. As long as unemployment was at levels that were dangerous to capitalism, the monetary authorities should accelerate the growth of the money supply and drive interest rates lower.

They should continue to do this until full employment, by which they mean the optimal-for-capitalism level of unemployment high enough to intimidate the workers and their labor unions but not so high as to dangerously radicalize them, is reached. Only when unemployment falls to a level that dangerously strengthens the labor unions, which our moderate marginalist economists call over-employment, should the monetary authorities curb the growth of the money supply.

A policy of permanent, if moderate, inflation has the advantage of putting continuous downward pressure on the workers' real wages, thereby overcoming the tendency for real wages on an hourly basis to rise during recessions.

According to the moderate marginalists, it is very dangerous to do nothing to combat a recession beyond having the central bank cut its discount rate, the traditional policy advocated by marginalists before Keynes, and thus allow a recession to feed on itself. If this were done, there would be a good chance that sooner or later, a recession would turn into a new Great Depression with perhaps fatal consequences for the capitalist system. But as long as the government runs increased deficits and the monetary authorities make whatever cuts in interest rates are necessary during recessions, there will be no danger of a new Depression.

Perhaps recessions cannot, in practice, be avoided entirely, the moderate marginalists argue, as Keynes dreamed of in the "*General Theory*." The point was not necessarily to prevent recessions completely but to prevent a recession from getting out of hand and turning into a 1930s-style Depression. The moderate marginalists were confident that their policies would prevent this from happening.

These moderate marginalists came to be called neo-Keynesians. These pro-capitalist, pro-imperialist economists came to dominate the university economics departments after World War II. They combined classical marginalism, expressed in ever-increasing mathematical formalization, which is called neoclassical economics, with the insights of Keynes. Marginalism, sweetened with just a dash of Keynesianism dubbed the "neoclassical synthesis" by Paul Samuelson, the leading U.S. economist of the post-World War II era, became the new economic orthodoxy. Over time, Samuelson's

"neoclassical synthesis" was challenged by the more traditional marginalists of the Chicago School on the right.

There were shadings, of course. Some neo-Keynesians thought that sufficiently bold economic policies by capitalist governments could eliminate recessions entirely or almost entirely. Such views began to get the upper hand during the powerful economic boom of the 1960s. Other, more conservative neo-Keynesians doubted that recessions could be wholly eliminated. The point was, these conservative Keynesians argued, to control recessions and prevent a recession from degenerating into a new Great Depression that would bring into question the continued existence of the capitalist system.

No falling rate of profit?

After World War II, the neo-Keynesians, in sharp contrast to Keynes himself and even to the classical marginalists, came to deny any tendency toward a falling rate of profit. Perhaps the Cold War led to increased awareness among professional bourgeois economists of Marx's law of the tendency of the rate of profit to fall, even if the law was not well understood by minds trained in marginalism.

The neo-Keynesians were afraid that any concept of a falling tendency in the rate of profit might imply that capitalism was something other than an eternal system. Especially during the Cold War, all speculation in that direction had to be quashed. Therefore, these neo-Keynesians explained that Keynes had been mistaken about a falling tendency in the rate of profit because, happily, human material needs are infinite and can never be satisfied.

Therefore, these economists proclaimed scarcity and capital itself have happily turned out to be eternal categories after all. Undoubtedly, the high profits of the post-World War II economic boom encouraged these ideas. Didn't the postwar prosperity show that there was still plenty of life in the profit system after all? And barring suicidally stupid deflationary policies by the government and/or the central banks, wouldn't this be the case forever?

In addition, the challenge to capitalism represented by the Soviet bloc with its high post-World War II growth rates meant that capitalism could hardly enjoy the luxury of resigning itself to economic stagnation in the manner of Keynes of the "*General Theory*." Once again, capitalism had to be pictured as a system of endless economic growth. So anything even suggesting a falling tendency of the rate of profit had to go.

On the other hand, mainstream economists didn't want to claim that the rate of profit tends to rise since that would imply an intensification of

the social contradiction between the workers and the capitalists. Therefore, they compromised and claimed that the rate of profit was pretty much fixed, tending neither to decline nor fall.

Radical Keynesians

In addition to the pro-capitalist, mainstream neo-Keynesians, there arose a tendency that drew radical, even socialist, conclusions from Keynes's work. On the left of this tendency, there were attempts to combine Marx with Keynes. The radical left-wing Keynesians have become known as post-Keynesians. The left Keynesians initially hoped that the growth of state intervention, necessary they believed to avoid permanent depression conditions, would lead to a gradual democratic transition to a socialist society.

Unlike Keynes himself, the radical Keynesians developed the concept of monopolistic or "imperfect" competition. The classical marginalists were only interested in the "monopolies" in the labor market imposed by the labor unions. But though it was largely ignored by the traditional marginalists and Keynes, the role of cartels, syndicates, and huge monopolistic corporations, also called trusts, was growing.

In the 1930s, economists, including the young Paul Sweezy, the future founder of the Monthly Review school, expanded marginalism into a theory of monopolistic or "imperfect" competition to deal with the situation where the competition among the industrial and commercial capitalists was far removed from the free competition models of the classical marginalists. The alleged economic laws of marginalism were modified, including the introduction by Michal Kalecki of the "degree of monopoly."

Unlike the case with "perfect competition," if we assume "a degree of monopoly," the individual industrial corporations will exercise a considerable influence on the total supply of the commodity and therefore on its price.

Therefore, according to this extension of marginalist price theory to a situation of monopoly as defined above – which Sweezy himself helped to pioneer in the 1930s – the industrial corporations will find it in their interests to produce at levels that are likely to be well below full employment. To maximize their profits, they will tend to leave some of their productive capacity idle and therefore hire fewer workers than they would if they produced at full capacity. This, according to Sweezy and indeed the Monthly Review School, is the "microeconomic" foundation for "macroeconomic" stagnation.

The post-Keynesian economists, viewed as dangerous radicals by the ruling capitalist class, have been far less influential than the pro-capitalist,

pro-imperialist neo-Keynesians. It is pretty difficult for post-Keynesians to get university posts and, if they do, to receive tenure. The economics departments of the universities, dominated as they have been since the 1980s by neoliberals, generally want to hire only strongly pro-capitalist economists. This means hiring mostly neoliberals along with the occasional neo-Keynesian for balance on the "left."

The Monthly Review school

Paul Sweezy, the founder of the Monthly Review school, as it has become known, was strongly influenced by Keynes as well as Marx. During the 1930s, the young Sweezy, as we mentioned above, was involved in developing the theory of monopolistic competition, which left its mark on the Monthly Review school. Unlike Keynes, Sweezy became a socialist during the 1930s and remained one until he died in 2004. He looked forward to the end of capitalism and its replacement by socialism.

Sweezy was an instructor of economics at Harvard during the 1930s and 1940s. As the Cold War set in, despite the support of his friend, the famed conservative economist Joseph Schumpeter, Sweezy was unable to get tenure, and Harvard did not renew his contract to teach, though he was widely considered one of the most brilliant, perhaps the most brilliant, economist of his generation. So much for democracy at Harvard. Sweezy was therefore forced to abandon any hope of pursuing an academic career and devoted himself instead to editing the socialist magazine he founded, from which the Monthly Review school gets its name.

Initially, Sweezy accepted the Keynesian claim that Depressions could be avoided by massive government spending. He hoped, like many left Keynesians, that such spending would be carried out in the interests of the working class, leading to a gradual democratic transition to socialism that would avoid the dictatorial excesses of the Soviet Union – though Sweezy was also a supporter of the Soviet Union.

But as the Cold War unfolded, Sweezy progressively abandoned these hopes since the only form of massive government spending that the Democrats and Republicans would agree to was for war purposes. He put little hope in the U.S. working class and the working classes of the other imperialist countries, seeing them as hopelessly integrated into the capitalist system. Instead, he looked to the struggles of the oppressed countries and revolutionary movements within them as the most likely route toward a socialist society. In his later years, Sweezy became a strong supporter of the

Chinese Revolution and a great admirer of its leader, Mao Zedong.

In his final years, Sweezy also began to move away from his earlier position, still expressed in "*Monopoly Capital*," the book that he wrote with Paul Baran and first published in 1966, that capitalist governments could stabilize the economy sufficiently to avoid another Depression. The later Sweezy emphasized the explosion of debt and "financialization" and its implications for future crises, but complained that he was too old – Sweezy was well into his eighties at the time – to analyze the new conditions.

Bourgeois economics splits in two

The pro-capitalist, pro-imperialist neo-Keynesians have split economics into two sub-disciplines. One, called "microeconomics," is simply the traditional unmodified marginalist theory developed by the marginalist "classics" before Keynes. A new sub-discipline, inspired by Keynes's work, was named "macroeconomics" and deals with the practical questions of what came to be called stabilization policy.

Stabilization policy is aimed, above all, at avoiding deep, prolonged depressions or runaway inflations. For these purposes, the assumptions of marginalism could be tactfully disregarded if they got in the way of the need to devise policies aimed at stabilizing the capitalist economy.

Individual bourgeois economists tend to specialize in either microeconomics or macroeconomics. The more "theoretical-minded" bourgeois economists stick to microeconomics, which develops the so-called "general equilibrium" theory. It uses ever denser mathematics to prove how "perfect competition" leads to the "optimum outcomes" that maximize the satisfaction of human needs within the limits imposed by "scarcity." It has little to say about the problems of the real world.

Macroeconomics, in contrast, is very concerned about the practical problems confronting the capitalist economy. How great is the danger of recession over the next year? What must the government do to prevent or moderate the recession threat? Is inflation a danger next year? Should the central bank increase or lower interest rates? Should taxes be increased or cut, and should the government increase or reduce its spending plan over the next year? These economists are pragmatic and care relatively little for the fine points of marginalism or any other economic theory.

The Long Cycle and Historical Trends

The question of whether, in addition to the industrial cycle of more or less ten years' duration, there is a longer cycle extending over several "10-year" cycles has divided Marxists as well as bourgeois economists who have shown interest in business cycles.

Some economists, both Marxist and bourgeois, have held that in addition to the 10-year industrial cycle that I have been examining, there are other economic cycles of varying lengths that can be traced in the history of the world capitalist economy. Especially controversial has been the proposal that capitalist production is characterized by a "long cycle" that extends over periods as long as 50 or even 60 years.

Other Marxists and bourgeois economists have denied that there is any evidence to support the existence of a long cycle. The quasi-regular fluctuations of business conditions over 10-year periods are called a cycle because each phase of the cycle leads, of necessity, to the next phase. I examined this in detail in the chapters on an ideal industrial cycle. But what would be the mechanism of a longer cycle as opposed to the mechanism of the 10-year industrial cycle?

Boom-dominated versus crisis/depression-dominated cycles

Individual industrial cycles differ from each other in many ways. Indeed, no two are exactly alike. Booms dominate some industrial cycles. After a short recession, a rapid recovery leads to a prolonged boom. Over a 10-year life of such a cycle, there might be two years of recession and depression, followed by eight years of prosperity accompanied by lesser fluctuations.

Other 10-year cycles have been marked by prolonged crises and/or prolonged depressions. In these crisis/depression cycles, there are only a few years of real "prosperity."[1] The most extreme depression-dominated cycle

was the 1930s Great Depression, which saw the crisis or "recession" of 1929-33 and the relatively brief "recession" of 1937-38, which was, however, extremely violent in the United States, where it originated.[2] In the United States, the leading capitalist country, official double-digit unemployment lingered through 1940, and official unemployment was still close to double-digit figures as late as 1941![3]

Why was the industrial cycle of the 1930s so radically different from all the other industrial cycles in the history of capital?

Another example that is hard to fit into a simple 10-year cycle scheme is the stagflationary crisis of the 1970s. That decade did not see a full 10-year industrial cycle but rather a rapid succession of brief, highly inflationary boomlets and the violent recession of 1974-75. This was quickly followed by the more prolonged economic crisis of 1979-82, which saw the brief recession of 1980, the aborted recovery of 1980-81, and the longer deep recession of 1981-82. The decade began with the milder recession of 1969-70, which followed the collapse of the "gold pool" in March 1968.[4]

If we count the 1980 and 1981-82 downturns as representing two separate "recessions," over the 14 years that followed the collapse of the gold pool, there were four recessions. This is in sharp contrast to the 1960-68 period, which preceded the collapse of the gold pool, and the decades of the 1980s and 1990s, which followed the stagflation decade. Indeed, in retrospect, the entire 14-year period from 1968 to 1982 appears as one long-drawn-out economic crisis with fluctuations within it.

Can such extraordinary episodes as the Great Depression of 1929-40 and the 1968-1982 stagflation be described as the operation of some sort of long capitalist economic cycle? Assuming such a cycle exists, the Depression of the 1930s and the 1968-1982 stagflation would be "recessions" in the long cycle. In contrast, the years of prosperity that stretched from right after World War II to 1968 and the "Great Moderation" that lasted from 1983 to 2007 would represent the "prosperity phase" of the long cycle.[5]

The post-2007-09 depression would likely represent the first stage of a new "recession" in the long cycle that would be expected to last at least a decade and perhaps considerably longer.

But what is the cyclical mechanism in the long cycles, assuming they exist? And if there is no long cycle, what were the non-cyclical causes of the Depression of the 1930s and the stagflation of the 1970s?[6]

The following chapters will address these and other questions relating to long economic cycles or waves.

1 An example would be the industrial cycles between the panic of 1873 and 1896. This period became known as the "Great Depression," not to be confused with the later Great Depression of the 1930s. It was characterized by a strong secular downward movement of the general price level.

While there were periods of rising prices, they were much shorter than those of falling prices. Each successive peak in prices was lower than the previous peak, while each trough in prices was lower than the previous trough. This trend decisively reversed itself after the price trough of 1896. Supporters of the long cycle consider this period an example of a downturn in the long cycle.

Economic statistics on industrial production are pretty scanty for this period, so it is debatable to what extent the falling prices coincide with actual downturns in industrial production. The opponents of long cycles claim that though prices generally fell during the "Great Depression" of 1873-1896, industrial production and economic growth in general advanced rapidly in many countries during this period – for example, in the United States and Germany. Those economic historians who play down the significance of the earlier "Great Depression" also claim it was marked by a strong rising trend in real wages in Britain. However, it is widely admitted that U.S. farmers were hard-pressed by the general falling prices of agricultural commodities and high debts that had to be paid in a currency of rising purchasing power during those decades.

2 I will examine this recession closely in a later chapter.

3 During the Depression in the 1930s, workers in the United States employed on public works projects were counted as unemployed. Today, they would be considered employed. So if the rate of unemployment during the Depression in the United States were calculated by today's methods, unemployment during those years would be considerably lower than the figures that are given in history textbooks and much closer to the official unemployment figures that prevail today.

4 A strong case can be made that the prolonged economic crisis of the 1970s, which some long-cycle supporters see as representing a downturn in the long cycle, began with the collapse of the gold pool in March 1968.

5 It has also been proposed that the "mid-Victorian boom" that set in immediately after the revolutions of 1848 and lasted until the panic of 1873 represented an "expansion" phase of the long cycle, while the 1873-1896 "Great Depression" represented a downturn in the long cycle following the mid-Victorian boom phase. I will examine this episode in the coming chapters.

6 Or, if we want to go back to the 19th century, if there is no long cycle, what caused the "mid-Victorian boom" of 1848-1873, and why was it followed by the "Great Depression" of 1873-1896?

CHAPTER 21
One or Two or Many Cycles?

In the chapters on the "ideal" industrial cycle, I assumed that there is one capitalist economic cycle, what Marx called the industrial cycle. Furthermore, I assumed that all the contradictions of capitalist production accumulated during this cycle of about ten years are then discharged in a single crisis at the end of the cycle. If actual industrial cycles corresponded to the "ideal cycle" I described, each cycle would have a crisis, a depression, a phase of average prosperity, and a boom of more or less equal length.

Even if there were a tendency for the length of the various stages to change over time, this would be a secular process, not a cyclical one. Concrete industrial cycles differ from each other. These differences are not a matter of theory but a matter of empirical fact. Are the sometimes drastic differences observed among individual concrete cycles due to accidental forces, secular forces, or cyclical tendencies at work?

In addition to the possible existence of a long cycle, many economists have claimed that a short cycle of about 40 to 48 months exists. A complete theory of crises and capitalist economic cycles also has to account for the existence of this cycle.

To my knowledge, at least five different economic cycles within the capitalist economy have been proposed at one time or another. Perhaps readers have heard of even more.

The five proposed cycles

The famous bourgeois marginalist and economist of innovation, Joseph Schumpeter (1892-1950), in his 1939 book "Business Cycles," supported the existence of three cycles out of the five proposed economic cycles. Schumpeter named his cycles after the bourgeois economists and statisticians whom he claimed had discovered them. [(1)]

Schumpeter included the Juglar cycle of about ten years, named after the French economist Clement Juglar, whom Schumpeter credits with discovering it. This clearly corresponds to Marx's 10-year industrial cycle. When economists speak of "the business cycle" or the "trade cycle," this is what they are referring to.

In addition to the 10-year cycle, Schumpeter claimed there existed a short "Kitchin cycle" of about 40 or 48 months duration, named after the British businessman and statistician Joseph Kitchin, and a far more controversial long cycle of about 50 or even 60 years' duration, which Schumpeter called the Kondratiev cycle, named after the Russian economist Nikolai Kondratiev (1892-1938). This is sometimes abbreviated to the "K cycle."

According to Schumpeter, one of the reasons the economic crisis of 1929-33 was so severe was that it coincided with a trough in all three cycles. The downturn in each cycle reinforced the downturn in the other cycles. However, according to Schumpeter, most of the time, the various cycles intersect one another – a peak in one might correspond to a trough in another, thereby creating business conditions that are somewhere between an all-out boom on the one hand and the extreme crisis conditions of 1932-33 on the other.

Schumpeter claimed that the various cycles arose through the complex interactions of waves of entrepreneurial innovations. By innovations, Schumpeter meant not the inventions of new technologies and business methods but their successful – profitable – application by entrepreneurs – industrial, commercial, or financial capitalists. According to Schumpeter's theory, complex interactions of these innovations and their aftermaths give rise to the three cycles he recognized: the short 40- to 48-month Kitchin cycle, the intermediate 10-year Juglar cycle, and finally, the 50- or 60-year Kondratiev cycle.

Two additional cycles?

The Russian-American economist Simon Kuznets (1901-1985) proposed a fourth cycle, a 20-year cycle characterized by fluctuations in the construction industry. A fifth cycle covering 100-year periods has even been suggested. I do not propose exploring the alleged 20-year Kuznets cycle or the suggested 100-year cycle, as evidence of their existence seems thin. But evidence for both the Kitchin cycle, to use Schumpeter's terminology, and the Kondratiev cycle appears strong enough to merit examination.

The 50- to 60-year Kondratiev cycle has generated the most controversy among Marxists. Can a long cycle be explained by and integrated into Marxist crisis theory? It is this proposed cycle that I will be exploring over

the next series of chapters. However, before I do so, I will examine what some well-known Marxists have said about economic cycles in the capitalist economy, other than the 10-year industrial cycle, beginning with Marx and Engels themselves.

First, did Marx and Engels have anything to say about multiple economic cycles? Regarding Schumpeter's so-called Kitchin cycle, I think the answer is yes.

Marx describes a 'Kitchin cycle'

In his much-quoted "*18th Brumaire of Louis Bonaparte*," Marx gave a remarkable description of a "Kitchin downturn" that hit France and Britain in 1851 – almost 70 years before Kitchen "discovered" short cycles in the 1930s.

The last major global economic crisis before the French Revolution of 1848, which ushered in the short-lived French Second Republic, began in Britain in the fall of 1847 when the London financial markets crashed. The resulting economic depression and associated mass unemployment helped trigger the wave of revolutions that swept not only France but the European continent during the following year, the revolutionary year 1848. However, a new and much more powerful economic upswing soon set in – after only a brief depression – and was destined to continue until the next major crisis hit in 1857.

This rapid return to prosperity after the brief 1848 depression was in sharp contrast to the prolonged depression and widespread unemployment that followed the previous crisis in 1837. The robust economic upswing of 1848-1857, in turn, helped strangle the revolutionary wave that had swept Europe in 1848.

Marx and Engels were among the first to explain that the capitalist prosperity that began in 1848 had halted the revolutionary wave and ushered in a new period of political reaction.[2] The two friends expected the revolutionary wave would resume when the next economic crisis hit.[3]

As things turned out, the next major crisis didn't break out until 1857, much later than Marx and Engels had expected. By then, Marx and Engels realized that industrial cycles generally lasted about ten years. So in the "18th Brumaire of Louis Bonaparte," which Marx wrote in the winters of

1 Marx was aware of two out of the three cycles before they were described by the bourgeois economists, whom Schumpeter credits with discovering them.

2 Unlike other revolutionaries over the decades, Marx and Engels, although they greatly preferred revolutionary times, never denied a period of reaction when faced with it.

1851 and 1852, he paid especially close attention to how changes in the economic situation affected the evolution of the political situation in France.

"The end of February," Marx wrote, "showed a decline in [French] exports compared with 1850; in March trade suffered and factories closed down; in April the position of the industrial departments appeared as desperate as after the February days; in May business had still not revived; as late as June 28 the holdings of the Bank of France [France's central bank –SW] showed, by the enormous growth of deposits and the equally great decrease in advances on bills of exchange, that production was at a standstill, and it was not until the middle of October that a progressive improvement of business again set in."

Since the last major economic crisis had been in 1847-48, it was far too early in the next industrial cycle for a major new crisis. Why, then, was the French economy experiencing symptoms of an "economic slowdown" – a minor recession – to use the language of today's bourgeois economists to describe such conditions?

Marx reported that the French bourgeois press blamed the economic downturn on the political turmoil that France was passing through under the presidency of Louis Bonaparte (Napoleon III). France experienced significant political upheaval during this period as Bonaparte, who had been elected president following the February Revolution of 1848, attempted to consolidate his position as ruler of France. [(4)]

3 The crisis of 1857, though initially extremely severe, was short-lived and was not followed by a prolonged depression such as the one that followed the crisis of 1837. The latter depression has also been explained as a long-cycle trough by supporters of the long-cycle theory.

Contrary to the expectations and hopes of Marx and Engels, the 1857 crisis did not lead to a resumption of the revolution of 1848. After the crisis of 1857, Marx and Engels abandoned their youthful view that the next major global crisis of overproduction would automatically trigger a revolutionary situation. However, this idea has lingered on in Marxist circles over the decades.

This mistake on the part of Marx and Engels was fruitful. It caused the two friends to study economic developments in great detail during the 1850s as they looked for signs of an impending crisis that they believed would quickly lead to a new European revolution.

Not only can we learn a great deal about capitalist economic cycles by studying Marx and Engels's published writings and letters from this decade, but Marx's interest in political economy, stimulated by the economic crisis of 1857, led him to begin work on what would eventually become "*Capital*." Indeed, in the crisis year of 1857, Marx made his most significant economic breakthrough, the distinction between labor and labor power, which finally unlocked the mystery of the origin of surplus value and overcame the biggest contradiction left over from Ricardian economics.

But Marx disagreed that the political turmoil caused the economic slowdown, or mini-recession, that hit France in 1851. The "effect of political circumstances was only local and trifling," according to Marx. So, if it wasn't the political turmoil of the time, what did cause the economic slump of 1851?

First, Marx notes that the 1851 business downturn did not affect France alone. It also affected England, though, unlike France, there was little political turmoil in England at that time: "While in France factories were closed down, in England commercial bankruptcies broke out. While in April and May the industrial panic reached a climax in France, in April and May the commercial panic reached a climax in England. Like the French woolen industry, the English woolen industry suffered, and as French silk manufacture, so did English silk manufacture."

While the English silk industry was experiencing a recession, England did not have a general recession in 1851. The primary English industry of the time, the cotton industry, experienced a downturn in profits, but not enough to represent a full-scale recession. "True, the English cotton mills continued working," Marx wrote, "but no longer at the same profits as in 1849 and 1850." So England was hit too, but not nearly so hard as France.

"The years 1849 and 1850 were years of the greatest material prosperity," Marx explained, "and of an overproduction that appeared as such only in 1851." This prosperity "was given a further special impetus by the prospect of the Industrial Exhibition," Marx continued. "In addition there were the following special circumstances: first, the partial failure of the cotton crop in 1850 and 1851, then the certainty of a bigger cotton crop than had been expected; first the rise, then the sudden fall, in short, the fluctuations in the price of cotton. The crop of raw silk, in France at least, had turned out to be even below the average yield. Woolen manufacture, finally, had expanded so much since 1848 that the production of wool could not keep pace with it and the price of raw wool rose out of all proportion to the price of woolen manufactures."

4 The revolution in February 1848 in France overthrew the so-called July Monarchy of French King Louis Philippe and ushered in the short-lived second French Republic. Louis Bonaparte, an (alleged) nephew of Napoleon, won the French presidential elections that were held after the revolution. In December 1851, Bonaparte staged a coup, establishing himself first as dictator and a year later as Emperor Napoleon III. This regime, known as the Second Empire, lasted until France's defeat in the Franco-Prussian War of 1870. France's defeat led to the overthrow of the regime of Napoleon III and its replacement by the Third French Republic, which lasted until 1940. The Paris Commune of 1871, during which the working class for the first time established its own government – though limited to the city of Paris – was a byproduct of these events.

In addition to these "accidental causes" arising from the general anarchy of capitalist production and the ups and downs of the production of agricultural raw materials in response to favorable and unfavorable weather conditions – which would represent the operations of non-cyclical accidental elements – Marx also saw a cyclical element at work.

"Apart from these special circumstances, Marx wrote, "the apparent crisis of 1851 was nothing else but the halt which overproduction and over-speculation invariably make in completing the industrial cycle, before they summon all their strength in order to rush feverishly through the final phase of this cycle and arrive once more at their starting point, the general trade crisis."

That is, the industrial cycles, at least in those days, did not proceed as smoothly as the "ideal" industrial cycle I described in earlier chapters. After the economy pulled out of the last crisis but before the full-scale boom arrived, there was a "halt which overproduction and over-speculation invariably make" at the end of the period of "average prosperity" but before a full-scale economic boom develops that will end in a major general crisis. [5]

But what would be the mechanism of the "Kitchin" cycle? This cycle is often described as the "inventory cycle." That implies that the movement of commodity capital dominates the cycle. During periods of considerable excess capacity in industry, industrial capitalists can increase the quantity of commodity capital without undertaking massive new capital investments. That is, they can increase their inventories without a major expansion of fixed capital in the form of new factories, expanded factories, and the introduction of more powerful machinery.

However, a sharp increase in the quantity of commodity capital still implies a rise in the quantity of real capital – productive plus commodity capital relative to metallic money. Whenever this happens, interest rates tend to rise sharply.

Marx noted that, as a rule, business expansion can only be sustained if interest rates are either more or less steady or, at most, rising only slowly. But assuming interest rates are well below the rate of profit, why would a sharp increase in interest rates check a business expansion?

We know that when the price of a commodity like oil rises sharply, the oil capitalists tend to withhold the commodity from the market, expecting the price to rise still higher. At some point, the price stops rising, and suddenly, the commodity that has been withheld from the market is dumped on

5 Nowadays, "Kitchin recessions" are sometimes described by bourgeois economists and central bankers as "mid-cycle slowdowns."

the market. The apparent commodity shortage seems to change overnight into a massive glut as the previously hoarded commodity is dumped on the market, and prices collapse. [6]

Perhaps something similar happens with loan money capital. If interest rates are rising rapidly, the money lenders have an incentive to withhold their money capital from the market, awaiting still higher interest rates. Therefore, credit seizes up, and loans become difficult to obtain. What is sometimes called a "credit crunch" forces industrial and commercial capitalists to liquidate some of their existing commodity capital – inventories. As they do so, orders are canceled, and industrial production slows.

This is the way major crises begin. But if such a process of inventory liquidation begins when capital spending is relatively low, or what comes to the same thing, in the absence of a major expansion of fixed capital, the inventory liquidation is unlikely to be accompanied by a major collapse in investment. And a sharp decline in investment – constructing new factories, expanding old ones, and introducing new, more powerful machinery on a large scale – accompanies every major downturn.

In a minor "Kitchin recession," loan money capital that was withheld from the money market as long as interest rates were rising rapidly flooded the market as soon as the "Kitchin recession" caused interest rates to stop rising. This, then, causes interest rates to tumble. Soon, inventory accumulation resumes, and the economy turns up without having passed through a full-scale crisis.

Therefore, if the 10-year industrial cycle is marked by the periodic over-investment – or over-expansion – of fixed capital, or what comes to the same thing, the overproduction of the means of production, the 40- to 48-month Kitchin cycle is characterized by the "over-investment" in commodity capital, or "inventories." That is why it is called the "inventory cycle."

In my opinion, this is the mechanism for the 40- to 48-month "Kitchin" inventory cycle.

But what could be the mechanism for the "long cycle"?

Marx and Engels on long cycles

As we saw above, as early as the winter of 1851-52, Marx was well aware of the "Kitchin cycle." In these years, his best friend, Frederick Engels, worked in his father's Manchester textile mill. Engels, therefore, had plenty

6 The year 2011 witnessed a classic demonstration of this phenomenon in the oil and other commodity markets.

of first-hand knowledge about concrete business conditions, which cannot be gained in the classroom or even at a great library such as the British Museum, but only through actual experience. But were Marx or Engels – the independent opinions of Engels must never be underestimated because of his concrete experience as a Manchester businessman – aware of any long cycle that might correspond to Schumpeter's Kondratiev cycle?

As far as I know, Marx never wrote about a long cycle, which does not prove that such a long cycle does not exist. Perhaps Marx failed to notice the long cycle simply because there hadn't been enough of them yet to demonstrate their cyclical nature.

But what about Engels? Frederick Engels, with his vast knowledge of political economy and Marx's critique of it – second only to Marx himself – had first-hand knowledge of the business world that Marx lacked. Additionally, Engels lived 12 years after Marx's death, allowing him to analyze more data. Did Engels notice anything that might correspond to a "long cycle"?

Engels, writing in 1894, explained that the 10-year industrial cycle that he and Marx had written about in earlier years had seemingly changed. The "former ten-year cycle," Engels noted, "appears to have given way to a more chronic, long drawn out, alternation between a relatively short and slight business improvement and a relatively long, indecisive depression – taking place in the various industrial countries at different times."

"But perhaps," Engels wrote, "it is only a matter of a *prolongation of the duration of the cycle* [emphasis added –SW]. In the early years of world commerce, 1815-47, it can be shown that these cycles lasted about five years; from 1847 to 1867 the cycle is clearly ten years; is it possible that we are now in the preparatory stage of a new world crash of unparalleled vehemence? Many things seem to point in this direction. … Thus every factor, which works against a repetition of the old crises, carries within itself the germ of a far more powerful future crisis." (Footnote by Engels in volume III of "***Capital***," chapter 30, "Money-Capital and Real Capital") [7]

Engels doesn't quite say here that there is a separate "long cycle." Still, he considers it possible that the 10-year industrial cycle had been extended considerably beyond its previous length. Therefore, Engels didn't consider a cycle that is considerably longer than ten years beyond the realm of possibility.

7 Engels was writing almost at the bottom of the so-called "Great Depression," also called the "Long Depression" of the late 19th century. Supporters of the long cycle consider the "Great Depression" of 1873-1896 to be a downturn in the long cycle.

But do Kondratiev cycles exist?

In his 1972 book "*Late Capitalism*," Ernest Mandel (1923-1995), the Belgian Marxist economist, credits the Russian Marxist Alexander Parvus (1867-1924) with the discovery of "long waves."[8] According to Mandel, Parvus believed "that the long depression which began in 1873 and to which Fredrick Engels had attached such importance ought soon to be replaced by a new long-term upswing." Unfortunately, I have no access to Parvus's article, so I cannot express an opinion on his "long wave" theory or whether he proposed one.

"More than 10 years were to pass," Mandel wrote in "*Late Capitalism*," "before this fertile idea of Parvus – which had won the immediate praise of Kautsky – was taken up once more, this time by the Dutch Marxist J. Van Gelderen."[9]

Kondratiev, who had supported the Social Revolutionary Party, did his major work in Soviet Russia after the Russian Revolution. In 1923, his work drew criticism from Leon Trotsky (1879-1940), who once worked closely with Parvus in the old Russian Social Democratic Labor Party. Trotsky did not deny that the history of capitalism is characterized by alternating periods of rapid growth followed by prolonged long-term downturns. On the contrary.

"But capitalism," Trotsky wrote in "T*he Curve of Capitalist Development*," "is not characterized solely by the periodic recurrence of cycles, otherwise what would occur would be a complex repetition and not dynamic development. Trade-industrial cycles are of different character in different periods. The chief difference between them is determined by quantitative interrelations between the crisis and the boom period within each given cycle. If the boom restores with a surplus the destruction or constriction during the preceding crisis, then capitalist development moves upward. If the crisis, which signals destruction, or at all events contraction of productive forces, surpasses in its intensity the corresponding boom, than we get as a result a decline in economy."

This overstates the case. So far, especially on a global scale, each successive boom has surpassed its predecessor. However, some booms have exceeded the previous boom by a considerably greater margin than others.

8 Alexander Parvus, born Alexander Israel Helphand or Gelfand depending on the source, began as a left-wing Social Democrat – in the pre-1914 sense of the word. Despite his radical left Social Democratic views, he had a marked entrepreneurial bent. During World War I, he not only supported Germany in the war but also became a wealthy war profiteer. He thus fell into disrepute among Marxist opponents of the imperialist war.

9 If readers of this book have access to any of the writings of these early Marxists and can translate them into other languages and post them on the Web, this would be a tremendous contribution to those of us working towards the revitalization of Marxism in the 21st century.

"Finally," Trotsky wrote, "if the crisis and boom approximate each other's force, then we get a temporary and stagnating equilibrium in the economy."

Again, this is somewhat of an overstatement, though it is true that the level of U.S. industrial production in 1939 showed almost no increase compared to 1929; however, this was a result of the exceptional conditions of the Great Depression of 1929-1940.

Trotsky, however, did not disagree that capitalism shows alterations of cycles dominated by booms and other cycles dominated by crisis depressions. So what was his disagreement with Krondratiev?

"Kondratiev approached this problem – as usual, painstakingly evading the formulation of the question adopted by the [Third World Congress of the Communist International] itself – and attempted to set up alongside of the 'minor cycle,' covering a period of ten years, the concept of a 'major cycle,' embracing approximately fifty years. According to this symmetrically stylized construction, a major economic cycle consists of some five minor cycles, and furthermore, half of them have the character of boom, and the other half that of crisis, with all the necessary transitional stages. The statistical determinations of major cycles compiled by Kondratiev should be subjected to careful and not over-credulous verification in respect both to individual countries and to the world market as a whole. It is already possible to refute in advance Professor Kondratiev's attempt to invest epochs labeled by him as major cycles with the same 'rigidly lawful rhythm' that is observable in minor cycles; it is an obviously false generalization from a formal analogy. The periodic recurrence of minor cycles is conditioned by the internal dynamics of capitalist forces and manifests itself always and everywhere once the market comes into existence."

The statement by Trotsky that the periodic recurrences of "minor cycles" – by which he means the 10-year industrial cycle – come into existence "everywhere once the market comes into existence" is, strictly speaking, incorrect. Markets predate by thousands of years the emergence of capitalist production proper based on the exploitation of "free wage labor." Industrial cycles, capped by crises of world market-wide overproduction, require a high degree of capitalist development before they emerge.

"As regards the large segments of the capitalist curve of development (fifty years)," Trotsky continued, "which Professor Kondratiev incautiously proposes to designate also as cycles, their character and duration are deter-

mined not by the internal interplay of capitalist forces but by those external conditions through whose channel capitalist development flows."

Trotsky, in contrast to Kondratiev and later Schumpeter, denied the cyclical nature of the long-term fluctuations in capitalism as opposed to the cyclical nature of the short-term – 10-year – industrial cycle. So what does lie behind the long-term fluctuations, according to Trotsky, is not some sort of cyclical mechanism.

"The acquisition by capitalism of new countries and continents, the discovery of new natural resources, and, in the wake of these, such major facts of 'superstructural' order as wars and revolutions," Trotsky wrote, "determine the character and the replacement of ascending, stagnating or declining epochs of capitalist development. Along what path then should the investigation proceed? To establish the curve of capitalist development in its *non-periodic* (basic) and *periodic* [emphasis added –SW] (secondary) phases and to breaking points in respect to individual countries of interest to us and in respect to the entire world market."

Unlike Kondratiev or Schumpeter, Trotsky saw non-cyclical, "accidental" causes behind the shifts from periods of rapidly expanding to stagnating capitalism. If new continents are opened to capitalist exploitation of natural resources – wealth created by nature – and the labor power of the people of those new continents, the pace of capitalist development would be expected to accelerate. Wars, especially revolutions, depending on their outcomes, also radically alter the prospects for capitalist development by dramatically increasing the availability of new natural resources and/or labor power for capitalist exploitation, or making it more difficult or impossible for capital to exploit them.

I should note that when Trotsky speaks of "natural resources," he does not distinguish between natural resources that serve as raw and auxiliary materials in the sphere of production, such as oil, and money material, such as the discovery of rich new gold mines. The discovery of new sources of money material has played no small role in the concrete history of the capitalist mode of production.

Marx himself held that the history of capitalism began with the discovery of rich gold and silver mines – money material – in the Americas during the 16th century. Adam Smith observed that the deepening of the division of labor – the development of the productive forces, depends under capitalism

(the final absolute form of production as far as Smith and other bourgeois economists are concerned) on the expansion of the market and not the other way around. [10]

This was a shrewd observation by Adam Smith, whose views – unlike those of his bourgeois successors – were not yet muddled by "Say's Law," which had yet to be "discovered." And as I have already demonstrated, the expansion of the market ultimately depends on the production of money material.

Indeed, according to Marx, the discovery of gold and silver in the Americas during the 16th century marked the first step towards the creation of the capitalist world market, thereby initiating the history of the capitalist mode of production.

Broadly speaking, however, Trotsky is right. The discovery of new continents – something hardly expected in the future – can give a tremendous boost to capitalist production. [11]

If new sources of cheap raw and auxiliary materials are found, the organic composition of capital, all other things remaining equal, is lowered; therefore, raising the rate of profit. The discovery of new gold mines – for example, the discovery of gold in California and Australia between 1848 and 1851 – can vastly expand the rate of growth of the market, making possible the realization of a much greater mass of surplus value than before.

And last but not least, if newly populated continents are "discovered" by capital, this opens up the possibility of an increase in the quantity of the commodity labor power, creating the possibility of producing far more surplus value than before.

None of these processes represents a cyclical process.

10 During the epoch of manufacture proper, before the widespread introduction of machinery into production, the growth of the productivity of labor depended upon dividing labor into more and more specialized tasks. Therefore, when Adam Smith wrote about the division of labor, he was referring to the development of the productive forces.

11 While new continents will certainly not be discovered in the future, there is speculation that it might be possible to mine asteroids and other extraterrestrial bodies in the coming decades. Therefore, it is theoretically possible that such extraterrestrial bodies could become new sources of raw and money materials. For example, asteroids are believed to be rich in gold. Hopefully, by the time the technology to mine extraterrestrial bodies is developed to carry out such mining operations, capitalism will have been transformed into socialism. In any case, these possibilities lie many decades into the future. And there is no chance that any additional sources of human labor power will be found on any extraterrestrial solar system bodies or anywhere else.

As for planets orbiting around other stars, the law of special relativity, discovered by Albert Einstein – which holds that no body with mass can move at the speed of light – almost certainly protects them against the exploitation of any earth-based capitalism.

Paul Sweezy on the long cycle

Near the end of his long career, Paul Sweezy expressed opinions on the "long cycle" that were close to the views expressed by Trotsky in 1923.

"Let me close," Sweezy said in an address before the Harvard Economic Club on March 22, 1982, "with a few remarks about the relevance of the foregoing analysis to a subject to which economists have been devoting increasing attention in the last few years, i.e., whether or not the history of capitalism has been characterized by a long cycle of some fifty years' duration (what Schumpeter called the Kondratiev cycle). First, we should be clear that the issue here is not whether capitalist development takes place in an uneven fashion with periods of rapid expansion being succeeded by periods of slow (or even no) expansion and vice versa – what has often been referred to as long waves. The empirical existence of long waves in this sense is *undeniable* [emphasis added –SW], and the ingenuity of statisticians operating with an almost infinite variety of possible statistical sources can be counted on to make out a case for a time sequence of accelerated and retarded growth rates compatible with the existence of an underlying cyclical mechanism."

However, Sweezy did not think there was any evidence for the existence of a cyclical mechanism for the proposed long cycle: "But compatibility with the existence of a cyclical mechanism is entirely different from proof of the existence of such a mechanism. The reason for our acceptance of the idea that relatively short cycles exist (i.e., cycles of less than ten years' duration, Schumpeter's Kitchin and Juglar cycles) is that the mechanisms at work can be elucidated analytically as well as verified empirically. The important point is to be able to demonstrate that th*e two basic phases of the cycle, expansion and contraction, can each be shown to contain the seeds of its opposite* [emphasis added –SW]."

Much like Trotsky, Sweezy saw no mechanism for the proposed long cycle. I will deal with the non-cyclical reasons Sweezy gave for alternating periods of long-term prosperity and long-term depression in later chapters, where I will examine the 1930s Depression and the long post-World War II "boom" that followed it.

Ernest Mandel, in contrast, from the 1960s onward, became increasingly interested in the proposed long cycle and looked at it with far more sympathy than either Trotsky or Sweezy did. I will also examine his views on this issue.

CHAPTER 22
Henryk Grossman and Long Cycles

Henryk Grossman was born to Jewish parents in 1881 in what is now Krakow, Poland.[1] The Austrian-Hungarian Empire ruled Krakow at the time. As a high school student, he became politically active and joined the Social Democratic Party of Galicia. The Social Democratic Party of Galicia was dominated by followers of Józef Piłsudski (1867-1935), the future nationalist dictator of Poland. Galicia is a geographic region spanning what is now southeastern Poland and western Ukraine. It is not the community in Spain of the same name.

In 1905, Grossman was part of a split of Jewish workers from the Social Democratic Party of Galicia, which formed the Jewish Socialist Party of Galicia.

After the Russian Revolution, he joined the newly formed Polish Communist Party, which sought to unite both the Polish and Jewish workers of Poland in a united revolutionary party of the working class.

In 1925, to escape the growing repression to which the Polish Communist Party was subjected, Grossman withdrew from the Communist movement and moved to Germany. There, he joined the Institute for Social Research in Frankfort, Germany, popularly known as the Frankfort School. At the Frankfort School, Grossman could concentrate on his interest in Marxist economic theory.

After Hitler rose to power in Germany in January 1933, Grossman was forced to flee the country. He initially found refuge in Britain and later in the United States. In 1949, the growing anti-Communist witch hunt in the United States forced him to leave. He found refuge in the newly formed German Democratic Republic – East Germany – in 1949. There, he joined the Socialist Unity Party. The Socialist Unity Party resulted from the merger of

1 There was no independent Polish State when Grossman was born. Instead, it was partitioned between Czarist Russia, Germany, and Austria.

the German Communist Party and the Social Democratic Party of Germany, which formed the working-class party that ruled the newly formed German Democratic Republic (GDR). Grossman was appointed a professor of political economy at the University of Leipzig. He died in the GDR in 1950.

Today, Henryk Grossman is mainly remembered for his "*The Law of Accumulation and Breakdown of the Capitalist System*," published in 1929. As the title suggests, the book is about the ultimate economic limits of the capitalist system. However, Grossman's work has also had significant implications for the question of whether capitalism experiences cyclical or quasi-cyclical fluctuations longer than the ten-year industrial cycle. This is the question I want to explore in this chapter.

As we have seen, Marx, as early as the beginning of the 1850s, realized that the capitalist economy experiences a minor cycle of about three years' duration in addition to a sharper cycle of about ten years – which Marx called the industrial cycle (the length of individual cycles can vary somewhat). In the United States, the term often used for the industrial cycle is "business cycle," in Britain, it is "trade cycle."

The shorter cycles that occur within the longer ten-year cycles have been noted by bourgeois business cycle experts as well as Marx. These cycles are sometimes called Kitchin cycles after the British businessman and statistician Joseph Kitchin (1861-1932) who described them. These short-term cycles are attributed to fluctuations in business inventories or fluctuations in the accumulation of commodity capital, using the more precise Marxist terminology.

Commodity capital consists of unsold commodities that have absorbed surplus value. The ten-year industrial cycle, in contrast, reflects fluctuations in the rate of accumulation of fixed capital such as factory buildings and machinery. Today, the downturns in the short-term inventory cycles have been re-christened "mid-cycle slowdowns" because they tend to occur in the middle of the industrial cycle.

However, some economists, both Marxist and bourgeois, have proposed since the turn of the 20th century that a longer cycle exists than the ten-year industrial cycle. This idea is most commonly associated with the Russian economist Nikolai Kondratiev (1892-1938), who gave an empirical description of the proposed cycle. Kondratiev claimed that this long cycle lasts about fifty years. Some Marxists, however, have expressed skepticism about the long cycle or rejected it outright.

Among Marxists who have rejected the existence of a cyclical movement of the capitalist economy longer than the ten-year industrial cycle were Leon Trotsky (1879-1940) and Paul Sweezy (1910-2004).

Neither Trotsky nor Sweezy denied the existence of long periods of rapid growth followed by periods of slower growth. On the contrary, they both affirmed that such periods exist. However, both Trotsky and Sweezy believed that the historical alternation of periods of rapid growth followed by slower growth was accidental rather than cyclical. Other Marxists have been far more receptive to the idea of a longer-than-ten-year cyclical, or at least quasi-cyclical, movement of the capitalist economy.

The two most well-known Marxist economists who have acknowledged the existence of at least a quasi-cyclical movement in the capitalist economy lasting considerably longer than ten years are Ernest Mandel (1923-1995) and Anwar Shaikh (1945-). Indeed, both Mandel and Shaikh wrote books dominated by a long cycle, or more cautiously, long-wave theory. [2]

Ernest Mandel's most important writings that deal with what he called "long waves" are "*Late Capitalism*," first published in German in 1972, and "*Long Waves of Capitalist Development*," first published in 1980. Anwar Shaikh's monumental "*Capitalism Competition, Conflict, Crises*," first published in 2016, is centered on the "long cycle."

However, the long cycle or "long wave" theory of Ernest Mandel and Anwar Shaikh rests mainly on the work of Henryk Grossman. Grossman, however, was not interested in whether long cycles in the capitalist economy exist but rather in another question. That question is about the ultimate economic limits of the capitalist economy and whether capitalism will eventually "break down" economically due to its inner economic contradictions.

2 The non-Marxist economist Michael Hudson has popularized the Commodity Price Super-cycle from the Prebisch–Singer hypothesis. The Prebisch–Singer hypothesis was initially formulated in the late 1940s by Hans Singer and Raúl Prebisch, built on ideas from Henryk Grossman.

The concept of a commodity price super-cycle is often associated with the "long cycle." While Grossman's 1929 breakdown theory can be interpreted to explain long cycles as fluctuations in the rate of surplus value and the increasing organic composition of capital, as Mandel and Shaikh have done, it's crucial to note that Grossman's theory doesn't address the realization of value and surplus value. In his model, all surplus value produced is assumed to be realized. As a result, Grossman's model solely focuses on the production of surplus value and the organic composition of capital, making the idea of a price super-cycle inapplicable within its framework.

The breakdown controversy

In the late 19th century, the young Social Democratic Party of Germany (SPD) was a very different party than the bourgeois-liberal labor-based party it is today. The belief was widespread in the SPD that there was an economic limit beyond which capitalism could not go. When capitalism approached this limit sometime in the future, a "commercial crisis" – as a cyclical crisis of overproduction was called in those days – worse than any other would occur.

This "final crisis" caused by the exhaustion of the world market would then trigger a political revolution, transferring power from landowners and capitalists to the working class, led by the Social Democratic Party. The conquest of political power by the working class led by the Social Democrats would enable the working class to transform capitalism into socialism. This view, known as the "orthodox Marxist" position, dominated the young Social Democratic Party of Germany.

Marx died in 1883, and in 1885, Marx's co-worker, Frederick Engels, published Volume II of "*Capital*" based on Marx's unedited drafts. While Volume I of *Capital* dealt with capitalist production – above all, with the production of surplus value – Volume II dealt with the circulation of capital. It took some years for the impact of Volume II to be felt. But when it was, a controversy was unleashed, which continues to this day.

Volume II contains mathematical tables of what Marx referred to as simple capitalist reproduction and expanded capitalist reproduction. Simple reproduction assumes that the capitalist economy remains unchanged in quantity and quality. The rate of surplus value, the organic composition of capital, the rate of profit, the level of employment, and industrial production do not change from year to year. In simple capitalist reproduction, there is no accumulation of capital, but there is the reproduction of the existing capital.

Marx divided capitalist production into two departments. Department I produces the means of production, and Department II produces the means of subsistence for both the workers and the capitalists. Marx's model assumes a pure capitalist society where every person is either an industrial capitalist who lives off surplus value or a productive of surplus value worker with nothing to sell but their labor power. Department II is divided into two sub-departments. One sub-department produces necessities for both the working class and the capitalist class, while the other sub-department

produces luxuries consumed only by members of the capitalist class. The model runs smoothly only if the correct proportion between Department I and Department II is maintained.

The necessary proportion is described by the simple equation CII = VI + SI:

- CII represents the constant capital of Department II
- VI represents the variable capital of Department I
- SI represents the surplus value of Department I

The terms in this equation represent definite quantities of abstract human labor measured by some unit of time that constitute the value of commodities. Every year, Department II consumes a certain amount of the plant, equipment, raw materials, and auxiliary materials.

On the use-value side, the terms of the equation represent specific use values measured in terms of units appropriate to their particular use values. However, different use values cannot be equated. Commodities with different use values can be equated by only one thing they have in common: they are both products of human labor. However, specific use values in definite proportions must be produced if the economy is to reproduce itself unchanged from year to year.

In use value terms, CII consists of means of personal consumption consumed by both the workers and the capitalists of Department I. VI and SI in use value terms consist of means of production, including raw and auxiliary materials that replace those used up by Department II during its production of the means of personal consumption that are consumed by both the workers and capitalists of Department I.

Marx assumes that all commodities are exchanged at their values. For the process of simple capitalist reproduction to run smoothly without crises or interruptions, the correct proportions must be maintained in terms of values to ensure the equivalent exchange of commodities and use values, which ensures that the physical process of reproduction proceeds smoothly. Any disproportions in value or use value will cause crises in the process of simple capitalist reproduction. Proportionality between values and use values must be maintained both between and within the two departments of production. However, Marx's table only deals with the exchanges between the two departments of production.

Simple reproduction and circulation

In Volume II of "*Capital*," Marx deals with the problem of reproduction. Circulation consists of the exchange of non-money commodities for money and the exchange of money for non-money commodities. Capitalist reproduction is, therefore, a unity between capitalist production and capitalist circulation.

A crisis in either capitalist production or capitalist circulation or between capitalist production and capitalist circulation means a crisis in the process of capitalist reproduction. However, most popularizations of Marx's model of reproduction – both simple and expanded – abstract the whole question of circulation, defined as the exchange of commodities for money and money for commodities. This is what Grossman himself did in his reproduction tables.

However, Marx himself could not logically afford to abstract circulation because the chief subject of Volume II is the circulation of capital, not the production of capital. Over the decades, most popularizations of Marx's model of simple reproduction simply abstract the question of the circulation of commodities in capitalist reproduction.

This tacitly assumes that the trade between Departments I and II is barter. The problem is when we do this, we build Say's law right into our model of capitalist reproduction since, just like in Say, commodities are purchased by means of other commodities.

Models of reproduction, both simple and expanded, that abstract circulation allow crises of disproportionality to occur when too much of one type of commodity is produced while too little of another is produced. However, when we abstract the problem of circulation, we exclude a general overproduction of commodities. [3]

Therefore, models of capitalist reproduction that abstract money cannot possibly model a crisis of general overproduction. Marx's models do not abstract circulation and therefore can form the starting point for analyzing the crisis of the general overproduction of commodities. They do this because they model the conditions necessary to avoid crises of general overproduction.

3 This led to the theories of disproportion between Department I and Department II to explain periodic crises that affect capitalist production. Instead of seeing crises of overproduction as the result of an overproduction of commodities in both Department I and Department II, these theories claim that an overproduction of commodities in Department I relative to Department II or an overproduction of commodities in Department II relative to Department I are the primary source of crisis. Perhaps influenced by this Marxist discussion, the bourgeois Austrian school of economics sees crises as the result of an overproduction of Department I relative to Department II.

The question becomes whether such conditions can be maintained year by year or whether they can only achieved in the long run. Once we understand that the basic contradictions of commodity production mean that the conditions that allow expanded capitalist reproduction can be maintained in the long run – but not the short run – do we have a solid foundation to model periodic crises of the general overproduction of commodities.

However, in his tables of reproduction, Marx did not attempt to model crises of overproduction. In Volume II of "*Capital*," Marx was interested in something else: We have to understand what conditions allow capitalist reproduction to proceed smoothly without crises. We cannot analyze crises without first understanding the conditions that allow capitalist reproduction to proceed without crises. Any deviation from these conditions will introduce elements of crisis.

The Problem of Circulation in Reproduction Models

In Marx's table of simple reproduction, commodities are bought and sold for money. In Marx's model, money consists of only full-weight gold coins. In the 19th century, when Marx worked on "*Capital*," full-weight gold coins were used in circulation. If a gold coin fell below a certain weight, it was considered "light" and ceased to be legal tender.

This was necessary to prevent the price of gold bullion in terms of gold coins from rising above the par value. Experience showed that if light coins were allowed to remain in circulation, the light coins – representing "bad money" – would drive the full-weight coins – good money – out of circulation. The full-weight coins would either be hoarded or melted down into bullion. However, as capitalist production developed, the importance of gold coins in circulation progressively declined.

By the 19th century, gold coins formed a relatively small part of the circulating media in capitalist Britain – then the world's most highly developed capitalist country – and were largely confined to retail trade. Banknotes – promissory notes issued by a bank payable to the bearer on demand in full-weight gold coins – and increasingly, bank checks were used by businesses to purchase expensive commodities from each other.

Cheap commodities sold in retail trade that today are purchased by paper money, fractional coins made of base metals, and increasingly by credit money that makes use of electronic bookkeeping (debit and credit cards as well as smartphones) were purchased by fractional coins made of base metals in 19th century Britain. At the time Marx was working on his repro-

duction tables, individual fractional coins made of base metals represented much more real money than such coins represent today. Most workers in Britain would likely go through life without ever seeing the lowest denomination banknote – the £5 note.

However, Marx's assumption that all commodities are sold for full-weight gold coins, no matter how unrealistic it was for even the 19th-century British capitalist economy, is necessary to create a consistent mathematical table of simple reproduction that includes production and circulation. Marx assumed, which indeed was the case in reality, that in circulation, a certain percentage of the total circulating gold coins become light. This occurs because minute quantities of gold are rubbed off the coins whenever they are handled, reducing their weight slightly. Over time, the weight loss suffered by the individual coins becomes significant.

At that point, to avoid the depreciation of currency against gold bullion, the light gold coins had to be retired from circulation and melted into bullion and re-coined if a currency system that makes use of actual gold – and earlier, silver coins – is to function smoothly. [4]

If we are to imagine a system of simple capitalist reproduction, we have to assume that a certain amount of gold will be lost in circulation. Therefore, the industry that produces gold bullion as a commodity – mining and refining – must replace the gold bullion lost in circulation but no more.

Here, Marx considers only the gold bullion used for monetary purposes. Marx placed the gold bullion-producing industry in Department I, which is the production of the means of production because gold has other use values besides its monetary use value. However, as far as circulation is concerned, we are only interested in gold that functions as money material.

If capital accumulation is to run smoothly from year to year, both real capital and money capital – gold bullion – must be accumulated in the correct proportions. However, Marx's simple reproduction model allows for no capital accumulation, either real or monetary. Therefore, neither the accumulation of real capital nor money capital is allowed.

If we allow the gold bullion-producing industry to produce a surplus of gold used for money material, we would have a net accumulation of money capital. This would no longer be a process of simple reproduction but an

4 Before the 19th century, coinage was debased because light coins remained in circulation and drove out full-weight coins. This economic law is named after the British financier Sir Thomas Gresham (1519-1579), who urged Queen Elizabeth I to reform the then-debased English currency by removing light coins from circulation.

accumulation of money capital and, therefore, a model of the expanded reproduction of capital.

If the economy produced gold in inadequate quantities to circulate commodities, then simple reproduction would be disrupted because there would not be enough money to fully realize the value of commodities in terms of the use value of the money commodity.

Under these conditions, we would end up with contracted reproduction, not simple reproduction. If Marx had assumed that commodities were circulated by paper tokens representing a hoard of already existing gold, then simple reproduction could proceed smoothly without the need to produce money material.

However, Marx could not do this either because money must be an actual commodity. Since gold lasts forever on the scale of the lifetime of the capitalist mode of production – and, in reality, much longer money represented by tokens rather than gold coins would not have to be produced at all. But a commodity that is not produced is not a commodity at all.

Therefore, gold must be produced in Marx's model of simple reproduction. Gold bullion must be represented in the table by full-weight gold coins in circulation. Marx's table of simple reproduction is highly abstract and cannot exist in the real world. The reason is that in the real world, capitalism can only exist as a process of expanded, not simple, reproduction.

However – and this is very important – Marx realized that expanded capitalist reproduction must contain simple reproduction. You cannot hope to understand expanded capitalist reproduction without first understanding simple reproduction. Once a model of simple reproduction is grasped, the hard theoretical work has been completed. But a lot of painstaking and error-prone arithmetic – particularly in the days before computers – still lay ahead.

From simple to expanded capitalist reproduction

As long as we assume capitalist reproduction is simple, we assume that the capitalists spend their entire profit income on personal consumption for both necessities and luxuries. However, capitalist production cannot exist as merely simple reproduction. Capitalist production can only exist as expanded reproduction.

In expanded reproduction, the capitalists must invest a portion of their realized surplus value – profit – in expanding the level of production above the preceding reproduction cycle. The capitalists, therefore, must divide their profits into two parts. One portion they use to purchase means of personal con-

sumption. The means of subsistence is divided into two parts. One part consists of necessities: commodities consumed by both capitalists and workers. The other part consists of items of luxury that are consumed by capitalists alone.

Once realized in the form of money profit, the remaining portion of the surplus value is re-transformed back into (productive) capital. A portion of new productive capital consists of variable capital. The money form of the variable capital is used to purchase additional labor power, which makes up the real form of the variable capital.

These newly employed workers then use their money wages to purchase the means of subsistence they need to live, reproduce their labor power, and produce still more surplus value for the capitalists. The capitalists use the rest of the money from the surplus value – profit – as new constant capital. The additional constant capital consists of new factory buildings, new machines, and additional raw and auxiliary materials needed to expand the scale of production in terms of value and use value. This process under capitalism creates what is commonly called economic growth.

Under expanded capitalist reproduction, Department I must trade its increased commodity capital for increased means of personal consumption, both necessaries and luxury commodities produced by Department II. The increase in production of means of production in Department I must, in terms of value, match the increased production of means of personal consumption in Department II. This must be done in proportions that enable the continuation of equivalent exchanges where one commodity of a certain value is exchanged for another commodity of the same value while also maintaining the necessary proportionality in terms of use values that enable production to grow in physical terms.

Circulation and expanded capitalist reproduction

Under simple capitalist reproduction, the market does not expand. The industry that produces money material needs only to replace the money material lost in circulation. However, under expanded reproduction, the markets for commodities must expand to meet the rising production of commodities.

Therefore, there must be a proportional increase in the amount of gold bullion – money material – which makes the additional means of circulation possible to accommodate the increased volume of commodities.

If too little gold is produced, there will not be enough additional means of circulation to accommodate the increased quantities of commodities at their full value. Money will be in short supply as a means of purchase and

payment, pushing up interest rates. If too much additional gold bullion is produced relative to a rise in the production of non-money commodities, the extra money will accumulate in stagnating idle hoards, causing the rate of interest to fall towards the mathematical limit of zero.

Marx's model of expanded reproduction keeps the rate of surplus value, the organic composition of capital, and the rate of profit unchanged while providing for an adequate expansion of the quantity of money material, which makes possible an adequate expansion of the market to sell the ever-increasing quantities of commodities at their values. [5]

Assumptions of Marx's tables of expanded capitalist reproduction

In Marx's model of expanded reproduction, the capitalist economy changes quantitatively – it constantly grows in size – but does not change qualitatively. The rate of surplus value, the rate of profit, the value of non-money commodities as well as the value of money all remain unchanged. However, the total quantities of constant capital, variable capital, money material, surplus value, and profits – the money form of surplus value – rise continuously at a constant rate of change. The accumulation of real capital is, therefore, matched by a proportionate accumulation of money capital.

Marx's model of expanded capitalist reproduction has an interesting mathematical quality. If we write a computer program that performs the necessary calculations and run it on a computer with infinite memory, the program runs forever.

Before Marx, only one other economist had tackled the problem of reproduction. That economist was the French Physiocrat Dr. François Quesnay (1694-1774), who in 1758 published his "*Tableau économique*" and whose work can be considered the forerunner of Marx's work on reproduction.

Political impact of Marx's tables of expanded capitalist reproduction

The publication of Volume II of *Capital* by Frederick Engels in 1885 took some time to become known among the Marxist public. When it did, the political impact was felt first in Russia.

At the time of the publication of Volume II of "*Capital*," the revolutionary movement in Russia was dominated by populists who later formed the

5 Marx assumes throughout Volume II of *Capital*, as he did in Volume I, that commodities sell at their value. Or to use Anwar Shaikh's terminology, at their direct prices. Introducing prices of production that equalize the rate of profit between capitals of different organic compositions and turnover periods considerably complicates the analysis without changing anything of essence.

Russian Socialist Revolutionary Party. The Russian populists argued that in Russia, which as late as the 1880s was still a largely pre-capitalist country, capitalism would not be able to develop. According to the populists, developed capitalist countries had already monopolized the world market.

Therefore, potential Russian capitalists would be unable to find markets for their commodities. The populists concluded that modern communism would come to Russia, not through an era of capitalist development like in the West, but rather through the peasant commune, which preserved elements of common ownership of the land and the performance of agricultural tasks in common. These formed a historic remanent of the clan-tribal communist past. According to the populists, in Russia, it would, therefore, be the peasantry, not the proletariat, that would be the chief agent of the socialist revolution.

However, contrary to the populist predictions, by the 1890s, capitalism was taking hold in Russia. As a result, some former populists broke with populism and embraced Marxism. These pioneer Russian Marxists were led by former populist Georgi Plekhanov (1856-1918).

Plekhanov and his supporters argued that capitalism was developing in Russia and would continue to do so. This, Plekhanov and his supporters argued, would complete the destruction of whatever was left of the communism of the peasant commune. The Russian Marxists cited Marx's models of expanded reproduction, as presented in Volume II of "*Capital*," to address the populists' objections that capitalism would never take root in Russia due to a lack of adequate markets.

Plekhanov held that as long as the proper proportions of the various branches of production were maintained, especially the relationship between Department I and Department II, the market would grow as the production of commodities expanded, just as it does in Marx's models.

Therefore, the Russian Marxist argued that the lack of markets would not be a barrier to the development of capitalism in Russia. According to the pioneer Russian Marxist, contrary to the populists, Russia would only reach modern communism by passing through a process of capitalist industrialization that would create a growing proletariat.

Once Russian capitalism was sufficiently developed, the proletariat would overthrow capitalist rule and lead a Russian socialist revolution. Russia was viewed as approaching a bourgeois revolution that would remove pre-capitalist obstacles to further capitalist development. Then, after enough time had passed to allow Russia to reach a high level of capitalist development, the Russian socialist revolution would occur.

While the Russian populists formed the Socialist-Revolutionary Party, the Russian Marxists formed the Social-Democratic Labor Party. Therefore, Marx's reproduction schemes in Volume II of *Capital* played a crucial role in the birth of Russian Marxism, which played an outsized role in the 20th-century workers' movement and the development of Marxist thinking throughout the world during the 20th century.

The impact of Marx's reproduction schemes in Germany

In Germany, the impact of Marx's reproduction tables was felt no less profoundly. In contrast with Russia, German capitalism had already reached a high level of development by the last part of the 19th century. Therefore, there was no German populist movement that argued that capitalism could not develop in Germany. In Germany, the question was not whether or not capitalism could develop. It had.

The question in Germany was how long capitalism could last. As we saw above, one feature of Marx's expanded reproduction tables is that they run forever. In these tables, there is no "final crisis" of capitalism – or indeed any crises at all.

Marx's model is based on the assumption that the necessary proportionality between Department I and Department II is maintained, as well as the proportionality between the industry that produces money material and all other industries. These proportionalities are maintained by the struggle of industrial capitalists operating in different industries for the maximum possible profit.

The resulting anarchy of production allows countless possibilities for disproportionate development between the two departments of production and within them. It also allows possible disproportions between the industry that produces money material and the industries that produce all other commodities.

However, these disproportions are resolved through the process of capitalist competition and the resulting tendencies of the equalization of the rate of profit. Through anarchic competition, the law of value asserts itself. As the law of the value of commodities asserts itself, the order of expanded capitalist reproduction emerges out of disorder. Because Marx's models of reproduction run forever, they began to undermine the expectation of a "final crisis" of capitalism among the German Social Democrats.

A tendency emerged that viewed economic crises as arising from accidental disproportions between Department I and Department II, which tem-

porarily disrupted the process of capitalist expanded reproduction. Marx's treatment of money and monetary circulation in his reproduction models seemed to be merely an unnecessary complicating element that could be disposed of for simplification.

It was obvious that Marx's assumption that all commodities are sold for full-weight gold coins contradicted reality. Most commodities were not purchased with full-weight gold coins but by other means of circulation that represent gold in circulation.

As we saw above, once we abstract money from Marx's reproduction models, we arrive at Say's Law. In these simplified versions of Marx's models that abstract money, commodities are purchased by means of commodities, as in Say's Law. While disproportionate production, whether between Department I and Department II or within the departments, can lead to some types of commodities being overproduced relative to others, no general overproduction of commodities is possible.

In addition to the declining role of gold coins in circulation, it seemed to many in the German Social Democratic Party that capitalism was becoming better organized as the importance of banks, cartels, syndicates, and trusts grew. The final years of the 19th century were a time of great capitalist prosperity and the consequent high and growing demand for the commodity labor power.

These conditions were highly favorable for the growth and strengthening of labor unions and the Social Democratic Party in Germany, and to a lesser extent, in other countries. The Social Democratic parties, as the Marxist parties were then known, were able to utilize the growing strength of labor unions to win an increasing number of votes in parliamentary elections and thus elect an ever-growing number of deputies to parliament.

A revisionist current emerged in Germany in the late 1890s, following the death of Frederick Engels in 1895. The revisionists argued that crises resulted from the immature conditions of early capitalism. As capitalism became better organized, accidental disproportions became less serious. Therefore, the revisionists argued that there was no reason why the capitalist prosperity of the late 1890s could not continue indefinitely.

Instead of revolution brought on by a final crisis of capitalism, the revisionists argued the prospect was for an ever-growing series of reforms that would be in the interest of the working class. According to the revisionists, socialism was a moral idea, not an economic necessity. The revisionists

concluded that the Social Democratic Party should stop pretending to be revolutionary. Instead, as it was becoming in practice, it should declare itself a party of reform.

Marx's reproduction tables, Rosa Luxemburg, and the revisionists

These developments alarmed Rosa Luxemburg, a Polish immigrant of Jewish origin in Germany, who was emerging as a key figure in the left wing of the German Social Democratic Party. Once she became fully aware of Marx's reproduction tables in Volume II of *Capital* and the impact they were having on the German and international Social Democratic movements, Luxemburg attempted to overthrow them.

In her book "*The Accumulation of Capital*" (first published in 1913), Luxemburg attempted to prove that, in a pure capitalist economy consisting only of capitalists and workers, the realization of surplus value and, therefore, expanded capitalist reproduction, was mathematically impossible.

According to Luxemburg, the continued existence of non-capitalist modes of production was not merely a relic of the past but an absolute necessity for capitalism. However, since the development of capitalism inevitably led to the destruction of all pre-capitalist modes of production, it would only be a matter of time before capitalism would economically collapse due to the permanent exhaustion of the world market.

Over the more than a century since Luxemburg published the "*Accumulation of Capital*" in 1913, only a few Marxists have defended her views. The most famous Marxist who rejected Rosa Luxemburg was the Russian Marxist V.I. Lenin, the founder of the Bolshevik Party – later the Communist Party- and leader of the Russian October Socialist Revolution. Luxemburg's arguments reminded Lenin of the arguments of Russian populists, who the pioneer Russian Marxists, including the young Lenin, had refuted.

Otto Bauer deepens Marx's model of expanded capitalist reproduction

What turned out to be the most important criticism of Luxemburg's "*The Accumulation of Capital*" came from the Austrian-Marxist Otto Bauer (1881-1938). Bauer was one of the most capable of the Social Democratic theoreticians. Bauer's answer to Luxemburg was to have broad and lasting influence, though not quite the way Bauer expected.

The limits of Marx's model of expanded reproduction are that it only deals with the quantitative growth of the capitalist economy and not its

qualitative growth. Marx presented his model of expanded reproduction in Volume II of *Capital* before presenting his law of the rise in the organic composition of capital, the transformation of values into prices of production through the equalization of the rate of profit, and, most importantly, the tendency of the rate of profit to fall. These are dealt with only in Volume III of *Capital*.

Marx's law of the tendency of the rate of profit to fall flows not from the quantitative development of capitalist expanded reproduction but rather the qualitative development of capitalism expressed in the growth in the productivity of labor expressed through the rise of the organic composition of capital. To the best of our knowledge, Marx did not attempt to develop a table of expanded reproduction that included a rise in the organic composition and a fall in the rate of profit. This task fell to Otto Bauer.

Bauer was an Austrian Social Democrat belonging to the "Austro-Marxist tendency" within the broader German-speaking Social Democratic movement. The Austrian Marxists, mainly from German-speaking Austria in the Austro-Hungarian Empire (1867–1918), were considered centrists within the Social Democratic parties. They were halfway between the revolutionary left wing and the revisionists to their right.

Unlike the revisionists, the Austrian Marxists considered themselves orthodox Marxists and often employed revolutionary-sounding rhetoric. But when the time for revolutionary action arrived, they were not there. They inclined toward the view that capitalism would evolve into socialism through gradual, peaceful economic development, parliamentary democracy, and a peaceful conquest of political power by Social Democracy through elections and parliamentary means.

Bauer was considered a leader of the left wing of the Austrian Social Democratic Party. However, after the 1917 Russian October Revolution, Bauer, typical of the Austro-Marxists, remained a member of the Second International of the Social Democrats and the Austrian Social Democratic Party. In 1934, Austrian chancellor Engelbert Dollfuss (1892-1934) moved to crush the Austrian Social Democratic Party by force and establish dictatorial rule. Bauer was forced to flee Austria, first to Czechoslovakia and then to Belgium. He died in Paris in 1938.

What Bauer did in 1913 was to extend Marx's model of expanded reproduction by taking into account both a rising organic composition of capital and a consequent fall in the rate of profit while keeping all the other factors that Marx held constant, unchanged. Since capitalism is a system of produc-

tion for profit, a falling tendency in the rate of profit, which arises from the development of capitalism itself, implies that capitalism must be replaced by a higher mode of production sooner or later.

However, Marxist opponents of what became known as the "breakdown" theory pointed out that the fall in the rate of profit is compensated by a growth in the mass of profit. Even Rosa Luxemburg accepted this argument.

The falling rate of profit and the future of capitalism

The classical bourgeois economists had generally assumed that the historical trend of the rate of profit was downward. Adam Smith believed that as capital continued to accumulate, increased competition among the capitalists would drive down the rate of profit. David Ricardo rejected Smith's explanation of the downward trend in the rate of profit. According to Ricardo, competition among capitalists can lower the rate of profit in various industries, but this is only a temporary effect.

However, Ricardo agreed that the trend of the rate of profit is indeed downward. Ricardo believed that as capitalism developed and the population grew, all the most fertile land would eventually be fully brought into cultivation. After that, poorer and poorer land would have to be cultivated. This would increase differential rents and force up money wages because higher money wages would be necessary to cover the rising price of food.

This would mean, to use Marxist terminology, that the rate of surplus value would decline – with the real wage remaining unchanged – while an increasing amount of the surplus value that was still produced would go to the landowners in the form of ground rent as opposed to the capitalists in the form of profit. Eventually, the falling rate of profit would bring further capitalist development and human progress with it to a halt. Ricardo hoped that this was still a long way off.

Marx agreed that the tendency of the profit rate was downward but gave a completely different explanation than Ricardo's. Capitalist competition, Marx explained, forces individual industrial capitalists to cheapen their products by replacing workers with machinery. Marx called the physical ratio of machines, raw materials, and auxiliary materials to living labor the technological composition of capital.

Assuming the value of the workers' wages remains unchanged, the ratio of the value of all elements of capital other than the purchased labor power of the workers would rise. Marx called the ratio of all elements of the productive capital to purchased labor power the organic composition of capital.

To the extent that changes in the composition of capital reflect the increasing value of the total constant capital relative to the total variable capital, the organic composition of capital rises.

The ratio determining the organic composition of capital is a ratio of values – labor embodied in commodities performed in the past. Since the fall in the quantity of labor needed to produce a given element of constant capital – a factory machine, for example – falls with the growth in the productivity of labor, the organic composition of capital rises more slowly than the technological composition of capital.

However, Marx believed that organic composition does rise. Since it is only living labor – labor power purchased by the industrial capitalists called variable capital by Marx – that produces surplus value, a rise in the constant capital combined with a given rate of surplus value will mean a fall in the rate of profit when calculated on the total advanced capital. Even a rising rate of surplus value combined with a rise in the organic composition can lead to a falling rate of profit. However, a rising rate of surplus values counteracts the downward pressure on the rate of profit exerted by a rising organic composition of capital.

Marx believed that despite the tendency of the rate of surplus value to rise and despite the operating of other countervailing forces, such as the cheapening of the elements of constant capital, the rate of profit would tend to fall over long periods. Marx based his law of the tendency of the rate of profit to fall not due to the effects of competition as Adam Smith had, nor on external forces like the limit on the quantity of rich agricultural land as Ricardo had, but on the development of capitalist production itself.

Marxists of the Second International era, such as Rosa Luxemburg, who defended the view that the economic breakdown of capitalist production was inevitable, focused on the difficulties of realizing surplus value rather than the tendency of the rate of profit to fall.

The downward tendency of the rate of profit was offset by the rise in the mass of profits, which was an observable fact reflected by the upward march of stock market prices. There is no contradiction between reading on the financial pages that corporate profits set a new record in the last quarter and the long-term tendency of the rate of profit to fall.

The capitalist mode of production is a system in which an ever-growing number of workers produce an ever-greater mass of surplus value. The substance of surplus value is unpaid labor measured by some unit of time. Its form is profit, measured in terms of the use value of the money commodity.

Therefore, there is no contradiction between a falling tendency in the rate of profit – and outside of recessions – the fact that corporations make record profits quarter after quarter.

On the contrary, this is the basic law of motion of the capitalist mode of production – a gradually declining rate of profit to be compensated by a rise in the mass of profit. The rising mass of profit – reflected in rising stock market prices – results from the ever-rising number of workers exploited by capital.

Since the fall in the rate of profit is compensated by a rise in the mass of profit, most of the Marxists of the era of the Second International preferred to look to problems that arise in the sphere of circulation, of realizing surplus value, rather than the problems of producing of surplus value in explaining both the causes of periodic economic crises and the ultimate limits of capitalist production.

However, this was not necessarily Marx's view. Grossman quotes Marx:

"The same development of the social productiveness of labor expresses itself with the progress of capitalist production on the one hand in a tendency of the rate of profit to fall progressively and, on the other, in a progressive growth of the absolute mass of the appropriated surplus-value, or profit." ("*Capital* Vol. III, Part III. The Law of the Tendency of the Rate of Profit to Fall, Chapter 13. The Law As Such." From Marxists Internet Archive.)

Marx noted that Ricardo feared that the "motive for accumulation will diminish with every diminution of profit, and will cease altogether when [the capitalists'] profits are so low as not to afford them an adequate compensation for their trouble and the risk they must necessarily encounter in employing their capital productivity." ("*Law of the Accumulation and Breakdown*," Henryk Grossman 1929.)

Despite Marx's hints to the contrary – which we will examine when we get to the breakdown theory proper – most Second International-era Marxists held the tendency of the rate of profit to fall with the development of capitalism did not represent any threat to the virtual indefinite continuing existence of capitalism.

In his answer to Rosa Luxembourg's "*Accumulation of Capital*," Otto Bauer was determined to refute the idea that capitalism faced any problem of finding adequate markets for the ever-greater quantity of commodities that the industrial capitalist could produce. He was also determined to prove that the fall in the rate of profit represented no threat to the virtual indefinite continuation of capitalism.

Otto Bauer produced the following table, which is reproduced below.

Table 2.1: Bauer's reproduction scheme

Year	Dept.	c	v	k	ac	av	AV	k/s	as+av/s
1	One	120,000	50,000 +	37,500 +	10,000 +	2,500 =	220,000		
	Two	80,000 +	50,000 +	37,500+	10,000 +	2,500 =	1800,000		
		200000 +	100 000 +	75000 +	20000 +	5000 =	400 000	75.00%	75.00%
2	One	134 666 +	53667 +	39740 +	11 244 +	2683 =	242 000		
	Two	85334 +	51 333 +	38010 +	10756 +	2567 =	188000		
		220000 +	105000 +	77750 +	22000 +	5250 =	430000	74.05%	25.95%
3	One	151048 +	57567 +	42070 +	12638 +	2868 =	266200		
	Two	90952 +	52674 +	38469 +	11562 +	2643 =	196300		
		242 000 +	110250 +	80539 +	24200 +	5511 =	462 500	73.04%	26.96%
4	One	169124	61738	44465	14186	3087	292600		
	Two	96876	54024	38909	12414	2701	204924		
		266 00	115762	83374	26600	5788	497 524	72.02%	27.98%

$\frac{K+a_c+a_v}{\overline{c}+\overline{v}}$ (Rate of profit)

Year %
1. 33.3
2. 32.6
3. 31.3
4. 30.3

Key:
c = constant capital
v = variable capital
k = capitalist's consumption (personal)
a_c = accumulated as constant capital
a_v = accumulated as variable capital
AV = value of annual product
s = surplus value (= $k + a_c + a_v$)

(Source: Henryk Grossman Marxist Internet Archive)

In constructing the table, Bauer made several assumptions. He assumes that every worker seeking work will find it. The working-class population is growing at a rate of 5% per year, so capitalists must expand employment by 5% per year. Bauer holds the rate of surplus value and value wage – but not real wages – constant. Unlike later neo-Ricardian models, Bauer does not hold the real wage constant. Like Marx in his reproduction models and much of the rest of Marx's work, Bauer deals with values, not use values like modern neo-Ricardians do.

However, unlike Marx's reproduction model of expanded reproduction, Bauer's model assumes that constant capital in value terms grows at twice the rate of variable capital. This implies a steady rise in the productivity of labor.

Since Bauer assumes a stable rate of surplus value of 100% – the workers work half the work day for themselves and half the day for the capitalists – Bauer's table implies a steadily rising real wage. The real wage rises with the growth in labor productivity, but the value of the wage the workers receive in return for their sold labor power remains unchanged. From the workers' viewpoint, life improves as capitalism develops. There is neither any absolute nor relative impoverishment. Nor is there any unemployment problem.

Since the rate of surplus value and the value wage is held constant by Bauer, to fully employ all the new workers that are entering the labor market due to the growth of the working population at the assumed rate of 5% per year, variable capital measured in terms of its value must also grow at a constant rate of 5%.

However, as we have seen, unlike Marx's model, Bauer's model assumes that constant capital is growing twice as fast as variable capital. This means that the variable capital must continue to grow at 5%, while variable capital represents an ever-smaller portion of the total capital.

Therefore, to maintain a constant rate of growth of variable capital, the accumulation of capital must continuously accelerate. Since the rate of accumulation is defined as the ratio of the profit that is (re)transformed by the capitalists into new (productive) capital relative to the portion of the profit used for personal consumption, the capitalist class is left with an ever smaller percentage of total profits to satisfy their personal consumption needs.

Unlike Marx's tables of expanded capitalist reproduction, Bauer's expanded reproduction model includes a falling profit rate. In Bauer's table, the rate of profit falls because of the rise in the organic composition of capital combined with a constant rate of surplus value. The rate of profit is 33.33% for the first year, but by the fourth year, the rate of profit has fallen to 30.3%. Bauer, however, thought that his table had shown that the fall in the rate of profit would present no real problem for the capitalists and the capitalist system.

Like Marx, Bauer extends his calculations – a rather laborious task in the pre-computer era – over four years just as Marx did in his tables. Since the capitalists are required by the table's assumption to create 5% more jobs yearly, they must spend an ever-increasing portion of their total profit on accumulating additional capital, leaving less profit to meet their personal needs.

While in year one, Bauer's table allows capitalists to consume 75% of the total surplus value for personal consumption; by year four, they are allowed to consume only 72.02%. However, since the number of workers producing surplus value for the capitalists is rising year by year at a constant rate of 5%, the quantity of surplus value consumed by the capitalists for personal consumption rises in value terms by 11.7%. Therefore, over the four years that the Bauer table runs, once we take the rising productivity into account, in use value terms, the rise in capitalist consumption will be considerably greater than 11.7%, though nothing in the table allows us to make an exact calculation.

Therefore, the material needs of the capitalist and working classes are met. The workers' real wages rise with productivity, and all members of the young generation entering the labor market for the first time have no difficulty getting jobs. While the capitalists do experience a slight fall in their rate of profit, in terms of their consumption, they are consuming in absolute terms more surplus value than ever in terms of value and even more so in terms of use values.

In Bauer's tables of expanded reproduction with a rising organic composition of capital and a falling rate of profit, there is no economic reason to expect the class struggle to sharpen over time. The rate of exploitation of the working class does not increase at all, while the standard of living of the working class grows with the advancement of the productivity of labor. All the while, full employment is maintained. All while what we assume is an already ample standard of living for the capitalist class also rises. Any U.S. president who claims to represent "all of the people" would be delighted to run for reelection on such a record.

Bauer's fatal mistake

Like Marx, Bauer carried out the painful arithmetic for four periods or years. Marx could have made his point by carrying out the calculation for only two years, or he could have made his point by carrying out the calculation for an infinite number of years if he had an infinite amount of time. The reason is that a mathematical quality of Marx's reproduction tables is that they run forever in what computer scientists call an infinite loop. But Bauer, for all his theoretical ability, was not a good mathematician. Bauer perhaps assumed that if Marx's tables indeed ran forever, his would do so as well. But mathematics says otherwise. The person who noticed this fatal flaw in Bauer's demonstration was Henryk Grossman. By the time Grossman was through with Bauer's table, what Rosa Luxemburg called Bauer's "neo-harmonist" conclusions were in ruins.

In the first four years of Bauer's tables, the capitalists' consumption, though it declines relative to the amount of productive consumption, increases absolutely over the four years. In the tables, capitalists consume commodities worth 75,000 hours of labor during the first year. By the fourth year, it's 83,374 hours of value. Everything appears to be proceeding well.

However, Henryk Grossman later came along and, in 1929, extended Bauer's table to run not four years but 36 years.

Table 2.2: Bauer's reproduction scheme *continued*

Year	*c*	*v*	*k*	a_c	a_v	*AV*	*k/s*	*a/s*
5	292600 +	121500 +	86213 +	29260 +	6077 =	535700	70.9%	29.1%
6	321860 +	127627 +	89060+	32186 +	6381 =	577114	69.7%	30.3%
7	354046 +	134008 +	91904+	35404 +	6700 =	622062	68.6%	31.4%
8	389450 +	140708 +	94728+	38945 +	7035 =	670866	67.35%	32.7%
9	428395 +	147743 +	97517+	42839 +	7387 =	723881	66.0%	34.0%
10	471234 +	155130 +	100251+	47123 +	7756 =	781494	64.63%	35.37
20	1222252 +	252961 +	117832+	122225 +	12634 =	1727634	46.6%	53.4%
21	1344477 +	265325 +	117612+	134447 +	13266 =	1875127	44.3%	55.7%
25	1968446 +	322503 +	109534+	196844 +	16125 =	2613452	33.9%	66.1%
34	4641489 +	500304 +	11141+	464148 +	25015 =	5642097	0.45%	0.45%
35	5105637 +	525319 +	0	510563 +	l4756*=	6156275	0	104.61%(!)
36a	Capital available: 5616200	Population available: 551584	Required:26265, Deficient: 11509					
36b	Capital operational: 5499015	Active population: 540075	0	540075	0	6696350	0	109.35%(!)
36 c	Surplus capital: 117185	Reserve army: 11509		Required: 5616200 Deficit: 21545	Required: 27003 Deficit: 27003			

$$\frac{K+a_c+a_v}{c+v}$$

(Rate of profit)

Year	%	Year	%	Year	%
5.	29.3	6.	28.4	34.	9.7
		7.	27.4	35.	9.3
		8.	26.5	36.	8.7

(Source: Marxists Internet Archive Henryk Grossman)

At the end of Grossman's extension of the Bauer model, the profit rate fell from 29.3% in year five to 8.7% in year 36. At first glance, it would seem that an 8.7% rate of profit in the 36th year, though far lower than 29.3% in the fifth, should still be ample enough once we consider that a vastly greater mass of surplus value is produced in the 36th year.

However, according to Bauer's assumptions, to keep variablecapital accumulation in the face of a rising organic composition at a rate sufficient to employ 5% additional workers every successive year to match the 5% increase in population means the rate of accumulation must also progressively increase.

In the table reproduced above, the portion of the surplus value not accumulated but left over for capitalist personal consumption is represented by the letter *k*. The value of k rises from 86,213 to 117,832 in year 20. Even though a portion of the surplus value reserved for the personal consumption of the capitalists (represented by the letter *k*) shrinks relatively to the portion of the surplus value accumulated, the personal consumption measured in terms of value increases absolutely. This is fully in line with what Bauer was attempting to prove.

However, in year 21, the value of k decreases from 117,832 to 117,612. To keep the growth rate of the organic composition steady while also maintaining a 5% increase in variable capital, the surplus value available for capitalists' consumption starting from year 21 – after meeting the growing needs of accumulation – will drop not only as a percentage of the total surplus value but also in absolute value terms.

This might not be too bad for the capitalists as we are measuring the value of k in terms of hours of labor – not of use values, which is what interests the capitalists in their role as personal consumers. But after the 21st year onward, the value of *k* keeps falling yearly. In year 35, *k* has fallen to below zero. While we can infer that the enhanced productivity of labor has significantly reduced the value of individual consumer goods – both necessary and luxury items consumed by capitalists – compared to what they were in year 1, these goods still represent some labor.

Zero hours of labor means a zero quantity of use values. By the 35th year, the capitalists will have to live on air!

Even if the capitalists can somehow pull off this trick by the 35th year, it has become impossible to maintain the growth rate of variable capital at 5% a year, which is necessary to maintain full employment even if the capitalists refrain from all personal consumption. They would have to accumulate 104.61% of the available surplus value – a clear mathematical impossibility.

Merging Bauer's initial table, which spans from year one to year four, with Grossman's extension from year five to year thirty-six, we observe that by year thirty-five, the total surplus value increases from 100,000 to 525,319 (measured in some unit of time). That is, the total quantity of surplus value produced increases more than fivefold. However, despite the more than fivefold increase in the total amount of surplus value, the Bauer-Grossman model collapses due to an *insufficient quantity of surplus value* produced. By year 35, even if the personal consumption of the capitalists falls to zero and *all* surplus value is (re)transformed into new capital, there will still not be enough variable capital to fully employ all the workers seeking employment. The insufficient quantity of surplus value is due to the increasing demands of accumulation of constant capital outpacing the growth in surplus value production.

Unlike Marx's model, which assumes a constant organic composition with a constant rate of profit, the Bauer model assumes a rising organic composition of capital with a falling rate of profit that does not run forever. It only lasts for a limited number of years.

The mathematics of the Bauer-Grossman model indicates that it can only continue beyond the 35th year if we modify the numbers we input into the table. We can "reboot" the model by increasing the rate of surplus value. At the higher rate of surplus value, the model will again run for a while but will break down in the end as the quantity of the total surplus value left over for capitalist personal consumption after the needs of accumulation are met again falls to zero. This rebooting process can occur multiple times, but ultimately, the model will fail as the surplus available for workers' wages approaches the mathematical limit of zero.

The model can also be further extended if we reduce the rate of increase of the organic composition of capital. Bauer assumed that constant capital grows at twice the rate of variable capital. But this assumption is arbitrary. If we reduce that rate, the number of years that the model runs increases. However, the model will still break down after a finite number of years as long as we assume a constant rate of increase in the organic composition of capital.

Only if we reduce the growth in the organic composition of capital to zero, as Marx did in his tables, will the model run forever. Contrary to his intentions, Bauer unwittingly revealed a deep contradiction between the rise in labor productivity expressed through a rising organic composition of capital on one side and, on the other side, a capitalist system based on exploiting an ever-rising number of wage workers to produce ever greater quantities of surplus value.

The Bauer-Grossman model and long cycles of capitalist development

The Bauer-Grossman model can be seen as demonstrating that the capitalist system has to break down sooner or later as long as we assume a rising organic composition of capital. But, the relationship between the Bauer-Grossman model and actual economic fluctuations in the capitalist economy is another question entirely. The Bauer-Grossman model, with the numeric values provided by Bauer but taken to its conclusion by Grossman, where k represents capitalist personal consumption, falls below zero in the 35th year, is an impossible situation in the real world. How quickly capitalism collapses in a Bauer-Grossman table depends on how quickly the organic composition of capital increases, the rate of surplus value is allowed to rise, and the rate of growth of the working-class population.

The model runs longer if we drop the assumption of "full employment" – and in reality, the capitalist mode of production is incompatible with genuine full employment. Bauer's ridiculous assumption of full employment does not accurately reflect capitalist reality.

In the Grossman-Bauer model, capitalism can continue to exist beyond the 35th year with a rising level of *unemployment*. However, the value of v – the total wages paid to workers – can never drop to zero. If it did, according to the laws of mathematics, if we attempted to divide the total value of the constant capital by the total value of variable capital to calculate the organic composition of capital, the result would be undefined because we would be dividing zero by zero.

If no living labor is employed, all the constant capital can be reproduced with zero labor. This would mean that the value of constant capital calculated in hours of labor would be zero. Variable capital would also be zero.

This is another tipoff that we are dealing with an impossible situation. If this were possible, all workers would be unemployed, and the capitalists would live on air. Or, more realistically, capitalist production, which at its core is a process where an ever larger number of wage workers perform unpaid labor for a class of capitalists, will have long since been superseded.

The strength of the Bauer-Grossman model lies in its ability to demonstrate that, despite starting with unrealistic assumptions such as "full employment" and a fixed rate of surplus value, it ultimately reflects the characteristics of real-world capitalism. This includes the emergence of a reserve industrial army and a rising rate of surplus value without even considering

the problems posed by the circulation of commodities. When pursued to its logical conclusion, the model indicates that capitalism – characterized by the extraction of surplus value from a class of wage workers by a class of capitalist exploiters – must eventually disappear as the productive forces continue to develop. However, it remains unclear how effectively the Bauer-Grossman model can serve as a framework for understanding actual cyclical real-world capitalist crises.

The reason is that the Bauer-Grossman table deals only with the production of surplus value and not with the realization of surplus value, which is taken for granted in the table.

Put another way, the model deals with the production of commodities and surplus value but ignores the problems of the circulation of commodities and the realization of surplus value in the form of profit that must be measured in terms of the use value of the money commodity.

In Marx's tables of simple and expanded reproduction presented in Volume II of *Capital*, simple and expanded capitalist reproduction is the necessary unity of capitalist production and circulation. Marx's table of reproduction, which includes circulation, specifically addresses scenarios only where the organic composition of capital, the rate of surplus value, and the rate of profit remain constant.

Marx's table of reproduction possesses a potential power that the Bauer-Grossman tables, despite their strengths, lack.

It is tempting to see the Bauer-Grossman tables as modeling not the 10-year industrial cycle but rather the proposed 50-year-long cycles or, if you prefer, "long waves." We see this approach in Ernest Mandel's "long waves" and Anwar Shaikh's model of long cycles.

Chronologically, Ernest Mandel's work preceded Shaikh's work and inspired it. But logically, we have to deal with Shaikh's first because Shaikh's theory, as presented in his 2016 "*Capitalism*," is a far more consistent development of Grossman's work than Mandel's. We will, therefore, begin with Shaikh and finish with Mandel.

Shaikh, in "*Capitalism*," does mention the existence of the "business cycle," which corresponds with Marx's "industrial cycle," but gives it virtually no attention. I believe the reason is that Shaikh accepts the claim that "modern money" is non-commodity money. His failure to analyze money correctly prevents Shaikh from successfully analyzing the circulation of commodities and the realization of surplus value.

Marx considered non-commodity money (defined as money that does not represent a specific money commodity) impossible under the system of commodity production. However, Shaikh doesn't understand this. Based on his incorrect theory of money, Shaikh concludes that the capitalist state, which includes the government and the central bank working together with the commercial banking system, can create any demand it desires.

As far as Shaikh is concerned, there are no limits beyond which the market can expand. This excludes the view of Marx and Engels that crises of the general overproduction of commodities are *inevitable* once capitalism reaches a certain level of development. While Marx and Engels saw cyclical capitalist crises as crises of overproduction, Shaikh does not. Except when directly quoting Marx, the word "overproduction" is virtually absent in Shaikh's "*Capitalism*."

However, Shaikh's theory does not exclude the *possibility* of a general crisis of overproduction. Even non-commodity money does not exclude that a commodity can be sold for money that is not immediately spent. Following Shaikh's logic under the previous systems of commodity money – the silver and gold standards – problems of realizing surplus value perhaps arose, though Shaikh has little to say about it. Following Shaikh's logic under a system of non-commodity money called "pure fiat money" by Shaikh, circulation problems can only arise due to mistakes by the government and central bank – which are, of course, possible – or if the government or central bank wishes to induce a higher rate of unemployment to increase the rate of exploitation of the working class.

However, once "pure fiat money" is introduced, problems arising from the difficulties of circulation will be superficial. If problems of realizing value and surplus value do arise, they can be easily dealt with through the now well-known "Keynesian" techniques of the central bank accelerating the rate at which it creates new money and increasing central government borrowing and spending of money to make sure the newly created non-commodity money circulates and does not accumulate in stagnate hoards.

In Shaikh's view, since the creation of "pure fiat money" was always a policy option, if not a policy practice, the problems of the realization of the value of commodities, overproduction, and circulation can be viewed as easily solved within the framework of capitalism. To this extent, the mature Shaikh is a "Keynesian."

However, in Shaikh's view, the *production* of surplus value is another question entirely. Surplus value that is not produced cannot be realized. In Shaikh, it is not enough for the capitalists to maintain a given rate of surplus value. As capitalism develops, the surplus value rate must rise to stave off the fate that awaits it in Grossman's extended version of Bauer's reproduction table. If the rate of surplus value fails to rise or rise sufficiently, the rising organic composition of capital will cause the rate of profit to fall. Once the rate of profit starts to fall due to a rise in the organic composition of capital, it is only a matter of time before economic growth slows down and unemployment rises.

Following Shaikh, a crisis caused by a fall in the profit rate caused by the rise in the organic composition with a given rate of surplus value cannot be overcome by the "Keynesian" methods of pumping up demand with the aid of non-commodity money. It can only be overcome by increasing the rate of surplus value.

However, when investment does slow down, circulation problems will likely arise as a side effect. Because the industrial capitalists cannot find sufficient profitable fields for investment, they will hold on to M – even if M represents non-commodity money – rather than transform the M into new productive capital —M .. C—P—C' .. M'. [6]

At this point, the crisis appears to be a crisis of overproduction. But it is really a crisis of the insufficient production of surplus value. If the rate of surplus value rises sufficiently, the problems of circulation will go away because the industrial capitalists will stop holding on to M and, now that they are making adequate profits again, engage in reproduction on an extended scale.

Shaikh believes that faced with slow or no growth, rising politically destabilizing unemployment, the capitalist state and central bank may turn toward Keynesian policies in an attempt to boost economic growth once again and reduce unemployment. If the crisis is superficial – caused by the failure of the central bank to create enough money – which was all too likely under the gold or gold-exchange standards of the past – the crisis can easily be overcome by increasing the quantity of new money that the central bank creates and if necessary through deficit spending by the central government that prevents the new non-commodity money from falling out of circulation and accumulating in stagnant hoards.

6 From Volume II of "*Capital*," on the circuit of money capital. M is money capital, C is commodity capital, P is the production process, C' is a commodity for sale with surplus value added to the production process, and M' is money capital with profit received from the sale.

However, if the crisis is profound – meaning that the apparent overproduction is simply a reflection of insufficient production of surplus value – Keynesian policies will fail. True, a policy of monetary inflation by the central bank will stop the industrial capitalists from holding on to M. However, the circulating M's will not be able to find a sufficient quantity of capital goods on the market to create a rate of economic growth adequate to prevent the rise in the rate of unemployment. Instead of commodities accumulating in warehouses unsold, there will be inflation, combined with economic stagnation and rising unemployment.

If capitalism is to be maintained, the crisis of increasing unemployment will persist until there is a significant rise in the rate of surplus value. This increase must be enough to boost the rate of profit enough to enable a recovery in capitalist investment great enough to lower unemployment levels. In physical terms, an escalating rate of profit leads to heightened production of capital goods and auxiliary materials, facilitating an expansion of production sufficient to reduce the unemployment rate. In the manner of the neo-Ricardians, Shaikh measures "real profit" in terms of the quantity of capital goods, raw materials, and auxiliary materials. (7)

The only way out of the crisis on a capitalist basis is to reduce the relative percentage of commodities produced for working-class consumption and increase the quantity of commodities used to expand the existing scale of production. Just like the neoclassical, Keynesian, and Austrian economists,

7 In his early work, Ricardo assumed that workers were paid in "corn." Profits or surplus value could then be calculated in terms of "corn." The problem that Ricardo was running up against was that commodities as use-values cannot be quantitatively compared to one another because they are qualitatively different. However, even in the days of Ricardo, workers couldn't live on "corn" – grain – alone. Ricardo soon replaced corn with labor. Though commodities have a qualitatively different use value, they all require human labor to produce. Therefore, commodities with qualitatively different use values can be compared in terms of the quantity of labor that is necessary to produce them. This is the classical Ricardian theory of value.

In contrast, the neo-Ricardians retreat not only behind Marx but behind the mature Ricardo. They go back to the early Ricardo of the "corn" models. They begin their analysis with something like, "Assume a very simple economy that produces only two commodities iron and corn." This is an example of what Marx called a violent abstraction. When Shaikh gets himself into difficulties that arise from his failure to fully grasp Marx's perfected theory of value, which includes Marx's unmatched analysis of money, he retreats to neo-Ricardian positions.

The most important example of this is Shaikh's theory of profit. Shaikh does not understand that profit, defined as surplus value realized in money terms, must always be measured in terms of the use value of the money commodity. Profit cannot be measured in terms of the quantitative incommensurable use values of the commodities that make up the social surplus product. Assuming gold is the money commodity, profit must be a quantity of gold bullion measured in terms of some unit of weight. Instead, like virtually all other economists, Shaikh sees profit as consisting of the different use values that make up the social surplus product.

Shaikh believes the only way to reduce a stubbornly high unemployment level under capitalism is to lower the workers' real wages. Unlike Keynesian economists, but like traditional neoclassical and Austrian economists, Shaikh believes it is futile to get out of a protracted period of high unemployment by stimulating effective demand. This leaves Shaikh, like other followers of Grossman, open to the charge that his arguments echo the arguments of the capitalists and their hired-gun economists. Shaikh's economics will never be popular among labor unionists.

However, unlike the neoclassical and Austrian economists, Shaikh believes that capitalism should be replaced by socialism. Assuming that capitalism is retained, Shaikh offers no alternative to wage-cutting, directly or through inflation, as a way out of the crisis. For this reason, Shaikh's (and Grossman's) economics do not mix well with popular front politics. Shaikh's answer, just like other members of the "Grossman school," is that he is not interested in seeking popularity but in explaining how capitalism works and must work.

According to Shaikh's view, during a crisis, rising unemployment will increase the rate of surplus value as conditions in the labor market shift more and more in favor of the capitalists. (8)

The crisis will continue to raise the rate of surplus value until profitability is sufficiently restored to allow investment to recover, ending the crisis. However, if the capitalist state intervenes to lower wages by attacking labor rights, as happened in extreme form under Adolf Hitler in Germany or more moderate forms under Ronald Reagan and Margaret Thatcher, the arrival of economic recovery will be accelerated. If, however, the workers successfully resist this increase in the rate of exploitation but do not initiate a socialist revolution, the crisis will continue until the resistance of the workers is broken one way or another.

Once the crisis ends, the demand for labor rises, and unemployment falls. Shaikh does not believe that actual "full employment" is possible under the capitalist system, especially on a global scale. A lower unemployment rate improves the working class's position and thus tends to stabilize the rate of surplus value.

However, since competition among the capitalists ensures the organic composition will keep increasing, it's only a matter of time before the fall-

(8) By crisis, Shaikh has in mind not the downturns in the ten-year industrial cycle but a downturn in the proposed long cycle or long wave. Examples that Shaikh gives of such crisis periods are 1825-1848, 1873-1896, 1929-1940, 1970-1982, and the years after 2007-09.

ing rate of profit brings on a new crisis. Shaikh assumes it takes about 25 years to move from the end of one crisis to the beginning of the next. He does not mean "overproduction crises" that he believes can be dealt with by Keynesian methods with the help of modern non-commodity money. Instead, Shaikh means the profound crises marked by an insufficient production of surplus value that he identifies with the downturn of the "long cycle," about 25 years after the end of the preceding cycle. Therefore it is the long cycle, not Marx's ten-year industrial cycle, which Shaikh believes is the most important cycle of capitalism.

The Role of gold in Shaikh's long cycles

Shaikh identifies three functions of money. First, money is a medium of pricing. Second, money is a medium of circulation, including its role as a means of purchase and payment. Third, money's role as a medium of safety.

Shaikh believes that gold has retained one monetary function under the current monetary system. That role is as a "means of safety."

As conditions become unfavorable for the production of surplus value in sufficient quantities to support normal expanded capitalist reproduction, the capitalists increasingly hold onto money not to expand their capital but rather to preserve their capital.

In the days of commodity money, this would exert a deflationary pressure on the economy. The capitalists postpone their purchases of capital goods and labor power, the general price level would fall while unemployment rises. This was the general pattern through the 1930s. Indeed, a "long cycle" downturn is most evident in a falling general price level. In some cases, such as 1873 to 1896, it could last several decades.

But since the 1940s, there has been no sustained fall in the general price level. Instead, with brief and slight exceptions, there have been only varying rates of increases in the general price levels.

According to Shaikh, since 1940, gold – commodity money – has been replaced by non-commodity money as a medium of pricing and circulation. However, gold has retained and even extended its role as a medium of safety.

According to Shaikh's analysis, since 1940, capitalist governments and central banks have responded to economic downturns by increasing the creation of additional non-commodity money and engaging in increased deficit spending in an attempt to boost economic growth and reduce unemployment. Such policies work well when the problem is a lack of adequate

demand. However, when the problem is a lack of adequate surplus value production, increasing the quantity of non-commodity money cannot boost economic growth but instead leads to inflation. Therefore, under "modern money," major crises are characterized not by deflation but by inflation.

In physical terms, not enough additional means of production are produced during a crisis to fully employ the new workers appearing on the labor market. Production can increase only slowly, not because the industrial capitalist cannot find customers for all the products they can produce, but rather because they cannot find a sufficient quantity of additional means of production on the market to expand production at a rate of profit adequate to prevent unemployment from rising.

Under these conditions, the creation of additional effective monetary demand made possible by increased central bank and commercial money creation and deficit spending by the central government does nothing to boost production or reduce unemployment. What it does do is to increase inflation. The more the government attempts to "stimulate" the economy by pumping up demand the worse inflation becomes.

Therefore, Shaikh imagines that under a system of non-commodity money, as soon as the rate of profit falls below a certain level due to the rising organic composition of capital, the capitalists step up their purchases of gold bullion because they expect the central bank and government to follow inflationary demand-increasing policies that will reduce the purchasing power of non-commodity money. They increase their holdings of commodity money in the form of gold bullion– which retains its monetary role as a means of safety – to protect the value of their capital.

A rising price of gold in terms of non-commodity money signals that an insufficient quantity of surplus value is being produced and that a rise in unemployment is approaching. What Shaikh calls "golden prices" – prices calculated in terms of gold bullion – are no longer rising but starting to fall. This reproduces the falling price pattern seen in previous periods of insufficient production of surplus value crises before 1940.

Attempts to slow inflation by reducing the quantity of non-commodity that the central bank is creating, then reproduce to a certain extent the piling up of unsold commodities – overproduction – that occurred before 1940. But this is a secondary effect and not the essence of major crises – downturns in the long cycle or long waves, either before 1940 or after 1940. Regardless of the nature of the monetary system, a crisis of the insufficient

production of surplus value in the absence of a socialist transformation means a deteriorating situation in the labor market for the working class.

In contrast to Trotsky, Shaikh sees the shift from long periods of rapid economic growth to slower growth – and back again – as a genuine cyclical process that will continue for as long as capitalism exists.

The semi-cycles of Ernest Mandel

In addition to being a Marxist economist, Ernest Mandel was a leader of the world Trotskyist movement. From the early 1960s until he died in 1995, Mandel was the central leader of the Fourth International, which was what the world Trotskyist movement called itself.

However, it was through his role as an economist that Mandel exercised a major influence on Anwar Shaikh. In the early 1970s, Ernest Mandel published his PhD thesis "*Late Capitalism*." His doctorate allowed him to become a lecturer at the Free University of Brussels, where he spent his final years.

While Mandel expressed skepticism toward Grossman's work in his early work, he moved closer to Grossman's views in his later years. In the late 1960s, Mandel was won to the view that capitalism experiences long cycles. He later retreated from this when it was pointed out to him that Trotsky had specifically rejected the views of Russian economist Nikolai Kondratiev that capitalism has regular cycles of about 50 years duration.

In a cyclical process, one phase of the cycle leads to the next phase of the cycle. For example, the crisis phase of a ten-year industrial cycle leads to the depression/stagnation phase. The depression/stagnation phase leads to a phase of average prosperity. Average prosperity leads to a boom, ending in a crisis that returns us to the depression/stagnation phase.

Trotsky didn't believe any mechanism could produce a comparative cyclical movement over a 50-year period.

Instead, Trotsky held to the view that non-cyclical extra-economic factors like wars, revolutions, counterrevolutions, the discovery of new sources of raw materials, and the depletion of old sources of raw materials govern the replacement of periods of rapid capitalist growth with periods of capitalist stagnation.

It was awkward for Mandel, as the leader of world Trotskyism, to oppose Trotsky on a phenomenon that was becoming crucial to Mandel's analysis of the economics and politics of the late 20th century. Mandel, therefore, retreated to the view that the alteration of periods of faster and slower economic growth that marks concrete capitalist history is a semi-cyclical process.

At their core, Mandel and Shaikh are both rooted in Grossman's work. Central to Mandel and Shaikh is the view that a "rising long wave" leads to a rise in the organic composition of capital. This puts downward pressure on the rate of profit. At the same time, the strong demand for the commodity labor power, which is characteristic of periods of rapid capitalist growth, makes it very difficult for the capitalists to increase the rate of surplus value.

Increasing the rate of surplus value is the main method by which capital resists the fall in the rate of profit. Eventually, the rate of profit falls so low that capitalist investment slows. During the upswing of the long waves, Mandel, much like Trotsky, believed that recessions are short and superficial. However, as the rate of profit falls, recessions become longer and deeper. A long wave with an "undertone of expansion" gives way to a long wave with an undertone of stagnation.

However, Mandel did not believe that there was any cyclical mechanism that transforms a long wave with an undertone of stagnation into a long wave with an undertone of expansion. Mandel believed that two things had to happen if a "depressive long wave" was to give rise to a new wave with an undertone of expansion. One was that there had to be a rise in the rate of surplus value. For this to happen, the working class had to suffer a decisive defeat in its class struggle with the capitalist class. As long as this does not occur, the long wave with an undertone of stagnation continues.

Shaikh, in contrast, does not believe this. He believes that unless a depressive long wave leads to a socialist transformation, the effects of rising unemployment will inevitably raise the rate of surplus value. Therefore, during a depressive long wave – or a crisis in Shaikh's terminology – the rate of surplus value and profit will keep rising with it. As the rate of profit rises, capitalist investment increases, leading to a new wave of capitalist prosperity and falling unemployment.

Therefore, Mandel's final theory is best described as a theory of semicycles in which cyclical factors – a rising organic composition of capital – inevitably transform an expansionary long wave into a depressive long wave, while a depressive long wave does not necessarily lead to a new rising long wave of capitalist investment. Whether the latter happens depends on the concrete course of class struggle and therefore is economically indeterminate. Potentially in Mandel, but not in Shaikh, a depressive long wave could last indefinitely.

But Mandel, unlike Shaikh, gives a second condition for a depressive long wave to be replaced by a rising long wave. That second condition was a ma-

jor expansion of the world market. In Shaikh, this condition is simply an inevitable result of a rising rate of surplus value. As the rate of surplus value and the rate of profit rises, capitalist investment rises, and rising capitalist investment brings the automatic expansion of the market. In mathematical language, in Shaikh, a major market expansion is a dependent, not an independent, variable. The independent variables are not the expansion or stagnation of the market but rather the rate of surplus value and the organic composition of capital, which together determine the rate of profit.

But not so in Mandel. Mandel treats the expansion of the market as something at least partially independent of a rising rate of profit and capitalist investment. But he failed to develop an explanation of how this takes place. Despite the incompleteness of Mandel's theory, his treatment of an expansion of the market as something independent of the rate of profit calculated in value terms is the biggest difference between Mandel's writings on the long waves and the theory of the long cycle developed by Shaikh in "Capitalism" and other writings. Shaikh, at a fundamental level, does not go beyond Grossman's analysis of "breakdown crises," but Mandel does.

Unlike Shaikh, Mandel did not believe that non-commodity money is possible under capitalism. Mandel also believed, perhaps under the influence of Trotsky's article, that the discovery of new sources of cheap raw materials can play an important role in replacing a depressive long wave with an expansionary long wave because, like machinery, raw materials form a part of the constant capital. All other things remaining equal, cheap raw materials lower the organic composition of capital and, therefore, raise the rate of profit.

Mandel believed that the discovery of cheap raw materials made possible by the spread of European colonialism in the late 19th century was the decisive factor in the long wave of capitalist prosperity that developed then and continued during the years leading up to the First World War. Mandel never developed a clear theory of the laws governing the expansion of the market. Therefore, while Shaikh's long cycle-wave theory is more rigorous and consistent, Mandel's "long wave" theory is richer and capable of further development.

CHAPTER 23:
The Long Semi-Cycles of Ernest Mandel

We have seen that most economic historians and economists, both bourgeois and Marxist, agree that the concrete history of the capitalist mode of production shows alternating periods of rapid expansion lasting for several decades, followed by periods of much slower growth or semi-stagnation of varying lengths. There has been much dispute about whether these alternations represent cyclical forces operating from within the capitalist economy or are caused by changes of a non-cyclical nature in the "external environment."

Among the Marxists, we saw that men as different as the U.S. socialist economist Paul Sweezy and the Russian revolutionary leader Leon Trotsky agreed that the alternations between rapid growth and semi-stagnation are non-cyclical. If these alternations in long-term growth are non-cyclical, this would be in contrast to the 10-year industrial cycle and the shorter, less-well-defined "Kitchin cycle," where each stage in the cycle necessarily leads to the next stage.

Ernest Mandel led a faction of the "Trotskyist" current of Marxists. During the 1960s, Mandel was attracted to the view that capitalism is characterized by long cycles. At that time, Mandel suggested that the prosperity following the Depression and World War II resulted from an upswing in the 50-year Kondratiev long cycle. Since the postwar prosperity was approaching its 25th anniversary at that time, Mandel believed that a new downward movement of the Kondratiev cycle would soon replace the rising phase. The Kondratiev "downturn" would mark the end of postwar prosperity.

Mandel was somewhat embarrassed when rival Trotskyists pointed out that Trotsky had explicitly rejected Kondratiev's long-cycle theory. Retreating slightly in the face of this criticism, Mandel chose to call the long periods of alternating faster and slower growth "long waves of capitalist development" rather than "cycles."

But a wave – for example, a sine wave – implies a cyclical process. For example, scientists use sine waves to build mathematical models of cyclical processes. To some extent, Mandel was simply playing with words when he replaced "cycle" with "wave." For our part, we will grant Mandel the right to disagree with Trotsky.

Mandel's developed views on "long waves" are best expressed in his short book "*Long Waves of Capitalist Development*."

"Marxists generally should not accept," Mandel wrote, "a Kondratiev type of theory of long cycles in economic development, in which there is, in the economy itself, a built-in mechanism through which an expansive long cycle of perhaps twenty-five years leads to a stagnating cycle of the same length, which leads automatically to another expansive long cycle."

After duly acknowledging Trotsky's criticism of Kondratiev, Mandel laid out his views on the subject: "To state it more clearly, although the internal logic of capitalist laws of motion can explain *the cumulative nature of each long wave once it is initiated* [Mandel's emphasis] and although it can also explain the transition from an expansionist long wave to a stagnating long wave, it cannot explain the turn from the latter to the former."

Mandel, therefore, ended up – though he didn't use the term – with a theory of long *semi-cycles*. Once the capitalist economy enters into a period of accelerated long-term growth – such as after the revolutions of 1848 or after World War II, to give two historical examples – forces are unleashed that bring the period of accelerated growth to an end after about 25 years, give or take a few years. To this extent, in contrast to the views of Trotsky and Sweezy, Mandel's theory was indeed cyclical.

But once the long wave of accelerated growth gives way to a period of much slower growth or semi-stagnation, there is no *cyclical* mechanism that pulls the capitalist economy out of that state. This is in contrast to the *cyclical* forces that produce the 10-year industrial cycle or the short "Kitchin" inventory cycle.

Therefore, according to Mandel, there is no reason why a "wave with an undertone of stagnation" couldn't last until the end of the capitalist mode of production. This would be true even if a workers' revolution were not to occur for centuries. Therefore, expansionary "long waves" are historical accidents that may or may not happen in the future. Here, Mandel rejects a cyclical analysis of alternating long periods of more rapid and slower capitalist economic growth.

The tendency of the rate of profit to fall and Mandel's long semi-cycles

When we investigated the various crisis theories proposed by Marxists, one we examined attributes the 10-year industrial cycle directly to the law of the tendency of the rate of profit to fall. This theory holds that the upswing in the industrial cycle brings with it a rise in the organic composition of capital, which in turn causes the rate of profit to fall. Eventually, the rate of profit falls so much that the industrial capitalists reduce their investments, and the economy falls into recession. Mandel applied the same analysis to explain the transition from a wave of rapid growth of about 25 years to a semi-stagnant wave of indeterminate duration.

When non-cyclical factors initiate an acceleration of economic growth, the rising tide leads to an increase in the demand for the commodity labor power. This makes it increasingly difficult for industrial capitalists to increase the rate of surplus value – the main method used by capital to resist the tendency of the rate of profit to fall – as labor market conditions swing in favor of working-class sellers of labor power.

The industrial capitalists then turn increasingly to machinery in an attempt to keep their cost prices down. The workers are pitted against machines. As a result, the constant capital – factory buildings, machinery, raw and auxiliary materials – in value terms grow faster than the variable capital, purchased labor power. Or, what comes to the same thing, the organic composition of capital rises.

Since only the variable capital – labor power – produces surplus value, the rate of profit will fall as the constant capital grows faster than the variable capital, assuming a fixed rate of surplus value and turnover of variable capital. Since demand for labor power is high during the long-wave upswing, the capitalists will, as a rule, not be able to increase the rate of surplus value sufficiently to offset the fall in the rate of profit brought on by the rise in the organic composition of capital. The rate of profit will therefore decline as long as the period of accelerated growth lasts.

But since capitalist production is driven by profit, sooner or later, the falling rate of profit will put an end to the expansionary long wave. In practice, this takes about 25 years. After that, the expansionary wave is replaced by a long wave "with an undertone of stagnation." The transition from an expansionary to a more or less stagnating long wave is, therefore, cyclical since the expansionary long wave sets in motion the forces that must bring it to an end.

Mandel versus Schumpeter on innovation

Mandel, as a Marxist, agreed with the bourgeois long-cycle theorist Joseph Schumpeter that innovations – the introduction of new technologies and the rise of whole new industries – play an important role during the long waves of accelerated growth. The difference between Mandel and Schumpeter is that Schumpeter saw accelerated innovation as the cause of an expansionary long cycle, while Mandel saw the rate of innovation as the result of the expansionary long wave. Or, more precisely, Mandel saw the acceleration of innovation as the result of a preexisting rise in the rate of profit, which brings the expansionary long wave into being in the first place.

Inventions are, after all, only the raw material of innovations. For inventions to become innovations under the capitalist system, there must be investment. According to Mandel, the level of investment is driven not by the rate of innovation, as Schumpeter and many other bourgeois economists believe, but rather by the rate of profit. Schumpeter, who as a modern marginalist economist did not accept Marx's theory of surplus value, believed that profits are produced by innovations. The relatively low rate of investment during a long-wave downturn occurs, in Mandel's words, because "profit expectations are mediocre," and profit expectations are mediocre because, relative to the existing organic composition of capital, the rate of surplus value is "too low."

Therefore, according to Mandel, during "long waves marked by an undertone of stagnation," there is an increasing backlog of either unused or at least severely under-utilized inventions that represent the "raw material" of capitalist "innovations." The raw material of "innovation" – inventions – pile up unused or used only to a limited extent, much like idle labor power, excess capacity, and hoarded money do. Therefore, a "long wave with an undertone of stagnation" won't be replaced by an expansionary long wave unless or until some external non-cyclical force increases the rate of profit. But if something does raise the rate of profit sharply, an era of rapid innovations follows. Then we see not only a sharp rise in the quantity of the productive forces but also a rapid growth in their quality.

Indeed, one such major innovation, the steam engine, ushered in the Industrial Revolution and industrial capitalism itself. Other epoch-making innovations include the railroad, the automobile, and, more recently, the computer. These innovations created whole new industries.

However, under capitalism, the development of new industries requires

investment by the industrial capitalists to build the factories that produce the latest types of commodities. This is true whether these new commodities consist of new items of consumption, like an automobile or new types of means of production, such as the steam engine or electric motor. Under the capitalist system, major and risky investments are undertaken only when there are real prospects of a high rate and mass of profit.

Mandel, as a Marxist, in contrast to the bourgeois marginalist Schumpeter, understood that profit – surplus value – arises from the unpaid labor of the working class. No invention, whether of the steam engine, electric motor, automobile, computer, microchip, or cell phone, or today's machine-based Artificial Intelligence, can produce an atom of surplus value.

Indeed, if the new inventions involve the creation of more powerful means of production, such as the steam engine or, later, the electric motor, the opposite will be the case. When new types of labor-saving means of production that replace human labor become innovations applied to actual industrial production, constant capital replaces variable capital. All else remaining equal, this leads to a fall, not a rise, in the rate of profit.

When Mandel developed his theory of semi-cycles, he emphasized the difficulties of producing surplus value as opposed to the difficulties of realizing surplus value. In his semi-cyclical long-wave theory, Mandel stood closer to Marxists like Henryk Grossman and Paul Mattick, who emphasized the difficulties of producing a sufficient amount of surplus value to prevent what for capitalism would be a disastrous fall in the rate of profit – as opposed to those like Rosa Luxemburg and Paul Sweezy who emphasized the problems of realizing surplus value.

Mandel on effective demand and long waves

In contrast, however, to the Grossman-Mattick school, which holds that if the rate of surplus value is high enough, there will be no difficulties in the realization of surplus value, Mandel did concede that difficulties in realizing surplus value might have a role to play in the long waves of accelerated growth and the following capitalist semi-stagnation. He noted in the final chapter of "*Long Waves,*" entitled "New Issues, New Clarifications," included in the 1995 edition, that "from a Marxist point of view (which considers growth [expanded reproduction] as the unity of a process of surplus value production and a process of surplus value realization, *the first by no means guaranteeing the second* [emphasis added –SW] a study of the fluctuations of

'aggregate demand' during long waves is a necessary and hitherto neglected component of long wave analysis."

Changes in the level of gold production and long waves

This would have been a natural place to raise the question of what role changes in the value of money (gold) and the production levels of money material play in the proposed "long waves." However, Mandel did not do this and ignored this question in "New Issues, New Clarifications."

However, he did discuss this question in the first chapter of "*Long Waves*."

"The correlation between fluctuations in gold production and long waves of economic development has fascinated many economic historians," he wrote. Mandel knew that "gold production fluctuates in a 'counter-cyclic' manner in response to the ups and downs of the capitalist economy."

This raises the question: could the sharp increases in gold production that have occurred periodically throughout the capitalist mode of production be a factor, perhaps even the main factor, in the transition from a stagnating long wave to an expansionary long wave? Since Mandel himself points out the "counter-cyclical" tendencies of gold production – implying that the level of gold production is (counter)-cyclical, could this be the "missing" material basis for the proposed long cycle?

Indeed, in his book "*Late Capitalism*," Mandel attributes to the Dutch Marxist J. van Gelderen – who Mandel considers after Parvus to be the founder of long-wave theory – the view that an expansionary long wave "is typically preceded by a major increase in gold production" [not a direct quote of van Gelderen but a paraphrase by Mandel].

Mandel, however, though he is enthusiastic about van Gelderen's support of the long-wave concept, does not seem to think much of his linking of expansionary long waves to rises in gold production: "He [van Gelderen –SW] failed to realize that the question of additional capital investments cannot be reduced to the production of money material (i.e., gold production) but constitutes a problem of the additional production and accumulation of surplus value."

Here it is Mandel who is confused. Before surplus value contained in a commodity can be transformed into capital – be accumulated – it must first be transformed into profit. Remember, the definition of profit is surplus value realized in the form of money that must always be measured in terms of he use value of the money commodity. The importance of this can never be

underestimated. Surplus value that is not realized in the form of money is not profit. Unrealized surplus value cannot, under the capitalist mode of production, be accumulated in the form of new capital.

In the final chapter of the 1995 edition of "*Long Waves*," Mandel did seem to partially correct the mistake he made in his criticism of van Gelderen. But in this chapter, Mandel ignored the whole question of the role that gold and gold production play in the realization of the value of commodities in general, including the portion of the value that represents surplus value.

Overall, Mandel, to the end of his days, continued to play down the role of changes in the level of gold production in the replacement of eras of rapid capitalist expansion with eras of semi-stagnant capitalism and the converse replacement of periods of semi-stagnant capitalism with periods of rapidly expanding capitalism.

This is true even though – unlike so many of our modern Marxists, as well as some Marxists from the era of the pre-World War I Second International, such as, for example, Rudolph Hilferding – Mandel did not accept the claim that gold in its role as "real money" – the commodity that in its use value measures the values of all other commodities – has been or can be replaced by "non-commodity" money under the capitalist mode of production.

In "*Long Waves*," Mandel is quite explicit about this.

Mandel wrote: "A Soviet author has followed the opinion of many American and international economists and technocrats concerning the possibility of 'demonetizing' gold, defending the idea that 'credit money' (bank credit) represents 'real money' which can play the same role as gold."

Mandel explained quite correctly that such notions of non-commodity money are in contradiction to Marx's "labor theory of value but also of what has been observed during recent years in the world market."

If he had lived longer, Mandel might have paid more attention to the role that the ups and downs of gold production have played in long waves. He was the product of an era – the period that followed the Great Depression – when bourgeois "neo-Keynesians" as well as well-meaning "post-Keynesian" radical economists were claiming that "business cycles" could be tamed if gold money was replaced by non-commodity money by abolishing the gold standard.

The argument went that if non-commodity money replaced gold as the basis of the international monetary system, new money could always be created in quantities sufficient to either greatly weaken crises or abolish them

altogether. As long as there is unemployed labor and/or excess capacity, the Keynesians claim, the government can always create whatever additional demand is necessary to achieve "full employment" through deficit financing.

If there is already enough idle money hoarded in the banks to finance the necessary deficit spending, well and good. And if there is a shortage of money, as long as unemployment and excess capacity exist, the government and its "monetary authority" can simply print whatever additional money is necessary without risking inflation. According to the Keynesian economists, inflation only becomes a problem when "full employment" is reached, making a further rise in "output" in the short term impossible. But by definition, under these conditions, there is no shortage of monetarily effective demand.

Because of their analysis, the Keynesians and progressive advocates of "full employment policies" under capitalism hate gold passionately. If the quantity of money – in terms of purchasing power, that the government and its monetary authority can create – is ultimately tied to the quantity of gold, there will be no guarantee that there will be sufficient money to fully finance the deficit spending that might prove necessary to achieve "full employment." Instead, the ability of the government and the monetary authority to create "monetarily effective demand" will be limited and may well be insufficient to create "full employment" of either workers or machines.

Therefore, the role of gold as the only real money was – and still is – strongly denied among the great majority of bourgeois economists – whether pro-capitalist neo-Keynesians, radical "post-Keynesians," or even some reactionary neoliberal economists such as Milton Friedman – who claim that crises can be abolished without abolishing the capitalist system that breeds them.

In examining the existence of a "Kitchin cycle" somewhat separate from the 10-year industrial cycle, I noted that this cycle seems to be governed by the movement of commodity capital – inventories – while the 10-year industrial cycle seems to be governed by the movement of fixed capital. Could the long cycle be governed by the movement of the production and accumulation of money capital in the form of gold bullion?

We have already seen that the basic cycle of capitalist production is M—C—P—C'—M'.

M appears at both the beginning and the end of the cycle. Money, therefore, forms both the "alpha and the omega" of capitalist reproduction at the

starting and endpoints. Since capitalist production is not a system of simple reproduction but of expanded reproduction, the algebraic quantities represented by the letters – representing quantities of abstract human labor measured in terms of time – must become larger with each successive turnover cycle. Therefore, both the M and the M', just like the other terms in the formula, must get larger with each turnover cycle.

It is true that surplus M in the form of idle hoards of money may and indeed must exist if capitalism is to function "normally." During periods of expansion, the idle monetary hoards that are, as a rule, held in the banks are gradually drawn down. But over time, the amount of money in existence must grow if the succession of turnover cycles – each involving greater amounts of capital in the form of money capital, constant capital, variable capital, commodity capital, and at the end of each turnover cycle, money capital once again – is to continue.

Each successive turnover cycle, therefore, begins with a sum of money capital and ends with a larger sum of money capital. If M at the beginning of the cycle is not present in sufficient quantities, the turnover cycle is stymied from the very start. If M at the end of the cycle is insufficient, the surplus value cannot be fully realized, holding in check the ability of the next turnover cycle to represent continued reproduction.

As I demonstrated in the chapters on money, the expansion of the total quantity of token and credit money – though these forms of money can and do replace gold itself in circulation – is itself ultimately dependent on the quantity of monetary gold in existence in a given country and on the world market as a whole. Neither legal tender token money nor credit money created by the capitalist banking system can replace gold – or some other monetary commodity – as the universal equivalent that, in terms of its use value, measures the value of all other commodities.

Likewise, legal tender token money can only function as a means of accumulation or hoarding to the extent that it represents actual existing gold. If legal tender token money is created by the monetary authority in quantities in excess of the actual growth in the quantity of money material, it will depreciate sooner or later. Credit money, in turn, must be redeemable in some other more basic form of money, whether gold – money material directly – or token legal-tender paper money.

A checking account, for example, is worthless unless it can be redeemed for actual cash by its owner. This is why an industry that produces money

material is absolutely necessary for the continued existence of the capitalist mode of production. After all, notwithstanding the teaching of the economists, the gold mining and refining industries are showing no signs of going away.

As we know, bourgeois economists and perhaps most Marxists today assume that the M term in the turnover cycle merely constitutes a technical issue involving a monetary authority. As far as a sufficient quantity of money is concerned, as long as the monetary authority keeps the "money supply" growing at the rate appropriate for expanded reproduction, everything should proceed smoothly.

However, to believe this is to fail to understand the nature of the law of value that regulates capitalist production. Marx proved that value – abstract human labor embodied in commodities – must take the form of exchange value, where the value of commodities is measured in the use value of an equivalent commodity. As commodity production developed, one or at most a few commodities emerged as universal equivalents. Therefore, the widely accepted view that commodity money can be rendered superfluous under the capitalist mode of production by abolishing the gold standard or any other monetary reform is radically incorrect.

As we noted above, if the monetary authority attempts to create money in the absence of an adequate amount of actually produced money material, the result will be the depreciation of the currency. And if the monetary authority persists, soaring inflation and rising interest rates relative to the rate of profit will eventually swallow up the profit of enterprise and destroy the very incentive to produce surplus value. This is more than just a matter of theory, as the history of the 1970s and early 1980s shows.

The capitalist economy has mechanisms that, in the long run, show that a sufficient quantity of money material is produced to meet the needs of expanded capitalist reproduction. At the center of this mechanism is the periodic fall in prices measured in terms of the use value of money material – gold – associated with crises. Mandel himself notes the "counter-cyclical" nature of gold production. But I don't think he fully grasped that it is precisely crises that are the mechanism that the capitalist economy employs to see to it that money material is produced in sufficient quantities to maintain capitalist expanded reproduction in the long run.

Since crises are capitalism's mechanism that sees to it that money material is produced in adequate quantities to sustain expanded reproduction, we

see that crises are not just accidents in the process of capitalist reproduction but are essential to it.

But how long is the long run? Is it one 10-year industrial cycle, or is it many industrial cycles? In our earlier examination of the "ideal cycle," I assumed for purposes of simplification that the period over which the quantity of money material is brought into line with the needs of capitalist expanded reproduction is exactly one 10-year industrial cycle. But is it? We will examine this question in the coming chapters.

If it could be shown that gold production moves in cycles considerably longer than the 10-year industrial cycle, corresponding to long cycles, then a material basis for a long cycle would be established. Using the three cycles recognized by Schumpeter, the Kitchin cycle involves the accumulation of commodity capital, the 10-year industrial cycle involves the accumulation of fixed capital, while Schumpeter's "Kondratiev cycle" would involve the accumulation of money capital in the form of money material (gold).

If this hypothesis is correct, and assuming that changes in the level of gold production involve cyclical forces, this would remove the objections of Trotsky and Sweezy that there is no mechanism for a long cycle as opposed to the shorter 10-year cycle and, in Sweezy's case, the "Kitchin" cycle as well. Cyclical fluctuations in gold production would then provide a mechanism not only for the transition from the long-cycle boom to long-cycle "recession" – though a different one than that proposed by Mandel – but also a mechanism for a transition from the long-cycle "recession" back to a long-cycle boom.

Is gold production cyclical?

Assuming that the level of gold production is indeed the main, if not the only, factor governing the transition from semi-stagnating capitalism to periods of flourishing capitalism and back again to semi-stagnant capitalism, that is still insufficient to prove the cyclical character of these transitions. To prove this, it would be necessary to show that the swings in gold production were themselves of a mainly cyclical character. But are they?

"But chance discoveries such as the rich bonanzas of California, Australia, the Transvaal," "are obviously exogenous factors that cannot be explained ... by what occurred during the previous long wave of capitalist development," Mandel wrote in "*Long Waves*,"

This is correct. The discovery of rich new gold mines in California, Australia, and later the Transvaal in South Africa did not represent a cyclical

process arising from within the capitalist economy but factors external to capitalist expanded reproduction, such as, in this case, geographic discoveries. Also, the longer the cycle of gold production is, the more likely the level of gold production will be influenced by non-cyclical factors, if only because it allows more time for the action of non-cyclical factors to appear. These non-cyclical factors include the depletion of existing mines, the discovery of new ones, and technological revolutions in the mining and refining of gold.

It is not hard to show that the production of gold and money material, in general, is only partially determined by cyclical movements of prices and relative rates of profits. If the long waves are governed primarily by changes in the level of gold production, this would imply that they would combine a cyclical element with non-cyclical elements. Such long waves would be expected to be far less regular and predictable than the 10-year industrial cycles or the 40- to 48-month inventory cycles.

Assuming, therefore, that gold production is only partially governed by cyclical forces – which I think is pretty obviously the case – how do the non-cyclical changes in gold production affect the process of capitalist expanded reproduction? Can these non-cyclical changes in gold production produce, at times, huge accelerations in the process of expanded capitalist reproduction and, at other times, throw a monkey wrench into the process that capitalist production uses to see to it that sufficient money material is available over the long run?

Since Mandel, despite a few hints, did not develop this line of investigation in either his book "Long Waves" or any other work, this is not the place to examine this question, which must, after all, concentrate on the line of investigation that Mandel did develop. We must therefore leave the question of the effects of changes in the level of gold production on long waves to future chapters.

The biggest problem that Mandel faced in the theory he presented is how a stagnating long wave is transformed into an expansionary long wave. If the stagnating waves reflect the long-term downward trend in the rate of profit, why shouldn't capitalism remain in a gradually deepening semi-stagnant state as the rate of profit declines until the working class finally overthrows it?

Mandel gave different reasons for each period of accelerated growth that occurred since the middle of the 19th century. For the first expansionary wave, which lasted from 1848 to 1873 – sometimes called by historians the

"mid-Victorian boom" – he did point to the huge expansion of gold production caused by the California and Australian gold discoveries and the consequent expansion of the world market. Here, Mandel did realize the crucial role that the production of gold as money material plays in the expansion of the market.

He attributed the 1896-1913 upswing in the long wave to the explosion of European, U.S., and Japanese colonization – the enslavement of the peoples of whole continents and the stealing of their natural resources – that occurred during the final decades of the 19th centuryHere Mandel seems to be echoing a view that was popular in the Second International in the opening years of the 20th century. The thriving condition of the world capitalist economy that had replaced the late-19th-century "long depression" was attributed by Karl Kautsky, the leading theoretician of the Second International, to the annexation of agricultural hinterlands by the imperialist "industrial countries," though in some of his writings, Kautsky also emphasized the role of rising gold production.

Later, Rosa Luxemburg developed this view in her "*Accumulation of Capital*," a theory that held that capitalist expanded reproduction is impossible in a purely capitalist society – consisting only of capitalists and their hangers-on on one side and productive workers on the other – because, according to Luxemburg, it would be impossible to realize the produced surplus value. Only the penetration by capitalist production into pre-capitalist countries, Luxemburg claimed, where simple commodity production rather than capitalist relations dominate, allows expanded capitalist reproduction to proceed.

We will examine Rosa Luxemburg's views in a later chapter dealing with the breakdown theory – the branch of Marxist economic theory that explores the ultimate limits of capitalist production. Mandel did not support Luxemburg's theory that expanded reproduction is impossible in a purely capitalist society, so examining Luxemburg's views does not belong here.

Mandel attributed the expansionary long wave that followed World War II to the historic defeat of the European working-class movement at the hands of fascism – the victory of Mussolini, Hitler, Franco, and the other capitalist dictatorships that arose in Europe after World War I. According to Mandel, this widespread smashing of the workers' organizations led to a large increase in the rate of surplus value, which temporarily reversed the fall in the rate of profit brought on by the rise in the organic composition of capital.

The consequent rise in the rate of profit, Mandel reasoned, set off a new investment boom and technological revolution as inventions that were made during the stagnant years between the two world wars were finally put into production after World War II. The result was the post-World War II expansionary long wave, whose end Mandel dated to around 1967. Mandel – who died in 1995, about midway through the "Great Moderation" – believed at that time that the stagnating wave was continuing with no end in sight.

Jefferies' application of Mandel's theory

Basing himself on Mandel's theory, the British Marxist Bill Jefferies has argued that the collapse of the Soviet Union and its allies in Eastern Europe, combined with the opening up of China to renewed capitalist exploitation under Deng Xiaoping and his successors, combined with the defeats that the workers suffered in the imperialist countries from the 1980s onward, represented a defeat for the world working class comparable to those that the European working class experienced during the fascist era of the 1920s through the 1940s.

Can the origins of the Great Moderation of 1983-2007 be found in such political events as the emergence of Deng Xiaoping as China's "paramount leader" in 1978, the election of Margaret Thatcher as British prime minister in 1979, followed by the rise of Ronald Reagan to the U.S. presidency in 1980, and finally the election of Mikhail Gorbachev as general secretary of the Central Committee of the Soviet Communist Party in 1985?

Deng, Thatcher, Reagan, and Gorbachev are all associated, each in their own way, with pro-capitalist, anti-working class "free market reforms." Such a conclusion would be well in accord with Mandel's theory of long waves. If Mandel's follower Jefferies is right, we will have to look to the sphere of politics rather than economics to find the roots of the Great Moderation or a renewed long-wave upswing beginning in the 1980s, which Jefferies believes is continuing as of this writing (2012) despite the Great Recession of 2007-09 and its aftermath.

Mandel's final views

Mandel did live to see the overthrow of the Soviet Union and its socialist Eastern European allies and the sharp turn toward capitalist development in China under Deng Xiaoping, as well as the assault on basic labor rights by U.S. and European governments that accelerated under Thatcher and Reagan. But Mandel continued to deny until his death in 1995 that the world

working class in the closing years of the 20th century had suffered a defeat on the scale of the fascist era of the 1920s through the 1940s, though he did acknowledge that setbacks had occurred.

Indeed, despite these "setbacks," Mandel wrote in the 1995 edition of "Long Waves" that "there will be no 'soft landing' from the long depression, only business cycle upturns followed by new recessions, with a steady increase in unemployment and long-term average rates of growth much lower than those of the 'post-war boom.'"

The rate of growth in most capitalist countries, especially the imperialist countries of North America and Western Europe, but also many but not all "developing" capitalist countries as well, was indeed lower during the Great Moderation of 1983-2007 than it was during the postwar boom of the 1950s and especially the 1960s. Anyone attempting to apply long-wave or long-cycle theory to the post-1945 years must keep this in mind.

However, official unemployment rates did slowly trend downward during the years of the Great Moderation in the imperialist countries in contradiction to Mandel's prediction that there would be a "steady increase in unemployment," though they generally remained well above the levels of the postwar boom. Only with the Great Recession of 2007-08 did official unemployment rates begin to rise again.

Therefore, did the long wave with an undertone of stagnation that Mandel claims began around 1967 continue right through the Great Moderation? Perhaps the Great Moderation – which, after all, was not a "Great Boom" such as those that occurred between 1848 and 1873, 1896 and 1913, and 1945 and 1967-8 – represented only a "moderation" within a continuing "long wave with an undertone of stagnation" that has lasted into the 21st century. If so, it would represent the longest-lived wave since at least the middle of the 19th century, lasting right up to the COVID shutdowns of 2020.. If we count from 1967, this would be about 53 years of stagnation.. But as we have seen, such a protracted long wave with an undertone of stagnation is perfectly possible according to Mandel's semi-cycle long-wave theory.

CHAPTER 24:
The Place of the Great Depression in History

The Great Depression, which began in 1929 and lasted until World War II, holds a unique place in world economic history. "The Great Depression," wrote bourgeois economist J. Bradford DeLong, "has a central place in 20th century economic history."

He explained: "In its shadow, all other depressions are insignificant. Whether assessed by the relative shortfall of production from trend, by the duration of slack production, or by the product – depth times duration – of these two measures, the Great Depression is an order of magnitude larger than other depressions: it is off the scale. All other depressions and recessions are from an aggregate perspective (although not from the perspective of those left unemployed or bankrupt) little more than ripples on the tide of ongoing economic growth. The Great Depression cast the survival of the economic system, and the political order, into serious doubt."

The economic crisis of 1929-33, though it was in some ways just another cyclical crisis of overproduction, clearly involved some other factor or factors that converted a "normal" cyclical economic crisis into something quite different. But what were they? To distinguish the crisis of 1929-33 from usual capitalist cyclical crises, I will call it the super-crisis.

The Depression was far from the only capitalist disaster of the first half of the 20th century. It was preceded by World War I, the bloodiest war in world history up to that time. According to Wikipedia, the total number killed in World War I is between nine and 16 million. During World War II, the estimates for the total number of dead ranged from 50 million at the low end to more than 70 million at the high end, an order of magnitude greater than that of the preceding world war.

However, the Depression forms the centerpiece of the era that began in August 1914, when World War I began in Europe with the guns of August, and ended in August 1945 with the dropping of atomic bombs by the United

States on the Japanese cities of Hiroshima and Nagasaki. During these 31 years, the entire capitalist "order" appeared to be hanging by a thread.

Three years after World War I broke out, the Russian Revolution occurred, which brought the working class to power in the former Russian Empire. This revolution, the greatest revolution in world history up to the time these words are being written, was to be the dominating event of the rest of the 20th century.

But the Russian Revolution was not the only significant event between August 1914 and August 1945. The 31 years saw the definite eclipse of the British Empire as the world's leading power. In its place, there arose a far more powerful world empire centered on a former British white colony, the United States.

The replacement of the British Empire and the lesser empires of Russia, France, Belgium, and Japan by the U.S. world empire was no peaceful affair. It took two world wars before Yankee domination was definitely established over the capitalist world. After that, it took the so-called Cold War from 1945 to 1989 – which became quite hot in Korea and Vietnam, causing millions of additional deaths – before "the Empire" was able to wear down the resistance of the Soviet Union and its Eastern European allies.

When this is being written, "the Empire" is still working on breaking the resistance of China, Vietnam, North Korea, Cuba, many Latin American countries, Syria, Yemen, Palestine, and Iran. While the list of countries resisting the Empire or that are in its crosshairs at any given time will change, one thing will remain unchanged until the U.S. empire finally falls. The U.S. empire will not be, and by the very nature of the monopoly capitalism it is based on, cannot be, satisfied until every country on earth is stripped of any meaningful independence and reduced to either a satellite imperialist country or a neo-colony. If another world empire based on monopoly capitalism replaces the U.S. empire, the same will apply to that empire in the future.

The bloody rise of the U.S. world empire

The years between 1914 and 1945 also saw the rise and fall of European fascism. Though it lasted only 12 years, the German fascist dictatorship of Adolf Hitler spread unprecedented destruction across Europe. In the USSR alone, at least 20 to 27 million people died. Under the fascist dictatorships, all forms of working-class organization, from the most revolutionary Communist parties, the Social Democratic parties, and trade unions to the Catholic trade-union movement, were brutally crushed.

Fascism achieved this by creating mass organizations, including armed militias recruited mainly from the middle classes, that waged civil war on all working-class organizations. The fascist dictatorships were quite different from traditional military dictatorships and other forms of capitalist reaction. The traditional reaction uses the military and the police to repress working-class organizations, but does not create mass organizations and militias somewhat independent of the traditional army and the police to wage war on working-class organizations. However, creating mass, mostly middle-class organizations to wage war on all workers' organizations is precisely the essence of fascism.

One consequence of fascism was the decision of the German government to kill every Jew it could get its hands on, including not only men but also adults, older people and infants. It is important to understand that the Nazis did not define Jews as followers of the Jewish religion but as members of the alleged "Jewish race." Among the "Jews" exterminated by the Nazis for no crime other than being Jews by the Nazi racial definition were Christian and atheist Jews.

The Nazis also killed many Roma people. Apparently, the Nazi "racial experts" couldn't determine whether the Roma, whose ancestors are believed to come from India, were "Aryans" or not. So to be on the safe side, they decided to kill them, too. The Nazis also clarified that they intended to reduce all the Slavic peoples – Russians, Poles, Ukrainians, Belorussians, Czechs, and Serbians – to what the Nazis called "slavery," when they did not exterminate them outright.

The Hitler tyranny proved a godsend for the leaders of U.S. imperialism. This was perhaps the only war in world history where the leaders of one side did not have to exaggerate monstrously the crimes of the other side.. If anything, the leaders of the United States and Britain played down the extermination of the European Jews – after all, anti-Semitic sentiments were not precisely absent in the United States or Britain – and it goes without saying that the U.S. and British leaders were not exactly champions of the rights of Communists.

Economically, the years between 1914 and 1945 were marked by one economic disaster after another. First, the economic disaster on the European continent was caused by the destruction of a significant part of a whole generation of young people, not to speak of the physical destruction of World War I itself. In Germany, the economic crisis directly caused by the war and the consequent blockade far exceeded in scope any of the pre-World War I cyclical crises of overproduction.

After the war ended, a hyperinflation crisis hit Germany and many other central and eastern European countries. And then, just as the world economy seemed to be returning to normal, there came the super-crisis of 1929-33, followed by years of lingering Depression and mass unemployment until World War II began.

The standard process of expanded reproduction suspended

But it is the Depression itself as an economic event that we will be examining in this and the coming chapters. For 15 years, the normal process of expanded capitalist reproduction in the most powerful capitalist country on earth – the United States – was suspended. First, by the super-crisis of 1929-33 and the Depression that followed, and then by World War II, which grew out of the Depression. And interestingly enough, it was this same country that was least affected by the destruction of World War I – and was the only real winner in that war – that was hardest hit by the Depression. To examine why this was so, we will have to penetrate deeply into the nature of capitalist production, its contradictions.

In its wake, it became almost an article of faith among many, perhaps most, Marxists of the era that capitalist expanded reproduction – capitalist economic prosperity – could never return. Either there would be the "prosperity" of the war economy, such as experienced in the United States during World War II, which is actually a form of contracted reproduction, or Depression with a capital "D" – not the depressions of the pre-World War I kind – would reign until the victory of the world socialist revolution.

Since World War I had been followed by the Depression, it was assumed that a proportionally greater Depression would follow the much "greater" World War II – if not right away, then surely after the process of postwar reconstruction had been completed. In the years after World War II, Marxists eagerly looked for signs of a "new 1929." Every recession, even every sharp sell-off in the stock market, raised a wave of speculation that the Depression was returning.

But despite all these expectations, shared not only by Marxists eager for a socialist revolution – but fearfully by many bourgeois economists as well – capitalist expanded reproduction resumed with great power shortly after the war. A great new period of capitalist prosperity set in.

In some ways, this resembled the period that followed the 1848 revolutions we examined in the last chapter, dashing the hopes of a whole revolutionary generation for a victorious global socialist revolution within their

lifetimes. As would be expected, many bourgeois ideologues and economists proclaimed that this largely unexpected new era of economic prosperity had finally "refuted" Marx.

Even many Marxists saw the post-World War II economic upswing as bringing Marxism into doubt. "Since 1945 there has been a period of unprecedented prosperity and growth within the capitalist world," Kenneth J. Tarbuck wrote in the early 1970s at the very end of the long prosperity, "which would seem to cast doubt on the Marxist theories of development and crisis." (Introduction to "*The Accumulation of Capital – An Anti-critique*" by Rosa Luxemburg, and "*Imperialism and the Accumulation of Capital*," by Nikolai I. Bukharin, Monthly Review Press, 1972). Tarbuck wasn't the only Marxist who expressed such thoughts during the "Long Boom" that followed the 31 years between August 1914 and August 1945.

Did the 'Long Boom' refute Marx?

It was Marx who had done what none of the bourgeois economists had been able to do. He actually explained the process of expanded capitalist reproduction. He stressed that the capitalist mode of production could exist only in this form of expanded reproduction. In volume II of "*Capital*," Marx developed his famous diagrams of expanded reproduction, which indeed form the basis – if often unacknowledged – of all modern capitalist "growth theories."

How exactly did the resumption of capitalist expanded reproduction that Marx considered normal and indeed inseparable from capitalism "cast doubt on Marxist theories of development"? Wasn't capitalism after 1945 behaving just as it was supposed to, according to volume II of "*Capital*" and indeed Marx's other mature writings? What cries out for an explanation is not the process of expanded capitalist production after World War II – that is, capitalism behaving "normally" – but rather the near collapse of capitalist expanded reproduction between 1914 and 1945 – especially during its centerpiece, the Great Depression of 1929-1940.

The Depression and the industrial cycle

We have seen that expanded capitalist reproduction cannot proceed smoothly year by year as it does in Marx's Volume II diagrams. Inevitably, expanded capitalist reproduction is and must be broken up into a series of industrial cycles once capitalism has reached a certain level of development. Each industrial cycle is crowned by a crisis of overproduction that momen-

tarily disrupts the process of expanded reproduction. Each crisis marks the end of one industrial cycle and the beginning of the next one.

However, since the overall process across the industrial cycles is one of expanded reproduction, this implies that each successive industrial cycle will exceed its predecessor in terms of output and the number of workers exploited by capital before it ends in a crisis.

In the earlier chapters, we examined an "ideal economic cycle" to show how the contradictions of capitalism in the course of the industrial cycle make inevitable a crisis that momentarily interrupts the process of expanded reproduction. However, it is precisely the crisis that allows capitalist expanded reproduction to then resume its normal course.

How exactly did the industrial cycle of 1920-1929 deviate from the "ideal industrial cycle" so that it ended not in a "normal crisis" but rather the super-crisis of 1929-33, which pretty much sank capitalist expanded reproduction altogether for the next 15 years?

Some popular theories of the Depression

Let's review some of the theories of the causes of the Great Depression advanced by both economists and Marxists. Perhaps the most superficial is Milton Friedman and Anna J. Schwartz's claim that the Depression was caused by the failure of the U.S. Federal Reserve System to expand the U.S. money supply adequately during the 1920s and then allowed – or in some versions even caused – the U.S. "money supply" to contract by one-third between 1928 and 1933.

According to Friedman, Schwartz and their supporters, the mistakes of the U.S. Federal Reserve System caused the otherwise "very healthy and stable U.S. economy" and, thus, the world economy of the late 1920s to collapse. Superficial though this explanation is, it has dominated university economics departments for a generation.

Another theory put forward by the supporters of the Austrian school – who share the "neoliberalism" of the Friedman school but in an even more extreme and dogmatic form, if that is possible – claims that, on the contrary, the Depression was not caused by the "deflationary" policies of the U.S. Federal Reserve System but rather by the "inflationary policies" of the same Federal Reserve System. According to the Austrians, it was the "inflationary policies" followed by the Fed during the decade of the 1920s that made the Depression inevitable. Therefore, the two leading "neoliberal" schools of

modern political economy, the Austrian school and the Friedman school, advance exactly opposite explanations of the causes of the Depression.

Some other Depression theories

Another theory of the Depression was proposed by the bourgeois economist Joseph Schumpeter. He explained the Depression as, at least in part, due to mutually reinforcing downturns in the three innovation-driven economic cycles that, according to Schumpeter, characterize capitalist production. According to this theory, these economic cycles are the industrial cycle, called by Schumpeter the Juglar cycle, the three-year inventory or Kitchin cycle, and the alleged 50- to 60-year Kondratiev cycle.

An explanation for the Depression that is far more popular among non-economists, political progressives, and trade unionists is that the Depression was the result of the "underconsumption of the masses" caused by the failure of wages to keep up with the unusually rapid growth in the productivity of labor that occurred during the 1920s. This led the supporters of this theory to see the problem as the centralization of much of the purchasing power of society in the hands of a few extremely rich capitalists.

Since this theory holds that these capitalists could not find ways to spend all their vast incomes on high living – despite their best efforts – there were simply too few people both willing and able to buy more than a fraction of the vast number of commodities that capitalist industry was able to produce. This ended with a massive crisis of underconsumption that we call the Depression.

The Depression and the tendency of the rate of profit to fall

Opposite to the view supported by some Marxists based on Marx's famous law of the tendency of the rate of profit to fall is the view that the rate of surplus value was too low in the 1920s to maintain an adequate rate of profit in the face of a rising organic composition of capital. The rate of profit fell so much that the capitalist investment that drives both simple and expanded reproduction ground to a virtual halt.

This theory finds support from the followers Henryk Grossman and Paul Mattick, and to some extent Ernest Mandel in his final years and Anwar Shaikh. Mandel, at least in part, saw the Depression as a downturn in one of the "semi-cycles" that he believed characterize capitalist production. (See the previous chapter.)

John Maynard Keynes's views on the causes of the Depression

Returning to the views of the (bourgeois) economists proper, John Maynard Keynes believed that the Depression was caused by a slowdown in the growth of the population and a consequent slowdown in the growth of the demand for material use values. This led to a considerable fall in the rate of profit – or the marginal efficiency of capital.

According to Keynes, this would not have, in and of itself, caused the Depression. If the long-term rate of interest had fallen sufficiently, the Depression would have been avoided. Instead, society would have devoted more productive capacity and labor time to producing consumer goods relative to capital goods. Economic growth would have slowed as the day approached when all the material needs of all members of society would be fully met. But for various reasons, such as the operation of the international gold and gold-exchange standards and the power of the money capitalists over the policies of the Bank of England, the long-term rate of interest failed to fall sufficiently to offset the decline in the rate of profit. This led to an economic equilibrium of mass unemployment that has gone down in history as "the Depression."

An obvious problem with the Keynesian view is that while the material needs of the wealthy – Keynes and his well-to-do friends' needs were certainly being fully met – this was hardly true of the needs of most of the people of the world as a whole – certainly not the vast majority of the residents of India and China, nor Africa! If a glut of material use values relative to absolute human needs were the cause of the Depression, it is hard to see why there was any Depression at all in the 1930s, let alone the Depression that actually occurred.

Fluctuations in capitalist expanded reproduction throughout the history of capitalism

It seems clear that the pace of capitalist expanded reproduction has experienced major fluctuations that exceed the span of a single industrial cycle. For example, capitalist growth stumbled severely during the 1830s and 1840s, the formative years of Marx and Engels, making it appear to those then alive that the whole process was grinding to a halt. This, indeed, was the view of the youthful Marx and Engels.

It then suddenly accelerated during the 1850s, sinking the hopes of Marx and Engels for a socialist revolution within their lifetimes. Perhaps it began to lose some of its momentum during the 1860s and slowed much more

after the crash of 1873. It picked up again around 1896, gaining astounding momentum around the turn of the 20th century.

Capitalist expanded reproduction began to slow a bit after the brief but violent crisis of 1907. Then came World War I with its nine to 16 million dead, the postwar economic chaos accompanied by revolutions – including the revolution of October 1917 in Russia – and the fascist and other counterrevolutions. And then, just as the process of expanded capitalist reproduction seemed to be resuming its normal course, it collapsed into the super-crisis of 1929-33.

Since 1945, we can also trace several long-term fluctuations in the pace of capitalist economic growth. Capitalist expanded reproduction proceeded lustily from the late 1940s until about 1967-68. It then went through a period of extreme instability and crisis until around the end of 1982. Between 1983 and 2007, it entered a new period of relative stabilization, though it did not regain its pre-1968 momentum. Then came the crash of 2007-09, which led to a new slowdown in the pace of capitalist expanded reproduction that lasted down to the COVID shutdowns of 2020.

But up to the time of this writing, the Great Depression remains unique. Is a similar collapse lurking in the future? Or perhaps it has already occurred by the time you, the reader, are reading these lines. If it has, what are the chances of capitalist expanded reproduction resuming with renewed vigor for a period of decades in the future and then collapsing yet again?

A test for crisis theories

We can't even begin to answer these questions if we don't understand the 31-year period between August 1914 and August 1945, and especially its centerpiece, the Depression of 1929-40. Is there any more important question than this in crisis theory? No crisis theory can be considered adequate, in my opinion, if it can't explain the Depression. That is why I am devoting a whole section of this work to examining this one past – but no ordinary – episode in economic history.

The Depression and monopoly capital

In my opinion, another theory that has been put forward that deserves special attention is the "stagnation theory" of the Monthly Review school, which is associated with the work of the U.S. Marxist economist Paul Sweezy. This theory puts the question of monopoly – the inevitable result of "free competition" and the centralization of capital – at the center of its ex-

planation of the Depression. It is precisely because the stagnation theory of Sweezy combines the question of monopoly and stagnation that it deserves special attention.

Paul Sweezy's theory of stagnation

Through many years of research and study, Paul Sweezy concluded that economic growth – expanded capitalist reproduction – was the natural state of pre-monopoly competitive industrial capitalism. In contrast, the normal condition for monopoly capitalism is economic stagnation – or Depression-like conditions.

The question then becomes not what caused the Depression – which is actually the normal condition of monopoly capitalism, according to Sweezy – but rather why expanded capitalist reproduction – the Depression era aside – dominated monopoly capitalism just like it dominated the capitalism of the era of free competition.

Paul Sweezy's theory of stagnation and the Depression

Paul Sweezy studied economics at the London School of Economics and Harvard during the 1930s. He received a thoroughgoing education in neoclassical marginalist economics. Disgusted by the gap between the economic theory that he was learning, which claimed that "full employment" was the only stable equilibrium of capitalism, and what was happening in the real world, he fell under the influence of John Maynard Keynes after a brief flirtation with the Austrian school, just like many other young economists of his generation.

But unlike most young U.S. economists of the time, Sweezy didn't confine himself to Keynes. Radicalized by the Depression, he also became a student of Marx and came to consider himself a Marxist. Therefore, Sweezy was influenced by three quite different schools of thought: traditional neoclassical marginalism, Keynes's modified marginalism, and Marxism.

In addition, he was influenced to a certain extent by his friend at Harvard, Joseph Schumpeter – yes, Sweezy and Schumpeter were friends – who we have seen had his own ideas of the causes of the Depression, though Sweezy and Schumpeter were at opposite ends of the political spectrum. As a professionally trained economist, Sweezy, in his person, bridged the worlds of university economists and Marxists.

Beginning in the 1930s, some young economists influenced by Keynes, and sometimes by Marx as well, modified traditional marginalist theory,

which supposedly described the operation of a capitalist economy under conditions of "perfect competition," to take account of a capitalist economy with a "considerable degree of monopoly." In his book "*Monopoly Capital*," which he co-authored with his fellow socialist economist Paul Baran, Sweezy presented his developed theory of monopoly capitalist stagnation.

Baran and Sweezy held that the laws of motion of capital analyzed by Marx in "*Capital*" apply only to an economy based on free competition. They held that quite different laws of motion apply to monopoly capitalism.

"The Marxist analysis," Baran and Sweezy wrote, "still rests in the final analysis on an assumption of a competitive capitalist economy." They went on to observe: "Neither Lenin nor any of his followers attempted to explore the consequences of the predominance of monopoly for the working principles and 'laws of motion' of the underlying capitalist economy. There Marx's '*Capital*' continued to reign supreme."

Under the influence of his London School of Economics and Harvard education – or rather miseducation – Sweezy continued to believe that under free competition, the natural state of the capitalist economy is growth and full employment – though, in practice, interrupted from time to time by economic crises and unemployment. In contrast, monopoly is characterized by stagnation. According to this school, neoclassical marginalism emphasizes that competition is responsible for full employment and the near-ideal satisfaction of consumer wants that characterize the capitalist system. But what happens when free competition gives way to monopoly?

As the centralization of capital proceeds, according to Sweezy, more and more branches of industry become dominated by a few gigantic corporations. Price competition dies out as corporations find it in their interests to divide up the market or compete with one another through methods other than price competition, such as through advertising. As a result, monopoly prices swell the mass of profit appropriated by these monopoly corporations.

But this, Sweezy and his supporters in the Monthly Review school argued, creates another problem. What do the monopoly corporations do with this swollen mass of profit? Under free competition, the surplus value is consumed – or "absorbed," using the terminology of Baran and Sweezy, through either unproductive capitalist consumption or productive capitalist consumption – the process described by Marx in Volume II of "*Capital*." Remember, by the productive consumption of surplus value, Marx meant the transformation of realized surplus value into new capital.

But under monopoly capitalism, according to Sweezy and his school, this process is blocked in two ways. First, the swollen mass of monopoly profits is so great that the capitalists can consume only a small part of it in personal consumption, no matter how extravagant their standard of living is. Second, the monopoly profits cannot be fully reinvested, because this would cause the collapse of the monopoly profits, in effect killing the monopolistic goose that lays the golden eggs. Therefore, the monopolistic corporations are transformed into gigantic sinks of purchasing power, leading to economic stagnation – unless some outside force intervenes.

Sweezy claimed that Marx's famous tendency of the rate of profit to fall is either no longer valid or is of little importance under monopoly capitalism. Instead, it is the tendency for what Sweezy (and Baran) called "the surplus" to rise that replaces the "tendency of the rate of profit to fall" as the most important economic law. However, whether or not "the surplus" actually leads to greater masses and rates of profit depends on the extent to which "the surplus" is "absorbed." If "the surplus" is not absorbed – that is, if the swollen profits that have already been realized in money form are hoarded – the rate and mass of profit will collapse as the economy descends into depression.

While many Marxists, such as Ernest Mandel, for example, saw only the redistribution of a given mass of surplus value in favor of the branches of capitalist industry dominated by monopoly at the expense of other branches where free competition still reigned, Sweezy (and Baran) saw an actual increase in the mass of surplus value, arising from the monopoly pricing power of the corporations. Sweezy (and Baran) believed that the monopoly capitalists could sell consumer goods to the workers at monopoly prices, thereby increasing the rate of surplus value in the process of circulation. In this way, the ability of the masses of people to purchase the commodities that the monopoly capitalist corporations churn out is undermined, breeding either crises of underconsumption or stagnation.

Under the influence of Schumpeter, Sweezy saw great technological innovations as periodically leading to periods of capitalist growth and prosperity. Unlike Schumpeter, however, he didn't see anything cyclical about these periodic waves of innovation-driven investment. He saw them instead as accidental incursions on the operation of the monopoly capitalist economy from the sphere of science and technology. Historically, Sweezy believed these influences from the world of science and technology were at first a powerful counterforce against the stagnation-Depression, which, according to Sweezy, was the natural state of monopoly capitalism.

At the beginning of the monopoly capitalist era, the railroad industry could absorb "the surplus" generated by the rising power of the monopolies. After the crisis of 1907, this "railroadization" process, as Sweezy called it, began to slow down. Indeed, though the 1907 crisis was not immediately followed by anything like the 1930s Depression, the unemployment rate rose, and the economic growth rate slowed in the years between the crisis of 1907 and 1915, when the rising demand for weapons from war-torn Europe stimulated U.S. industry.

Sweezy explained this pronounced slowing of growth and the resulting rise in unemployment by a dramatic decline in railroad construction in the wake of the 1907 crisis. Railroads were no longer fully "absorbing the surplus," and symptoms of stagnation began to appear in the form of lower economic growth and higher unemployment.

Borrowing from Schumpeter, a full-scale Depression could still be staved off even in the face of the growing power of monopoly if a new technology replaced the railroad. This, according to Sweezy, is exactly what happened. The rapidly developing automobile industry provided a huge field for investment since the automobile led to the rise of a whole range of secondary industries.

For example, auto parts, tires, rubber, gasoline stations, and building a system of roads and highways. Eventually, "automobilizaton" made the whole phenomenon of suburbanization possible. According to Baran and Sweezy, huge amounts of "surplus" were absorbed by this process during the 1920s, staving off depression even after the stimulative effects of World War I had run their course.

The Depression as the perfect economic storm

However, by the end of the 1920s, "the economic surplus" generated by the ever-more-powerful monopolies had become so huge that not even the automobilization process could fully absorb it. The capitalist economy abruptly collapsed into its natural state of stagnation – the Depression was on. The increased government spending by the federal government under Franklin Roosevelt's New Deal, according to Sweezy, was far too little to end the Depression, though a much bolder program of government spending would have succeeded.

The New Deal spending actually only replaced the spending that had previously been carried out by cash-strapped state and local governments. Overall, government – federal plus state and local – spending was virtual-

ly unchanged. This came nowhere near the level that would have absorbed enough of the "economic surplus" to solve the 1930s mass unemployment crisis. However, where the New Deal failed, the World War II war economy succeeded, and the Depression ended.

Two schools of Marxist thought on the Depression's origins

Among Marxists, we generally see two schools of thought on the Depression's origins. One school implies that there wasn't enough surplus value produced to maintain the level of investment necessary to avoid the Depression. If the capitalists had been more successful in driving up the rate of surplus value, the Depression would not have occurred. Henryk Grossman, Paul Mattick, Ernest Mandel of "Long Waves" theory and Anwar Shaikh are examples of this viewpoint.

Other Marxists, most notably Paul Sweezy, held the exact opposite viewpoint, supporting various versions of the underconsumption theory. According to these Marxists, if only the rate of surplus value had been lower, the Depression would have been avoided.

James Devine's Goldilocks theory

The Marxist economist James Devine has tried to reconcile these two views. He assumes that a kind of Goldilocks rate of surplus value is necessary for capitalist prosperity. If the rate of surplus value is too low – for capitalism, that is – there is an insufficient rate of profit, leading to stagnation or depression. If, on the other hand, the rate of surplus value is too high, there is a crisis of underconsumption, also leading to stagnation and depression.

Two schools of neoliberal thought on the Depression's origins

Curiously enough, as we have seen above, the phenomenon of explaining the Depression by two opposite causes is also found among neoliberal economists at the right end of the political spectrum. The neoliberals are divided between the views of the Austrian school, which blames the Depression on the "inflationary" policies of the U.S. Federal Reserve System, and the supporters of the Milton Friedman school, who claim that the Depression was caused by the Federal Reserve System's "deflationary" policies.

These conflicting views on the Depression's origins should leave the reader uneasy. Something very fundamental appears to be missing in all these theories. We must continue our search to find exactly what it is.

CHAPTER 25:
History of Gold Production from the 'Gold Rush' to 1914

The World Gold Council estimates that in the years 1840 to 1844, some 146 metric tons of gold were produced worldwide. Between 1855 and 1859, estimated gold production rose to 1,011 metric tons. This is an increase of 590% in 15 years. In terms of percentages, this is by far the greatest increase in gold production for which reasonable data on world gold production is available.

The reason for this amazing increase was the discovery of gold in California in 1848 and Australia in 1851. It was this mass of newly mined and refined gold that fueled the expansion of the world market – what Marx called a new 16th century – that, among other things, drowned the hopes of Marx and Engels for a revolution that would bring the working class to power in Europe during the 1850s. Instead, the massive expansion of the market caused by the gold discoveries led to a powerful surge in the development of industry on a capitalist basis.

When gold was discovered in California, much of it was near or even at the surface. The gold was found in stream beds, washed down from the Sierra Nevada mountain range into the streams of its western foothills. The gold found in stream beds is known as "placer gold," because it changes place when washed down from the mountains to the stream beds.

The individual value of the gold found in the stream beds was very low. It took relatively little labor to "pan" the gold nuggets from stream beds. Indeed, when somebody accidentally discovered a large nugget of gold in a stream, the individual value of the gold was trivial.

Once gold was discovered in California, swarms of people – known in history as 49ers – searched for quick and easy wealth. They began staking their claims to promising stream beds in the Sierra foothills, known in California as "the gold country."

The result was that this easy-to-obtain gold with a very low individual value was quickly exhausted. If this had not been the case, the value of gold – the amount of labor it took on average to produce a given quantity of the metal measured in terms of weight – would have declined drastically. This would have led very quickly to the demonetization of gold.

As the pannable placer gold was quickly exhausted, the initial surge in simple commodity production gave way to capitalist production of gold proper. Capitalist-organized mining companies employing wage labor arrived and began to drill for gold in granite rock formations. The individual value of the gold produced by these industrial capitalists was already much higher than the placer gold panned from the stream beds, but still considerably lower than the previous value of gold on the world market. The result was a major fall in the value of gold money worldwide.

When gold functions as the money commodity, prices are expressed in the use value of gold measured in weight. Under the gold standard, various gold weights are given names such as pounds and dollars. The resulting decline in the value of gold relative to most commodities then expresses itself as a rise in the general price level.

The quantity theory of money versus the Marxist theory of money

Bourgeois economists and bourgeois economic historians applying the quantity theory of money to metallic money always claim that the great increase in the quantity of gold caused by the California and Australian gold discoveries led to the considerable rise in prices between 1848 and 1873. The latter year marked the peak of the price rise that had begun with the discovery of California gold.

However, as we have already seen, the quantity theory of money does not apply to metallic money. According to Marx's law of labor value, the fall in the value of gold relative to the value of most other commodities caused prices to rise in the years after 1848. An increase in gold production with gold and other commodity values remaining unchanged will cause an expansion of the market. But, all other things remaining equal, this will not lead to a permanent rise in the general price level.

How much did prices rise after the gold discoveries of 1848 and 1851?

We can use the British wholesale price index to measure the decline in the purchasing power of gold after the gold rush. Britain was on the gold standard throughout this period. The gold value of the British pound did

not change during this period. Therefore, price changes in terms of pounds were identical to price changes in terms of gold.

The British wholesale price index rose from 86 in 1849 to 130 in 1873 (1913 = 100). Prices in 1873 were not only well above those in 1849 when the first California gold reached Europe, but they were also well above the level of 1913. Since Britain was continually on the gold standard during these years, this rise in prices did not reflect any depreciation of the British pound against gold but represented a real fall in the purchasing power of gold relative to commodities.

By what mechanism does a fall in the relative value of gold raise prices? Some Marxists have expressed puzzlement at exactly how a fall in the value of gold relative to commodities leads to a rise in the price level. This is a good question. The industrial capitalists certainly do not calculate the value of gold in terms of the labor time socially necessary to produce it, then calculate the value of the commodities they are selling in terms of the labor time needed to produce them, and set prices accordingly.

In reality, it is the industrial cycle or a series of industrial cycles that adjusts the actual market prices to the values of commodities. When a sudden fall in the value of real money – gold – occurs, a series of industrial cycles dominated by the boom phase of the cycle follows that ratchet up the general price level. That is, the rise in the general price level during the upward phase of the industrial cycle, when the demand for the number of commodities on the market is greater than their supply at current prices, is greater than the fall in prices that occurs during the downward phase of the industrial cycle, when the converse is true.

The result will be a rise in prices across the cycle. Here we see that the industrial cycle is the instrument that the law of value utilizes to keep prices more or less in line with actual commodity values on average over the long run. Interestingly, while this value-price adjustment process in response to the fall in the value of gold was underway between 1849 and 1873, though there were crises, there were *no prolonged depressions* in the world capitalist economy.

Effects of increased gold production, the relative values of gold and commodities remaining unchanged

What would happen if new gold deposits were discovered that made possible a considerable rise in the production of gold, but the new mines were no richer than the existing ones? As we have seen, an economic boom of more than average strength and duration would also lead to a rise in prices.

However, as soon as the general price level begins to rise, the cost price of the gold mining capitalists will rise, lowering their rate of profit to a level below the average rate of profit. As the rate of profit of the gold capitalists falls below the average rate of profit, capital will flow out of gold mining into other, more profitable branches of industry. There will be a fall in gold production, with all the consequences in rising interest rates and tightening money markets ending in a crisis of overproduction.

During the crisis, commodities are largely unsalable at existing prices. Prices are then slashed as the industrial and commercial capitalists scramble for liquidity by selling off their overproduced commodities at reduced prices. By reducing gold production as the general price level rises above the labor value of commodities, the law of value prevents the general price level from rising permanently in a situation where the relative value of gold and commodities remains unchanged.

Effects of increased gold production when the value of gold falls relative to commodities

Suppose, as happened after 1848, the value of gold itself fell due to the discovery of new, richer gold deposits. The mines that make it possible to produce a given quantity of gold will take less labor on average than before. This will mean the average cost price for the industrial capitalists involved in gold mining and refining will drop. The rate of profit in gold production will then rise both absolutely and relative to the average rate of profit. Capital, always in search of super-profits above and beyond the average rate of profit, will flow into the gold mining and refining industries, causing the production of gold to climb.

This will lead to an accelerated rate of growth in the quantity of gold on the world market. Bank reserves will rise, the rate of interest will fall, and the profit of enterprise will increase. In other words, more of the surplus value will go to the industrial capitalists and less to the money capitalists. This will encourage a portion of the money capitalists to convert themselves into industrial (and commercial) capitalists.

The market will expand at an accelerated rate, and the whole process of capitalist expanded reproduction will accelerate. The resulting boom conditions will mean that demand will exceed the supply of commodities at existing prices. Prices will have to rise to close the gap between supply and demand.

At some point, prices will again reach the level where they will more or less directly reflect the values of commodities. As prices continue to rise

above this level, the rate of profit in the gold mining and refining industry will fall below the average level, capital will begin to flow out of the gold mining and refining industries, and gold production will decline. The growth in the quantity of real money, gold, will begin to slow down.

As the growth rate of the world's hoard of monetary gold relative to the rate of growth of real capital begins to slow down, the rate of interest will rise, lowering the profit of enterprise. Sooner or later, a crisis of overproduction – or a series of crises – will break out that will again lower the prices of commodities to – or below – their values.

At that point, gold production – all else remaining equal – will again increase. But this equality, on average, between market prices and underlying labor value will be expressed by higher prices than before. Prices will now fluctuate around an axis determined by the relative values of gold and commodities, just like before the discovery of the rich gold deposits, but the axis of prices – or prices of production – around which market prices fluctuate, will be higher than before. Instead of a temporary price rise caused by a stronger-than-average economic boom, we would have a permanent rise in the average level of prices across the industrial cycle.

This long-term process of adjusting prices to values looks suspiciously like a mechanism for the proposed Kondratiev cycle. Marxists as different as Trotsky and Sweezy rejected the Kondratiev cycle because they didn't see a cyclical mechanism that could operate over 50 years. However, here we see a possible mechanism for a long cycle involving the production – mining and refining – of money material.

Suppose we have a situation where the relative values of gold and commodities remain unchanged, but, as always, market prices fluctuate on average around the values – or, more strictly, the direct prices – of commodities. If the adjustment process of prices to underlying values unfolds over several industrial cycles rather than a single industrial cycle, we will have a true long cycle, not a mere "wave."

For example, when a boom phase of an industrial cycle drives prices above values, it will take a while for gold production to begin to decline. Even as gold production declines, it takes a period before the ratio between the total quantity of monetary gold in the world and the total amount of real capital changes significantly. As profit in gold mining declines both relatively and absolutely, exploratory budgets devoted to finding new gold mines will be cut back. But again, it will take a certain period before the reduced exploratory budgets are reflected in declining gold production. Eventually,

however, such a situation will lead to a "depression" in gold production, defined as a lower level of gold production than the previous peak.

The longer the depression in gold production lasts, the greater the disproportion between money capital – gold – and real capital will become. Or what comes to the same thing, the more severe the shortage of money will be. Eventually, the increasing shortage of liquidity – money – relative to the continued rise in the production of commodities will lead to a series of crisis/depression-dominated industrial cycles. This would represent the down phase of the proposed "long cycle."

Once the general price level falls below the value of commodities, it will take a while for gold production to increase in response to a rise in the gold mining and refining industry's absolute and relative rates of profit. For example, the rise in both the relative and absolute rate of profit in the gold mining industry will lead to an increase in exploratory budgets, but it will take time before new gold-bearing land is found and new mines are developed and put into production. Eventually, however, a "boom" in gold production will develop.

The longer the boom in gold production lasts, the greater will be the quantity of money capital relative to real capital. Huge hoards of idle money will build up in the banks, and the rate of interest will fall to very low levels. A huge mass of idle money will burn a hole in the collective pocket of the capitalist class. Eventually, the capitalists will move to transform the hoards of money into capital; the market will suddenly expand. This process will launch the upward phase of the long cycle.

The mechanism for the long cycle?

The above-described cycle is a true cycle and not just an accidental long wave. One phase of the cycle leads to the next phase of the cycle. And unlike the case with Mandel's long waves, we have a mechanism for both the downward turning point and the upward turning point of the cycle. There is also a material basis for such a long cycle. If the material basis for the 10-year industrial cycle is the periodic renewal of fixed capital, and the expansion of commodity capital – inventory – forms the material basis of the short Kitchen cycle, the material basis of the long cycle would be long-term cyclical swings in the production of money material – gold.

Changes in the level of gold production are not necessarily cyclical

However, here we have a difficulty. Are changes in the level of gold production dominated by cyclical forces or accidental forces?

To the extent that the value of gold falls relative to commodities due to the discovery of rich new deposits or technological breakthroughs in gold production, such as the use of cyanide to extract gold from ores containing only minute quantities of gold, the resulting periods of accelerated capitalist expanded reproduction that follow would have a non-cyclical or accidental character.

The same would be true in the converse situation if the depletion of existing gold mines without the discovery of new gold deposits or technological advances in gold mining allows the production of a given amount of gold from poorer ores or makes the digging of mines deeper into the earth's crust possible. In this case, we have a rise in the value of gold relative to commodities. The resulting series of crisis/depression-dominated industrial cycles would also be non-cyclical.

In the case of the progressive exhaustion of new sources of gold, there would be nothing to prevent the crisis-depression series of industrial cycles from lasting until the capitalist mode of production is finally transformed into socialism or the class struggle ends in the mutual ruin of the contending classes.

In the real world, we would expect the cyclical and accidental elements to be intertwined, though one or the other may predominate in different historical periods. I will use this as a working hypothesis during this phase of my investigation of long cycles versus non-cyclical or quasi-cyclical long waves.

From the mid-Victorian boom to the 'Long Depression' of 1873-1896

During the mid-Victorian boom of 1849-1873, two forces were working to bring the period of exceptional capitalist prosperity caused by the extraordinary jump in gold production in the wake of the California-Australian gold discoveries to an end. One was cyclical, and the other accidental.

First, although the value of gold fell with the California and Australian discoveries, there was still a limit to how far prices could rise before they would once again exceed the value of commodities. Once prices exceed commodity values – direct prices – falling profits, both relative and absolute, sooner or later bring the boom in gold production to a halt. Here we see a cyclical force at work.

The accidental factor involves the exhaustion of the newly discovered gold mines over time. The gold nearest the surface in both California and Australia was soon exhausted, and the industrial capitalists had to dig

deeper, driving up their cost prices. This again raised the value of gold – the quantity of labor on average necessary to produce a given quantity of gold.

Rising market prices collided with what would have been falling prices of commodities if the value of the commodities were expressed directly in gold. Or, what comes to the same thing, if market prices were always equal to direct prices.

Here we see a non-cyclical force at work, the depletion of the existing gold mines. Here, it was an accidental, or at least extra-economic, factor – the absence of additional geographical discoveries of gold-rich land or technological discoveries that could again lower the relative value of gold.

Both these forces worked hand in hand to bring the boom in the production of money material that followed the gold discoveries of 1848 and 1851 to an end. By the 1860s, the exceptional rate of growth of production was a thing of the past. While gold production remained at a high level relative to the levels that prevailed before 1848, the rate of increase in world gold production started to slow dramatically.

Gold production rose 211% in the years 1850-54 compared to the years 1845-49. In the years 1855-59, gold production rose by 170% over the amount produced in 1850-54. Gold production was still increasing at an astounding rate, but the rate of increase was beginning to slow down a bit. ("*Central Bank Gold Reserves, A Historical Perspective Since 1845*," by Timothy Green, World Gold Council Research Study No. 23, November 1999)

And then, the rate of increase in world gold production came to a halt. It remained extremely high by pre-1848 standards, but it was no longer increasing. Between 1860 and 1864, gold production fell by 9.5% compared with the previous five-year period. Gold production increased about 7.2% in the period 1865-69 compared to the previous five-year period. However, the overall trend in gold production was now one of stagnation.

In the five-year period that includes 1873, the year in which the general price level peaked just before the financial crashes in Austria, Germany, and the United States of that year, world gold production was about 10.5% lower than it was in the previous five-year period. It was now no longer simply a question of stagnation in gold production; the trend was definitely downward.

The two ways in which high prices undermine capitalist prosperity

High prices relative to underlying labor values undermine capitalist prosperity in two ways. First, everything else remaining equal, the higher the general price level, the lower will be the quantity of monetary gold in terms

of purchasing power – the real quantity of money. That is, if prices in terms of gold double, everything else remaining unchanged, this will have the same effect as reducing the quantity of monetary gold by half.

Second, when prices rise above the values – direct prices – of commodities, gold production declines, and with it, the rate of growth in terms of weight – not purchasing power – of monetary gold. When combined with expanded capitalist reproduction, such a situation sooner or later leads to a severe economic crisis of overproduction – or a series of crises – that again lowers prices. Prices will fall once again to – and for a while below – the price level that would directly express commodity values.

How low prices lead to prosperity

Prices below the values of commodities affect the capitalist economy conversely, though in this case, the effects on capitalist expanded reproduction are highly favorable.

First, lower prices in terms of gold increase the purchasing power of the existing quantity of monetary gold. A drop in prices by 50%, for example, will have the same effect in terms of purchasing power as doubling the quantity of gold. Second, lower prices in terms of gold mean higher profits for the gold mining industry, both absolutely and relative to the average rate of profit. This encourages an increase in the production of gold. The purchasing power of the total quantity of gold money rises due to an increase in its purchasing power brought about by lower prices and, over time, a rise in the quantity of gold in terms of weight due to increased production.

The 'Long Depression' of 1873 to 1896

The years from 1873 to 1896 were called the "Great Depression" before the disaster of the 1930s usurped that title. To avoid confusion, the 1873-1896 era of falling prices across the industrial cycle has been renamed by some the "Long Depression." The Long Depression was considerably longer than the Depression of the 1930s but far less severe in terms of lost output and employment. Indeed, there is evidence of considerable economic growth in this period in some countries, especially the United States and Germany.

What we did have was a persistent downward trend of the general price level. There was great distress among indebted farmers in the United States, and periods of mass unemployment among U.S. workers. During the Long Depression, Britain was losing the monopoly of industrial production it had enjoyed during the first decades of the 19th century. Industrial production

in Britain, at best, increased slowly during those years, and unemployment showed a strong tendency to rise. While the long depression of prices was unfavorable to highly indebted farmers and small business people, it made it easier for workers of that era to defend and win rises in their real wages.

During the Long Depression, prices did not fall every year. During the boom phase of the industrial cycle, prices still rose. But booms with their rising prices were short-lived, while the periods of crisis-depression – or at least periods of falling prices – absorbed most of the industrial cycle. As a result, each price peak was lower than the preceding one, and each price trough was below its predecessor until 1896, when the process reversed.

Virtually all supporters of the Kondratiev long cycle consider the 1873-1896 Long Depression to represent a down phase of the Kondratiev cycle, or K-cycle for short. After the K-cycle upturn of 1848-1873 came the K-cycle downturn of 1873-1896.

Ernest Mandel, as well as Anwar Shaikh, consider the Long Depression one of his "long waves with an undertone of stagnation." Though, as we have seen, he attributed the downturn of 1873-1893 – for some reason, Mandel and Shaikh give 1893 as the trough rather than 1896, which represents the actual low point of world commodity prices – to a long-term fall in the rate of profit caused by a rise in the organic composition of capital that occurred during the mid-Victorian boom.

Changes in gold production between 1873 and 1896

Unless the world were running out of gold, which was far from the case in those years, as we now know in light of the big rise in gold production that occurred in the 20th century, we would expect the falling tendencies of prices to have stimulated increased gold production at some point.

At first, however, the falling price level failed to increase gold production. Production continued to decline through the first half of the 1880s. But starting in the decade's second half, this trend began to reverse. In 1885-1889, gold production rose by 9.2% compared to the previous five-year period, a modest increase but still the first rise since the Long Depression began.

Over the next five-year period, 1890-94 – the last full five-year period of the Long Depression – world gold production increased by 32.5%. Following the great decline in prices after 1873, by 1896, British wholesale prices had fallen below the 1849 level, standing at index 72 compared to index 86 in 1849 (1913 = 100). ("An International Gold Standard Without Gold," by Ronald I. McKinnon, Cato Journal, Vol. 8, No. 2, Fall 1988)

This fall in prices considerably increased the purchasing power of monetary gold. And the production of gold was increasing, too, though it remained below the previous peak of 1855-59. In the five years 1895-99, which marked the end of the Long Depression and the beginning of the prosperity during the late 1890s, gold production increased considerably faster – up 67.4% compared to the preceding five-year period. For the first time, the five-year world record in gold production of 1,011 metric tons produced in 1855-1859 was broken with 1,851 metric tons produced in 1895-1899.

The most important variable is not the changes in annual gold production as such, but the rate of growth in monetary gold measured in terms of weight and the increase in the quantity of real capital measured in prices that are also measured by weights of gold. According to the laws of arithmetic, if gold production remains unchanged, the rate of increase of monetary gold will progressively decline. Therefore, gold production must increase over time to avoid a falling price level with a given rate of economic growth. If it doesn't, either economic growth must slow down, implying that the process of expanded capitalist reproduction must also slow, or the general price level in terms of gold must decline.

What caused the increase in gold production after 1880-84? At some point, we would expect that the falling prices of the ongoing Long Depression would stimulate a rise in gold production as prices finally fell below values. But again, there were also new geographical discoveries and one major technological breakthrough that lowered the value of gold in a distinctly non-cyclical way.

First, there was the discovery of gold in South Africa. Indeed, South Africa was destined to become the chief gold-producing country during the 20th century. There were also the famous gold rushes in Alaska and northern Canada in the mid-1890s. None of this compared to the "gold rushes" of 1848 or 1851, but still brought a considerable rise in gold production after years of stagnant or declining production.

During these years, the cyanide process, which enables the extraction of minute amounts of gold from very poor ores, was first applied on a large scale to refine gold-bearing ores. This also helped to lower the value of gold considerably. So non-cyclical forces and cyclical factors were working towards a rise in gold production. In the economic history of the late 19th century, the two are intertwined and hard to separate.

In 1900-1904, gold production rose an additional 21.0%. The Boer War in South Africa probably held back the rise in production somewhat in this period. In 1905-1909, the rate of increase in gold production picked up again,

rising 40.8% over the preceding five-year period. But during the years immediately preceding the outbreak of World War I, the rate of gold production decelerated dramatically, increasing during 1910-14 by only 5.9%. The extremely rapid rise in prices in terms of gold – about 3% per year – in the absence of any new dramatic geographical discoveries or new technological breakthroughs comparable to the cyanide process, was bringing the late 19th-century, early 20th-century boom in gold production to a halt.

Kautsky foresees the approach of a new revolutionary epoch

Karl Kautsky noted the return of stagnation to gold production in what proved pretty much to be his swan song as a Marxist on the eve of World War I: "So we may confidently enter upon the conflict which the new era of capitalism has for us, in which no rapid addition to gold production can longer interfere with the sharpening of class antagonisms, in which capital extends its domain only at the expense of the growing misery of the mass of the population, and the latter is more and more compelled to cause the overthrow of the capitalist system on pain of its own destruction." ("*The High Cost of Living*," by Karl Kautsky, 1913)

The fact that Kautsky proved personally unequal to the challenges of a new revolutionary era does not detract from his amazing prediction of a revolutionary era based on a developing stagnation in world gold production.

In light of the growing stagnation in gold production, if World War I had not intervened shortly, the rise in prices in terms of gold that had been going on since 1896 would not have been sustainable much longer. Instead, either prices would have fallen in terms of gold and currency, or a major devaluation of the world capitalist currencies would have occurred, ending the international gold standard. But either way, the world commodity prices calculated in terms of the use value of the money economy would have fallen.

The roots of World War I

Great Britain had long been in relative economic decline. Younger capitalist countries such as Germany, but above all the United States, had outstripped her both in the quantity of industrial production and the productivity of their labor. A century earlier, at the end of the world war that had followed the French Revolution, Britain had enjoyed an overwhelming economic superiority based on its pioneering of industrial capitalism. Compared to Britain, all other countries were underdeveloped agricultural countries. In today's terms, they were all "Global South" countries.

But by 1914, this situation was only a distant memory. Britain's continued

dominant role in finance, politics, and military power no longer reflected economic reality. It had to be overthrown, and it was. In addition to being a war for the re-division of the world between rival imperialist powers, World War I marked the first stage in the collapse of the British Empire and its replacement by the world empire of the United States.

War economy, values, prices, and gold production

Between 1914 and 1918, the whole process of expanded reproduction came to a halt in war-torn Europe, though it continued in the United States and Japan. How does the war economy affect capitalist expanded reproduction?

When all-out war begins, industrial production will, as a rule, rise sharply. This is especially true if, as is often the case, the economy is in a state of recession or depression when the war erupts. Beginning in 1913, a worldwide recession affected both the United States and Europe. This recession was in full swing when war erupted in Europe in August 1914.

As war begins, governments embark on massive deficit spending, and demand soars, causing a sharp rise in industrial production. Unemployment disappears. The "prosperity" of war begins. All-out war means that many enterprises of Department I, and some of Department II, are obliged to shift from the production of capital goods – means of production – and consumer goods to machines of destruction and means of subsistence purchased not by private industrial capitalists or productive of surplus value workers but by the military.

In addition, many producers of raw materials, also located in Department I, now produce for war purposes, and therefore, these raw materials are not available for capitalist reproduction. Many productive workers – workers who produce surplus value – are shifted to the military, where their labor power is employed not to produce surplus value but to slaughter their fellow workers in uniform. The result is that a considerable number of potential producers of surplus value are killed in the war.

Contracted reproduction

Normally, when industrial capitalists attempt to transform their money capital into machines, raw materials, and labor power, they have little difficulty finding those commodities on the market. Generally, it is the sale of the commodities produced, not the purchasing of commodities necessary to carry out production and reproduction, that is the biggest problem for the industrial capitalists.

But in a war economy, the commodities that make up productive capital – the labor power of productive workers plus means of production, including

both raw and auxiliary materials – are in short supply relative to demand at current prices. As the war continues, industrial capitalists are increasingly unable to find the commodities that make up productive capital on the market. Instead, they are forced to purchase government bonds. So the longer the war continues, the more the capital of the industrial capitalists consists of government bonds, that is, promises by the government to pay in the future when the war has reached its victorious conclusion. This is the classic definition of fictitious capital. This suspends the process of expanded reproduction and transforms it into what Ernest Mandel called contracted reproduction in his "*Marxist Economic Theory*."

Though Keynes-influenced economists often blur the difference between a war economy and the boom phase of the industrial cycle, the two are opposites in many ways. During the industrial cycle's boom phase, capital investment soars, and the expansion of real capital peaks. The productive forces experience a powerful advance. In a war economy, in contrast, the real economy is contracting. Increasingly, real capital is replaced with government bonds – fictitious capital. Far from increasing the productive forces – including the most important productive force, the workers – the productive forces are progressively destroyed.

War operations can also directly destroy capital with the physical destruction of industrial capital through military operations. The direct destruction of real capital was a much bigger factor in World War II than it was in World War I, since in World War I air power was only in its infancy, and its destructive potential was still quite limited.

The capitalists are willing to hold on to government bonds as long as they retain hope for victory. If their government emerges from the war victorious, it will be able to pay off the debts it owes to the industrial (and other) capitalists at the expense of the defeated powers. The government bonds of the losers generally lose most or all their value. Having exchanged real capital for fictitious capital, the industrial and other capitalists of the losing power end up with a dead loss. Therefore, war, especially an all-out world war, is a major business gamble.

The effect of war on prices

Even though industrial production soars at first and unemployment disappears, the quantity of real capital isn't expanding; it begins to contract. Commodities are in short supply at current prices. Prices, therefore, must rise substantially to reduce demand to the supply. If prices are forcibly held

down by wartime price controls, shortages lead to underground markets where commodities are sold illegally at much higher prices, which will reduce the demand to the supply. If the war and associated contracted reproduction go on too long, industrial production begins to decline, and shortages grow.

It is important to emphasize that the rise in prices in wartime is a rise in terms of gold, real money. Indeed, it has been noted that while "investing" in gold is often considered a good hedge against inflation, gold is actually a poor hedge against inflation caused by war. Of course, currencies are often devalued during wars; if that happens, the rise in nominal currency prices is all the greater. But here, it is the rise in prices in terms of actual money material – gold – that concerns us.

The effect of war on prices in terms of gold can be appreciated if we look at the U.S Producer Price Index. Since the United States remained on the gold standard, the price change reflected price changes measured in gold, not a depreciating currency. In August 1914, when the war erupted in Europe, the U.S. PPI was 12.0 (1982 = 100). In November 1918, the war ended, and the U.S. PPI had nearly doubled to 23.5. (U.S. Department of Labor: Bureau of Labor Statistics)

Looked at in another way, in four years of war in which the United States was not even an official participant until the last year and a half, prices increased dramatically more than British wholesale prices increased during the entire quarter of a century that followed the 1848-51 gold discoveries (95.8% versus 51.2%)!

And remember, since gold production was already stagnating before the war broke out, prices were apparently too high relative to underlying commodity values before the war even erupted. Remember, before the war economy began, Kautsky had foreseen the approach of a revolutionary epoch based on stagnating gold production – that is, prices that were already too high relative to labor values. The world war *vastly increased* the contradiction between prices and values.

The effect of wartime price increases on gold production

In theory, a sudden rise in prices should sharply increase the cost price and cause a sharp drop in the rate of profit, both relatively and absolutely, in the gold industry, causing production to drop sharply. This is the market's way of reacting to a sharp rise in prices above the values of commodities. So much for theory, but what actually happened to gold production during World War I?

In 1915-19, world gold production declined by 5.7% compared to 1910-14, the first overall decline in world gold production over five years since the 6.7% decline between 1875-79 and 1880-84 during the Long Depression. The pre-war stagnation in gold production had been transformed into an actual decline.

But prices did not stop climbing at the end of the war. They kept rising until May 1920, when the U.S. PPI finally peaked at 28.8, a rise of 140% from the start of the war. Therefore, in theory, we wouldn't expect gold production to hit bottom simply because the war had ended.

And this is exactly what happened. In the following five-year period, from 1920 to 1924, gold production declined by 16.5%. This far exceeded the greatest decline for a similarly defined five-year period registered during the Long Depression of the 19th century (6.7%).

In 1920-21, a very sharp economic recession occurred, which caused the inflated level of U.S. producer prices to crash. From 28.8 in May 1920, the PPI fell to 15.7 in January 1922, a more than 45% fall. But this still left the index more than 30% above the pre-war level. And since gold production was already beginning to stagnate on the eve of the war, the implication is that even after the violent deflation of 1920-21, prices were still far too high relative to underlying labor values. Indeed, this proved to be the lowest point that the PPI reached before the onset of the super-crisis of 1929-33.

As economic recovery took hold after 1921, the PPI climbed somewhat and then fluctuated. In August 1929, near the peak of the 1920-29 industrial cycle, the producer price index was at 16.6. This was more than 38% above the levels that prevailed in August 1914, when World War I began. Bourgeois economists, especially those of the "monetarist" school of Milton Friedman, emphasize how stable prices were in the period leading up to 1929.

They claim that this indicates that the U.S. economy was in great shape and that the economic prosperity of the 1920s would have continued if only the Federal Reserve System had not carried out an insanely deflationary monetary policy.

What they don't understand, and cannot understand because of their false marginalist theory of value, is that though prices were not increasing, they were far too high relative to underlying values. And the longer a situation lasts where the market prices exceed their prices of production – and their underlying labor values – the greater the gap will be between the ability of capitalist industry to produce commodities and the ability of the market to absorb commodities without an unsustainable expansion of credit.

Therefore, as dramatic as the price deflation of 1920-21 was, it still had not restored prices to their pre-war levels. This failure reflects the underproduction of the World War I war economy. And unlike the 1850s, or to a lesser extent the 1890s, there were no geographical finds or technological breakthroughs in gold mining that lowered the value of gold relative to that of commodities.

With gold production beginning to stagnate in 1913, we would expect that an epoch of longer crises and depressions would set in that would lower the general price level once again in a way that would stimulate a renewed rise in gold production. Instead, World War I intervened and violently interrupted the whole process of expanded reproduction, causing the general price level to soar at a moment when prices were *already too high* relative to underlying labor values.

This proved to be a radically destabilizing set of circumstances and prepared the way for the collapse of the entire process of capitalist expanded reproduction in the decades that followed. But this entire process was and is hidden from the eyes of the bourgeois economists and economic historians. It is also hidden from the eyes of academic Marxists, who have only a partial, Ricardo-like understanding of Marx's theory of value, money, and price.

Here we find another powerful *non-cyclical force affecting prices and gold production* – war. Though war in the short run creates war prosperity and "full employment," in the years following the war – all other things remaining equal – there will be a considerably increased chance of prolonged depression and mass unemployment.

All things, however, are never equal. The economic situation after a war will be very much dependent on the level of prices relative to underlying labor values, the consequent level of gold production, and the vigor of the process of expanded reproduction that prevailed in the years before the war broke out. The effects of war then interact with all the other forces that determine whether a particular series of industrial cycles is dominated by the boom phase or by the crisis-depression phase of the cycle.

Marx wrote in the chapter on "Precious Metal and the Rate of Exchange" in *Capital* Vol. III that a gold drain is relatively ineffective – at producing a crisis – if it does not occur at the critical point of the industrial cycle. Our investigation leads towards the conclusion that a world war is ineffective at producing a super-crisis and Depression with a capital "D" unless it occurs when gold production and the relationship of prices to values is in a "critical phase," as was the case in the summer of 1914. But as we will see later, it was not the case in 1939.

The deflation of 1920-21, by lowering prices by almost half, would be expected to relieve the pressure on gold production partially. And this is exactly what we see. In the years 1924-29, leading up to the super-crisis, gold production rose by almost 15% over the years 1920-24. Normally, this would be a respectable if not spectacular increase in gold production. However, since it is calculated from the extremely low level of the previous five-year period, gold production was still well below the levels that prevailed before the war.

For example, in the years 1924-29, 3,021 metric tons of gold were produced worldwide. This was below the 3,154 metric tons produced in 1905-09, when overall worldwide commodity production and commodity prices were considerably lower. And it was even further below the 3,340 metric tons of gold that were produced in 1910-14.

Indeed, at 3,021 metric tons, world gold production was more than 9.5% less than that produced in the five years immediately preceding the war. This would not have been such a problem if prices had been similarly below the pre-war level, but they were substantially higher. The combination of lower gold production plus higher prices that reduced the purchasing power of existing gold indicates an unprecedented conflict between price and value in the final years leading up to the Depression. This sheds a whole new light on the question that bourgeois economists, even a century later, are unable to answer convincingly. What caused the Depression?

Remember, one of the key functions of a crisis of overproduction is to keep the general price level in line with the values of commodities. If crises of overproduction never occurred, there would be no reason why market prices wouldn't rise forever, losing all relationships with their labor values.

Indeed, if World War I had not occurred, such a massive divergence between prices and values would not have been able to develop. A crisis would have broken out and lowered prices once again before they got so completely out of line with underlying labor values. But war had broken out and interrupted the normal progress of the industrial cycle through which prices were equalized with values.

If the industrial cycle had continued to develop normally without the war economy with its contracted reproduction and price rises, only normal crises would have been necessary to keep prices in line with values.

But the war and its inflation had come. Because of the effects of World War I, the relationship between prices and values had gotten so out of line that it could only be corrected by a much nastier than normal downturn in the "K-cycle."

CHAPTER 26:
The Super-Crisis and the Rise of the U.S. World Empire

The severity of the 1929-32/33 super-crisis in a particular country can be measured by the decline in the country's index of industrial production from peak to trough.

Figures compiled by the League of Nations – the forerunner of the United Nations – for the super-crisis years divide countries into seven groups according to each country's decline in industrial production. The countries in group one experienced the least decline – less than 10% – equivalent to an "ordinary" recession. Those in group seven experienced between 60 and 70% declines from peak to trough – economic disaster.

Among the major imperialist countries, rising Japan, then rapidly expanding its share of the world market, was in group one, along with Greece and New Zealand. Britain was in group two, which experienced a 10 to 20% decline in industrial production. Germany was in the sixth group, which experienced 50 to 60% declines, a position it shared with Canada and Czechoslovakia, then the most industrialized country in Eastern Europe. The United States was in group seven – declines in industrial production from peak to trough of 60 to 70%, an "honor" shared only with Poland.

The extreme severity of the crisis in Germany is not surprising. Germany was the biggest loser in the war, stripped of all its colonies and a significant part of its European territories. In addition, due in part to the disastrous hyperinflation of 1923, the German credit system was highly dependent on money market conditions in the United States. When credit froze up, first because of the industrial and stock market boom of 1928-29, then the Smoot-Hawley tariff of 1930, and finally the massive U.S. banking and credit collapse of 1931-32, it is not surprising that effective demand, industrial production, and employment contracted with extreme violence in Germany.

But what about the United States? After all, the United States was the big winner – perhaps the only winner – in World War I. It had the largest gold reserves in the world. Yet its economy collapsed more than that of any other major imperialist power.

Indeed, the U.S. economic collapse didn't have the disastrous political consequences that Germany's slightly lesser economic collapse had. Germany had suffered the terrible effects of the blockade of 1914-1918, the shock of the lost war, the abortive revolution of 1918, and the hyperinflation of 1923. The super-crisis of 1929-32 was only the final blow that pushed Germany into the fascist nightmare of the Third Reich.

But this doesn't change the fact that in a purely economic sense, the super-crisis of 1929-33 was more extreme in the United States than in any other large capitalist country in the world. Why was this? The reason lies in the extraordinary growth of the U.S. economy in the decades preceding the super-crisis.

Market constrains growth of industrial production

Capitalist expanded reproduction is of necessity broken up into industrial cycles because of the contradiction between socialized production and private appropriation. For reasons we have explored in earlier chapters, the ability of the market to expand is far less than the ability of the industrial capitalists to increase the level of industrial production. It, therefore, falls to the periodic crises that mark the end of one industrial cycle and the beginning of another to keep the growth of industrial production in the long run within the limits allowed by the market.

Uneven development among capitalist nations

On average, across industrial cycles, the industrial capitalists and capitalist nations cannot increase their capital faster than the market for the commodities produced by their capital growth. However, what is true on average is not true of each industrial capitalist, individual branch of capitalist industry, or individual capitalist nation.

Individual industrial capitalists, branches of capitalist industry, or capitalist nations can grow faster than the world market. They can do this by taking away market share from other branches of industry, from rival industrial capitalists working in the same branch of industry, or from other capitalist nations.

Inevitably, this means that other industrial capitalists or capitalist nations grow more slowly than the world market grows or are eliminated. This is what gives capitalist competition its desperate, cutthroat character.

How much faster can an individual capitalist nation grow than the world market average? If its industry has conquered only a small portion of the world market, which includes the home market, it can – though it won't necessarily – grow much faster than a capitalist nation whose industry has captured a much larger portion of the world capitalist market.

For example, if a capitalist nation has 0.5% of the world market and it suddenly doubles its share of the world market, it still will have only 1% of the world market, all else remaining equal. Even if its production doubled, with the production of all other nations remaining equal, world capitalist industrial production would only rise slightly. But if a capitalist country that commands 50% of the world market – the total extent of the world market remaining unchanged – suddenly doubles its production, it would have to destroy the industry of all the other capitalist nations combined or face a disastrous crisis of overproduction much worse than even the super-crisis of 1929-33!

When a capitalist nation represents a small part of the world market, it can grow much faster than the world market as a whole as long as it can keep conquering an ever larger share of that market. But as its production comes to represent a larger and larger portion of the world market, it approaches the mathematical limit of 100% of the world market. Under these conditions, its growth rate must begin to slow towards the growth rate of the world market as a whole. If the growth rate does not slow sufficiently, a massive crisis of overproduction will force the necessary slowdown. This is precisely what happened to U.S. capitalism between 1929 and 1933.

As economic growth slows in a given capitalist country, there are relatively fewer outlets for investment for industrial capitalists that yield the average or higher rate of profit. Therefore, an expanding section of the capitalists in such a country becomes money capitalists, who have to be satisfied with the average rate of interest instead of the average rate of profit. Some of their loans will be to foreign countries.

The economic roots of an aggressive foreign policy

Once the rate of growth of a particular capitalist nation has passed its peak, the importance of capital exports grows, and the capitalist nation is under growing pressure to exercise direct political and military control of the nations to which it exports capital to maintain the flow of interest and dividend payments.

Therefore, the growth of an aggressive foreign policy and increased militarism in a major capitalist nation go hand in hand with the beginnings of

its industrial decline. We see this in the history of Britain in the late 19th and early 20th century. And from the Depression onwards, we see the same process unfold in a far more explosive fashion in the United States.

The super-crisis of 1929-33 occurred when U.S. industry could not have maintained its previous growth rate even if the world market had been in a highly expansive phase. But in the 1920s and early 1930s, the world market entered an unprecedented phase of stagnation and then contraction. Therefore, U.S. capitalism had a very hard landing indeed, as it transitioned from a period of rapid industrial development to a stage of much slower industrial growth.

It was no accident, then, that U.S. foreign policy under Roosevelt moved from so-called "isolationism" to "internationalism" – as the bourgeois historians call it. By "internationalism," they mean that the United States could not be satisfied with anything less than a global empire. During the New Deal, the "isolationists" – that section of the U.S. ruling class that wanted to make a deal to divide the world with Britain, France, Germany, and Japan and form a united imperialist front against the Soviet Union – were fighting a losing battle as war clouds gathered over Europe and Asia.

The real essence of the New Deal

Therefore, the New Deal's real purpose was preparation for World War and empire. Upon assuming office in March 1933, Roosevelt's main task was to "unify" U.S. society in preparation for the drive for world financial, political, and military domination that loomed ahead. By the fourth decade of the 20th century, global economic development had led to a situation where U.S. imperialism could no longer tolerate independence on the part of the other imperialist powers. It was obliged to reduce them to satellite imperialist powers. Nor, of course, could U.S. imperialism refrain from dominating the colonial and semi-colonial countries previously dominated by the older imperialist powers of Britain and France or by rising Japan.

Not least, the unprecedented economic collapse of 1929-33 had profoundly shaken the traditional equilibrium between the two main classes of the United States – the capitalist class and the working class. The old equilibrium depended on a rate of growth of U.S. industry that was no longer possible.

In contrast to earlier depressions, the U.S. political situation was further complicated by the existence of the Communist, or Third, International, and its U.S. section, the Communist Party USA. By a historical accident, the first five-year plan in the Soviet Union coincided with the capitalist super-crisis.

The soaring industrial production and disappearing unemployment in the Soviet Union, combined with the U.S. industrial collapse of 1929-33, began to radicalize significant sections of the U.S. workers, as well as a growing section of the young generation of intellectuals that started to turn toward the working class. The U.S. Communist Party, though still relatively small, grew rapidly, rising from under 10,000 mostly immigrants when the super-crisis began in 1929 to over 50,000 by the late 1930s.

Because of the changed political and economic conditions, the traditional response of the U.S. capitalists to labor union militancy and working-class political radicalization – repression with few or no concessions – was no longer feasible. Real concessions would have to be made, paid for by the colonial and semi-colonial countries that would soon fall under U.S. domination.

Roosevelt and his advisers wanted to make these concessions in such a way that the workers would look toward the capitalist government rather than their own class organizations and strengths. In this way, the radicalization of the working class would be first contained and then dissipated.

Roosevelt's initial policy – a higher cost of living through dollar devaluation and formation of cartels

Establishing a world empire was the administration's long-term solution to problems facing U.S. capitalism during the Depression decade. In the short run, the Roosevelt administration's policy was to restore the profits of the U.S. capitalists by enabling them to raise their prices.

In its drive to increase the cost of living, the administration employed two main methods: (1) cartelization (formal agreements by either the capitalists brokered through the government or, in the case of agriculture – where the decentralized nature of production excluded cartel agreements among the producers on their own – the organization of the limitation of production by the government to raise prices), and (2) dollar devaluation, reducing the amount of gold each dollar represented.

The policy of cartelization of industry and commerce carried out through the so-called National Recovery Administration was eventually declared unconstitutional by the U.S. Supreme Court. However, the government's payments to farmers to limit their production of certain products continued.

Another form of cartelization that, though illegal, was tolerated during the New Deal years – and beyond – was the organization of cartels by organized crime in industries where capital was still relatively decentralized. For ex-

ample, in New York City, the garment, construction, garbage collection, and longshore sectors were dominated by organized crime – called "the mob," "the mafia," "the syndicate," or "the underworld" by the media. These cartels were built by making offers to small capitalists that they "could not refuse."

The syndicate also used unions that they controlled in their cartel-building operations. Though the big capitalists found these cartels costly, they greatly preferred "mob"-controlled unions to left-wing-led unions. Organized crime was willing to use any method, including murder – while the government looked the other way – to fight the left in the unions.

Before it was declared unconstitutional, the NRA contained one other highly significant element. Since the NRA granted the right to industrial and commercial capitalists to form cartels, it indeed encouraged it – it was also forced to grant workers the "right" to unions. In response to the administration's policy of raising prices and granting workers the right to unionize, at least on paper, a wave of strikes broke out. At first, these strikes were defeated, but the foundations were laid for the rise of the Congress of Industrial Organizations and the unionization of basic industry in the middle years of the Depression decade.

Dollar devaluation

The second leg of the inflation policy was the devaluation of the U.S. dollar. This policy had two aims. One was to wipe out the temporary advantages in world trade that Britain and other capitalist countries had gained through their devaluations. Remember, the British pound has been devalued since 1931. Second, it was hoped that the devaluation of the dollar would quickly raise prices in terms of dollars within the United States.

As soon as Roosevelt assumed office, the administration suspended the convertibility of the U.S. currency into gold. The administration also moved to void "gold clauses" in contracts that made debts payable in specific weights of gold rather than in dollars.

In the 19th century, the dollar had been a much weaker currency than the British pound, and there was a strong tradition of small business and small farm opposition to the gold standard. To protect themselves against the danger of an eventual devaluation of the dollar, many contracts defined debts in terms of weights of gold – real money – rather than in dollars. If the dollar were devalued, many debtors would be obliged to pay additional dollars in proportion to the devaluation to meet debts, thus driving them into bankruptcy.

How the dollar was devalued

To carry out a devaluation between 1933 and 1934, the U.S. president ordered the Reconstruction Finance Corporation – a governmental agency created by Herbert Hoover to grant bailout loans to banks during the super-crisis – to make repeated purchases of gold bullion on world markets to push up the dollar price of gold. The price was raised from $20.67 to $35 an ounce, resulting in a devaluation of about 40%.

Roosevelt's inflationary policies succeeded in raising the producer price index from 10.4 when he took office in March 1933 to 15.2 in July 1937 (1982 = 100), an increase of about 46%. This was a much greater rise than would normally be expected during the first phase of an upward movement in the industrial cycle, when prices generally change little.

It should be noted, however, that the price increase was measured in nominal, now-devalued dollars, rather than in terms of gold. In terms of gold, producer prices when the gold value of the dollar was stabilized in 1934 were about 14% (calculated by comparing the changes in the producer price index and the dollar price of gold from $20.67 to $35) above the levels of 1933.

However, if we compare prices immediately after the dollar stabilized at its new level of $35 an ounce with the prices prevailing in 1929, prices in terms of gold were about 50% below 1929 levels. The huge inflation of prices relative to underlying labor values that had marked the post-World War I period was now resolved. In terms of gold, prices were now below the level that had prevailed on the eve of World War I. The contradiction between prices and values had been resolved, but what a price had been paid by the workers, the farmers, and even many capitalists or former capitalists who had been ruined!

We can confirm that the contradiction between prices and values was now resolved by looking at the trend in world gold production. Between 1930 and 1934, a record 3,730 metric tons of gold were produced, an increase of 23% over the preceding five-year period. This, combined with a fall in prices of around 50% in terms of gold, eliminated the gold shortage that had plagued world capitalism during the 1920s. Since prices remained low in terms of gold throughout the Depression, gold production continued to rise. Over the next five-year period, gold production increased to 5,387 metric tons, more than 44%. ("Central Bank Gold Reserves: A historical perspective since 1845," by Timothy Green, World Gold Council, November 1999)

Https: //www.gold.org/goldhub/research/central-bank-gold-reserves-historical-perspective-1845

Rising gold production represented a transition from a period of abnormally slow expansion of the market, ushered in by World War I and its aftermath that ended with the super-crisis of 1929-33, to a new period of accelerated expansion of the world market.

The shape of recovery

The history of industrial cycles shows that the sharper the recession, the sharper will be the initial phase of recovery. The economic recovery from the super-crisis was no exception to this general rule. During the first stages of the recovery, between March 1933 and January 1934, Roosevelt kept pushing down the value of the dollar through his policy of gold purchases. Every morning, the president would determine what the gold value of the dollar – the dollar price of gold – should be for that day and order the Reconstruction Finance Corporation – an arm of the federal government – to purchase gold bullion on the world market at that price.

Until the dollar was again stabilized at $35 an ounce, expectations varied on how much Roosevelt would push down the dollar's value. When expectations were strong that he would push down the dollar, the industrial and commercial capitalists would step up their purchases of commodities in an attempt to build up inventories before dollar prices rose even more. When the president didn't devalue as fast as expected, commodity purchases would be slashed, suddenly causing prices and industrial production to decline. It wasn't until Roosevelt finally stabilized the dollar at its new peg of one troy ounce equaling $35 that these erratic fluctuations ceased, and the recovery assumed a relatively smooth upward curve.

After Roosevelt finally ceased his daily interference, ending expectations of any further devaluations of the dollar, huge amounts of gold bullion began to flow into the United States from Europe. A lot of this gold was brought to the United States for political reasons.

With a new European war now looming, would capitalism even survive it? It seemed far safer for many European capitalists to own dollar-denominated assets in the United States than to keep their money in Europe, whether in the form of European currencies – who would know what they would be worth in the future – or even gold coin, bullion or jewelry, which could easily be seized or stolen.

Even though world gold production was now on a major upswing, the distribution of gold was becoming ever more lopsided as gold flowed from Europe into the United States. Germany, now under the Nazi dictatorship

of Adolf Hitler, was particularly hard-pressed, especially since the United States was still refusing to open its market to German exports.

The Hitler government was obliged to establish a mercantilist-type system, putting foreign exchange and trade under strict state control. The state did not engage in much foreign trade, unlike the Soviet Union, with its state monopoly of foreign trade. Rather, capitalists had to obtain state permission to export, import, or sell German marks for other currencies.

Expansion of bank reserves is not the work of the Federal Reserve System

As a result of both the rise of gold production and the flight of gold from Europe to America, U.S. banking reserves expanded rapidly once Roosevelt finally stabilized the dollar in 1934. The Federal Reserve System played virtually no role in this expansion of bank reserves. In addition, under the New Deal, the traditional central bank function of holding and managing the nation's gold reserves was transferred from the Federal Reserve to the U.S. Treasury, which answers directly to the White House.

The individual Federal Reserve Banks that make up the U.S. Federal Reserve System had to sell their gold holdings to the Treasury in exchange for gold certificates. Indeed, the New Deal made it illegal for private U.S. citizens to own monetary gold or even gold certificates. Though the ban on private ownership of gold bullion and coin was later repealed under Ronald Reagan, only the Federal Reserve Banks can own gold certificates – but not gold. Except for its ability to set bank reserve requirements, the Federal Reserve was reduced to a passive role during the Roosevelt administration.

The administration also purchased huge amounts of silver bullion, greatly enriching U.S. silver mining interests. By the late 1930s, a considerable amount of silver certificates circulated side by side with Federal Reserve Notes. These purchases of silver bullion also helped expand U.S. bank reserves and the money supply under the New Deal. While Roosevelt's silver purchases benefited the silver mining companies, they did considerable damage to the economy of China and other countries that still defined their currency in terms of weights of silver. By driving up the dollar – and gold price – of silver, the administration, in effect, revalued China's currency.

Rapid economic growth in the 1930s?

"The recovery [of the 1930s -SW] from the Depression," economist Christine Romer wrote, "is often described as slow because America did not re-

turn to full employment until after the outbreak of the Second World War." However, according to Romer, "the recovery in the four years after Franklin Roosevelt took office in 1933 was incredibly rapid."

According to Romer, the period from 1933 to 1937 saw the second-fastest growth in the history of U.S. capitalism. "Annual real GDP growth averaged over 9%" from 1933 to 1936. And "Unemployment fell from 25% to 14%." (The Economist, June 18, 2009) Romer's picture of rapid economic growth in the 1930s seems to completely contradict the general historical view that the 1930s – not only the super-crisis years of 1929-33 proper but the entire decade – was a time of unprecedented depression and stagnation.

It should be pointed out that unemployment was calculated differently in those days than later. If the latter methods had been used during the 1930s, they would have shown a much lower unemployment rate. For example, the people employed in the WPA programs building many useful public works – some still in use even in the 21st century – were counted as unemployed – because they were not helping a capitalist in the "private sector" make a profit.

Under later methods of calculating unemployment, these people would be counted as employed – on the principle that the government statistics must do everything they can to minimize the extent of the unemployment problem. Under the more recent methods, official unemployment would have been slightly below 10% by mid-1936.

So, if we are to believe Romer, far from being a period of terrible economic stagnation that most lay people believe the 1930s to have been, the mid-1930s saw the second-fastest growth rate in U.S. history. And, according to Romer, what was the period that saw even faster economic growth than the mid-1930s? Why it was the "Second World War"!

Expanded reproduction and economic growth versus rise in GDP

What Romer is confusing is a rise in production with the process of expanded reproduction – real economic growth. Since expanded reproduction is a Marxist concept, it is not surprising that a bourgeois economist like Romer is unacquainted with it. The way the GDP is calculated, no distinction is made between the reopening of a factory that has been forced to shut down due to a crisis of overproduction, for example, and a situation where a new factory is built that represents a real expansion of the forces of production.

Nor is any distinction made between the full mobilization of the existing factories and labor force to build means of destruction during a war and the building of new factories to make additional means of consumption, or

additional means of production to make still more means of consumption, which is the real essence of economic growth. If economic growth is calculated in terms of expanded reproduction, there was little or no economic growth either during the 1933-37 period or the war economy of 1941-45.

What really happened between 1933 and 1936 – the years of the Roosevelt "prosperity" – was that many of the factories that had either been completely shut down or had sharply curtailed production were reopened or began to operate at more normal levels again. Capital investment remained very low throughout the years 1933-36. Indeed, except at the very end, the consumption of capital exceeded the accumulation of capital. More machines were either wearing out or simply deteriorating for lack of use than were being built. Even as production rose after 1933, reproduction remained negative.

V-shaped recessions

The "recession" of 1929-33 was a V-shaped recession on steroids. The history of the industrial cycle, at least before the 2007-09 "Great Recession," has shown that the deeper and sharper a recession is on the downward side, the faster the recovery in industrial production and GDP is on the upward side. A "mild" recession – for example, recessions like those of 1990-91 or 2000-03 – means that there is a relatively small amount of idle productive forces that can be reactivated when the recession proper ends.

But in a deep recession, there is a lot of idle plant and equipment, not to speak of unemployed workers, at the bottom of the recession. With so many means of production idle, the tremendous amount of unemployment means that in the wake of a severe recession, industrial production generally rises rapidly between the time production reaches its lowest point and the time it reaches its previous peak.

In reality, the period from 1933 to 1936 represented the depression phase that followed the 1929-33 recession, or crisis, phase of the industrial cycle. Remember, the crisis marks the end of one industrial cycle and the beginning of the next. In the wake of a severe recession – and the "recession" of 1929-33 was the severest of all, up to the time of this writing, in the history of capitalism – it is not surprising that the depression phase of the cycle would be marked by a very high rate of growth, both in terms of industrial production and GDP.

In severe recessions – both preceding and following the super-crisis of 1929-33 – economic growth as measured by GDP would slow down considerably once industrial production and GDP reached the peak levels of the pre-

ceding cycle. But only then does the process of expanded reproduction really resume, or to use plain language, does real economic growth start up again.

Excess capacity – productive forces that are unable to function as capital during the crisis – is either eliminated by being closed down or reactivated after the crisis passes. As demand continues to increase, industrial capitalists are obliged to build new factories and, when possible, expand existing ones. But since it takes much longer to expand an existing factory, not to speak of building a new one from scratch, growth as measured in terms of industrial production and the GDP naturally slows down considerably once the previous peak reached in the preceding industrial cycle has been surpassed.

While the recovery phase of the industrial cycle after 1929-33 followed the expected script as far as the growth in industrial production and GDP was concerned, within a year after the previous peak was reached, the growth of industrial production, GDP, and employment didn't simply slow down. Instead, U.S. GDP, industrial production, and employment plunged. This was indeed an unprecedented development. What caused the U.S. economy to behave in this way in the 1930s?

The 1937-38 recession was strange in many ways. It was not preceded by an economic boom that followed a period of average prosperity. Instead, it broke out just as the U.S. economy appeared to be emerging from what was by far the worst crisis-depression cycle in its history. And then, just as the economy bordered depression and average prosperity, a deep recession – no ordinary "Kitchin inventory recession" – erupted. The violent recession of 1937-38, along with the 1929-33 super-crisis, put the "Great" into the Great Depression.

The U.S. economy on the eve of the 1937 recession

"American banks," Romer explains, "were holding large quantities of reserves in excess of their legislated requirements." This, as we know, is typical of depression periods that follow the crisis-recession proper. But, since the crisis-recession of 1929-33 was no ordinary crisis but a super-crisis, the amount of idle reserves held in the U.S. banking system was unusually large. As we saw in our examination of the "ideal" industrial cycle, inventories – commodity capital – are run down during the crisis-recession phase. At some point, no matter how much demand contracts, inventories have to be rebuilt. The falling price level – in terms of gold – has the same effect on the quantity of gold money measured in terms of purchasing power as an expansion of gold money measured in terms of weight with prices remaining unchanged. And since gold production never falls to zero, the quantity of

gold money keeps growing in terms of weight. Plus, the fall in the price level in terms of gold stimulates gold production.

Therefore, the real quantity of money – the quantity of money in terms of purchasing power as well as the quantity of gold money in terms of weight – expands. This builds the basis for a new sudden expansion of the market, which allows industrial production to exceed its best level of the previous industrial cycle.

The rise in the quantity of metallic money, both in terms of its purchasing power and weight, now also allows the market to expand on a cash basis as opposed to a credit basis. That is, the new expansion is initially much more "sound" than the previous expansion's final stages and can therefore reach a higher level. Only later will overproduction, over-trading, and credit inflation develop on a new and higher level, which will end in the next crisis.

In addition, mass unemployment leads to wage cuts and a rise in the rate of surplus value with a consequent rise in the rate of profit. There was certainly no lack of wage cuts in the early 1930s!

This, in a nutshell, is how an upturn in the industrial cycle emerges from the preceding recession.

Were there forces at work in the early and mid-1930s that would be expected to lead to an economic recovery? There certainly were. Indeed, the forces working toward recovery worked overtime in the early 1930s. First, nominal prices fell by about a third. Counting the effects of Roosevelt's devaluation of 1933-34, prices in terms of gold fell by about 50%. This fall in gold prices expanded the quantity of gold measured in terms of purchasing power.

Second, as we have already seen, gold production began to rise – gold production and refining were one of the few profitable industries during the super-crisis, and gold production remained highly profitable throughout the 1930s. Capital quite naturally flowed into gold mining and refining, causing the production of gold to just about double during the 1930s. The quantity of gold, therefore, expanded considerably in terms of weight as well as in terms of purchasing power. This transformed the global liquidity shortage of the 1920s into a massive gold and liquidity glut by the mid-1930s. The foundations of a major upswing in the industrial cycle were falling into place.

Roosevelt's dollar devaluation, along with high unemployment, worked to increase the rate of surplus value by devaluing the media in which wages were paid. While bourgeois economists seem to attribute every change in economic conditions to shifting government or central bank policies, in re-

ality, while government policies had some effect, the main forces driving the changes in the U.S. economy in the mid-1930s were the "natural" cyclical forces of the capitalist economy. Government policies – claims to the contrary by pro-New Deal economists and historians notwithstanding – played a decidedly secondary role.

These typical cyclical forces, working with much greater vigor than usual in the wake of the worst crisis in capitalist history, compared to an "average" industrial cycle, were responsible for the Roosevelt recovery. The policy of the government that most encouraged the recovery – public works programs that indeed built some useful projects – was largely offset by cuts in spending by cash-strapped state and local governments.

Was inflation a threat in the mid-1930s?

As I already mentioned, the policies of the Roosevelt administration were frankly inflationary. Farmers were paid not to grow crops, and the so-called National Recovery Administration – NRA – encouraged the cartelization of industry and commerce. But the most powerful inflationary force was the devaluation of the U.S. dollar between 1933 and 1934. Each dollar now represented 40% less gold – real money – than before, and thus, there was powerful upward pressure on prices measured in dollars.

However, the U.S. economy in 1936 and 1937 was barely entering the phase of average prosperity. It was nowhere near an industrial boom that would represent the development of new overproduction, over-trading, and credit inflation. Indeed, the big "problem" was that there was too much gold in the U.S. Treasury and too many reserves in the U.S. banking system.

On the eve of a typical crisis, the problem is quite the opposite: falling gold reserves, or at least gold reserves that are not growing as fast as the economy is expanding – or depreciating currency under post-New Deal token money systems – and stagnating bank reserves that force the banks to operate at ever lower levels of liquidity. In terms of the industrial cycle, the U.S. economy was still very far from a major new cyclical crisis in 1937. Yet a very sharp, if brief, industrial crisis occurred anyway. If the industrial cycle didn't cause this crisis, what did?

In a word, government policy did. Right after the 1936 elections, this inflationary administration began to suddenly worry about the inflationary potential of the huge excess reserves that were building up in the U.S. banking system. That is, the Roosevelt administration was suddenly terrified – or

pretended to be – by the excesses of a boom that was at least several years in the future.

Under the conditions of a massive glut in idle money capital in the mid-1930s, the Federal Reserve System retained only one significant tool: its ability to determine the amount of reserves – deposits at the Federal Reserve Banks plus vault cash – that the commercial banks had to maintain behind their deposit liabilities. This allowed the Fed to create an artificial shortage of reserves by forcing the banks to maintain very high reserves behind their deposit liabilities. In all other respects, "monetary policy" in those years – such as it was – was directly controlled by the White House and its Treasury Department – U.S. finance ministry – and not the Federal Reserve System.

Starting in July 1936, the Fed used its power to create an artificial bank reserve shortage by increasing its reserve requirement three times. As we saw above, U.S. commercial banks were holding large quantities of reserves in excess of their legal requirements. Romer writes: "Monetary policymakers feared these excess reserves would make it difficult to tighten if inflation developed. ... In July 1936, the Fed's board of governors stated that existing excess reserves could 'create an injurious credit expansion' and that it had 'decided to lock up' those excess reserves 'as a measure of prevention.'"

U.S. economist Michael Bordo, commenting on and criticizing Romer, wrote: "Building upon such evidence, the 1937-38 recession was due primarily to the Fed's doubling of reserve requirements in 1936-37 and the Treasury's sterilization of gold inflows, with only a minor role for fiscal tightening. Both monetary actions, as Christy [Christine Romer -SW] explains, were taken to remove what the Fed viewed as potentially inflationary excess reserves from the balance sheets of the commercial banks."

By emphasizing the effects of "monetary policy" instead of fiscal policy, Bordo is displaying a certain Friedmanite prejudice. But as I explained above, under the conditions of the 1930s, both fiscal and monetary policy were controlled mainly by the White House. Starting in July 1936, the Federal Reserve Board, which governs the U.S. Federal Reserve System, made the first of three raises in reserve requirements. It was working closely with the administration. The rest of the deflationary measures, however, waited until after the election of November 1936.

This enabled Roosevelt to take full political advantage of the cyclical economic recovery that was then underway. But after the election, the admin-

istration began to curb the WPA public works programs on the excuse that the depression proper was now over – which was barely technically true, as we have seen, assuming that the industrial production estimates are accurate. On top of this, Social Security taxes were being collected, but no benefits were yet being paid out. This had the effect of taking money out of circulation and burying it in the U.S. Treasury.

The gold sterilization policy was implemented by the U.S. Treasury, not the Federal Reserve Board. Under this policy, for each dollar of gold that the Treasury purchased, it borrowed a dollar and, in effect, buried it in the ground. The Treasury was therefore converted by the Roosevelt administration into a great sink of purchasing power, supposedly to fight the "danger" of a future runaway inflationary boom.

Therefore, within a few months of the end of the official depression in December 1936, industrial production leveled off and then suddenly turned sharply downward in the fall of 1937. As production plunged, unemployment soared. The administration quickly reversed its policies, and the government-induced recession soon ended. But the overall effect was to add about two years to the Great Depression.

First, there was the recession itself, which lasted about a year. Then there was an interval of time – the depression that followed this recession – before industrial production returned to the 1937 levels. The population had grown by then, so unemployment remained above the 1937 levels. As a result, the mass unemployment crisis of the 1930s continued until the war economy began in earnest in 1941-42.

The extremely deflationary policies of 1936-37 by the otherwise inflationary administration overwhelmed the forces of the industrial cycle that were working toward continued economic recovery and pushed the U.S. economy into deep recession. But why did the Roosevelt administration artificially throw the U.S. economy back into deep recession just as it was emerging from the worst crisis-depression phase of the industrial cycle in the history of capitalism?

It is, of course, possible that the administration misjudged the economic situation and didn't realize the devastating effects that its economic "game plan" for 1936-37 would have. But the administration had, from its own perspective, good reasons for following the policies that it did.

One reason might have been foreign policy. The recession of 1937-38 increased the drain of gold away from Europe – though this made the "problem"

of excess U.S. gold reserves even worse – and made things more difficult for Hitler's Third Reich as the pressure on Germany's scanty gold reserves increased. However, the German government did manage to double its gold reserves in 1938 by annexing Austria, thus adding Austria's gold reserves to its own.

Roosevelt's recession accelerates the coming of war in Europe

Therefore, the 1937-38 Roosevelt recession helped push the European continent further along the road toward war. The recession led to the further growth of U.S. idle bank reserves – supposedly the biggest problem faced by U.S. capitalism – but these idle bank reserves were to come in handy when it came time to finance World War II, while denying this money to imperialist opponents.

What about the relations between Roosevelt and the biggest enemy historically of the U.S. capitalist class – the U.S. working class? Could this be the key to the seemingly irrational deflationary policies of the Roosevelt administration in 1936-37?

Concessions by the New Deal to U.S. workers

The New Deal had made concessions to U.S. workers, though the extent of these concessions has been greatly exaggerated. Roosevelt did create public works for the unemployed, for example. The first steps were also taken to create a minimal system of social security and unemployment insurance. Though these were – and remain up to the time this is being written – skimpy by European standards, they represented an advance over the complete lack of social insurance that characterized the United States in pre-New Deal days.

Roosevelt's most significant concession to U.S. workers is generally considered the Wagner Act – sometimes called labor's "Magna Carta." The Wagner Act gives workers the right to form unions and bargain collectively. But didn't U.S. workers already have this right? You would think that workers would have the right to organize under the Bill of Rights, which forms part of the U.S. Constitution and guarantees freedom of association.

However, somehow, the freedom of association provision was not interpreted as allowing workers to organize unions! Instead, unions were considered to be "criminal syndicates"! The Wagner Act created the National Labor Relations Board. The idea was that if a certain number of workers in an enterprise want a union, the NLRB holds an election to determine what union, if any, the workers want to represent them. Therefore, instead

of strikes and sometimes bloody struggles – because of the traditional fierce resistance of U.S. bosses to unionization – of the past, there would be peaceful elections instead. Very democratic and enlightened – in theory.

But no legislation, no matter how "enlightened," can change the basic laws of the class struggle that are rooted in the contradictions of capitalist production. Under the NLRB system, the bosses drag their heels and are only gently slapped on their hands when they violate the provisions of the Wagner Act that grant the workers the right to organize a union. The struggle gets bogged down in a judicial process. By the time the bosses are finally forced to hold an election for union recognition, the pro-union workers are fired or have quit in disgust. And scabs – people given jobs in exchange for promises to vote against the union – have been hired and get to vote in the union representation election. Unions, therefore, find it very difficult to win. As a result, it became *far more difficult* to win union recognition in the United States – not that it was ever easy – than it was in the days before labor's so-called Magna Carta.

Another unfortunate effect of the Wagner Act has been that it encourages labor union leaders, assuming the union is finally recognized, to depend on the capitalist government rather than the union consciousness and solidarity of the workers. Sometimes, the union becomes so bureaucratized – or even falls into the hands of outright criminal elements – that the bosses can find disgruntled workers to demand a decertification election under the same Wagner Act rules. The unions sometimes lose these decertification elections – the bosses' agents among the workers claim that the workers would be better off without a union since they would not have to pay union dues. The workers are then left without any union protection whatsoever. It is then very difficult, if not impossible, to get a union back again.

On the eve of the 1937 recession, however, the union movement had such tremendous momentum that the NLRB system, which was just being set up, was not able to as yet "tame" it – all the more since the 1947 anti-union Taft-Hartley amendments to the NLRB still lay in the future. Fighting against both the devastating effects of the super-crisis and Roosevelt's inflationary policies on the workers' standard of living, massive strikes broke out in Minneapolis, Toledo, and San Francisco.

The Teamsters Union – at that time the union of truck drivers, but now a wide variety of jobs – emerged greatly strengthened and remained a powerful union for decades, though by the turn of the 21st century, a shadow

of its former self. The Toledo strike led to the rise of the initially militant United Auto Workers union, while the San Francisco General Strike led to the creation of the International Longshore and Warehouse Union. Unlike most U.S. unions, the ILWU resisted the anti-Communist witch hunt of the post-World War II years. Though it has taken blows, it is in better shape than the Teamsters, UAW, and most other U.S. unions in the early years of the 21st century.

The unionization movement of the 1930s reached its high tide with the successful unionization of the United States Steel Corporation – the gigantic steel monopoly put together by J.P. Morgan at the beginning of the 20th century – and the recognition of the United Auto Workers Union by General Motors and Chrysler – after a wave of sit-down strikes that marks the highest point the U.S. union movement has reached up to the time of this writing. Henry Ford and his Ford Motor Company resisted unionization until 1941, when the imminent entrance of the United States into World War II finally forced this fascist-minded industrial capitalist to grant recognition to the UAW.

The sit-down strikes and unionization drives were likely the main targets of the government and Federal Reserve policies that caused the Roosevelt recession of 1937-38. If so, these policies were extremely successful from the viewpoint of the U.S. bosses. As a result of the recession of 1937-38, the CIO lost the momentum that it was unable to regain in the decades that followed.

Did Roosevelt worsen the Depression?

A debate has occurred among various bourgeois historians and economists as to whether the New Deal helped recovery from the Depression or rather prolonged it. Those historians and economists tied to the U.S. Republican party claim that the New Deal prolonged the Depression by discouraging industrial and agricultural production through its cartelization policies, its alleged anti-business bias, and, above all, its pro-union policies.

On two occasions, it is hard to deny that the Roosevelt administration made the Depression longer and deeper than it otherwise would have been. The first was in the fall-winter of 1932-33, between Roosevelt's election in November and his assumption of office the following March. Roosevelt's vague statements about the dollar encouraged the belief that the administration would devalue the currency – raise the dollar price of gold – when he assumed office. This led to a speculative run on gold reserves that triggered the final banking crisis in the winter of 1933.

This banking crisis featured a highly unusual – under the gold standard – internal as well as external gold drain. This banking crisis temporarily derailed the recovery that had begun in the third quarter of 1932.

The second occasion was in 1936-37 when the administration, assisted by the Federal Reserve System, withdrew a considerable amount of purchasing power from the economy – in effect burying it in the ground in the form of hoarded gold bullion. This sent the U.S. economy into a second tailspin just when it seemed the Depression was finally ending. The result was to give the Depression a whole new lease on life.

On the other hand, Roosevelt's deficit-financed public works projects, though they were beneficial, were too small to have more than a modest impact on an economy that was already recovering through the cyclical mechanisms of the industrial cycle. Therefore, it is hard to deny that, overall, the New Deal made the Depression both deeper and longer than it would have been otherwise.

But contrary to the claims of the Republican Party, the policies that worsened and prolonged the Depression, especially those of 1936-37, had absolutely nothing to do with "pro-labor" policies. Exactly the opposite! The administration's desire to *weaken* the trade unions and the workers' movement in general lay behind the deflationary policies of 1936-37 that had such disastrous effects on U.S. workers and the U.S. trade union movement.

Would the Depression have been worse and have lasted longer if Herbert Hoover had somehow been re-elected, as the Democrats claim, or would recovery have been stronger if Hoover had been re-elected? Since we don't know what economic policies a hypothetical second Hoover administration would have followed, there is no way to answer this question. What we can say is that the Roosevelt administration did little to end the Depression and, to a certain extent, made it both longer and deeper.

CHAPTER 27:
From Depression to New Expansion of Capitalism

By the end of the 1930s, many people, including non-Marxist progressives and Marxists alike, had come to consider the Depression as the permanent state of capitalism. The idea that the Depression represented the "new normal" even received a name. It was called the theory of "secular stagnation."

Therefore, many Marxists were taken off guard when a new wave of accelerated capitalist expanded reproduction swept through the capitalist world after World War II. The renewed capitalist prosperity greatly reinforced opportunist trends within the workers' movement of Europe – including within the ruling parties of the Soviet Union and even more so those of Eastern Europe – and the United States.

Bourgeois economists claimed that the new capitalist prosperity had finally "refuted" Marxism once and for all. It was widely accepted – even among Marxists of that generation – that Keynesian economic policies and/or the "permanent arms economy" were responsible for the new prosperity that Marxist theory supposedly could not explain.

However, if the postwar prosperity were essentially cyclical, it would only be a matter of time before a new era of crisis arrived. The Marxist program of socialist revolution remained fully valid, even if the hopes of a near-term global socialist revolution had been frustrated by the renewed capitalist prosperity. After all, Marx and Engels had faced just such a situation after the 1848 European revolutions.

But if the new prosperity was the result of new policies of the capitalist state unforeseen in Marxist theory, the possibility was opened up that the "laws of motion" of capitalism discovered by Marx that govern the capitalist economy had changed fundamentally. Perhaps Marx's laws of motion had

been correct for 19th-century capitalism and even early 20th-century capitalism. But, it was argued, they were no longer valid for the capitalism of the second half of the 20th century, reshaped as they were by the new Keynesian "demand management" policies.

Demand management, it was claimed, had finally overcome the problem of capitalist overproduction. Thanks to the new Keynesian policies, the argument went that if monetarily effective demand was insufficient to purchase all the commodities produced, the government could simply increase demand to whatever level it desired. This was indeed the conclusion that Paul Baran and Paul Sweezy drew in "*Monopoly Capital*," first published in 1966. If this were the case, then the Marxist program of a working-class socialist revolution might need a drastic revision.

In the following chapters, we will examine the changes in capitalism and the industrial cycle, both economic and political, that followed the Second World War of the 20th century.

The industrial cycle on the eve of World War II

The upswing in the industrial cycle that began in 1932-33 – interrupted by the Roosevelt recession – resumed by mid-1938 as the administration quickly reversed its deflationary measures of 1936-37. However, the recovery that began in mid-1938 started at a level well below the "prosperity peak" – it was hardly a boom – that the economy had reached in late 1936 and early 1937.

Then, before the industrial cycle could reach a true boom – or even get very far into the phase of average prosperity – the war economy took over. As we have already seen, a full-scale war economy suppresses the industrial cycle by halting the normal process of capitalist expanded reproduction. Industrial cycles can only occur within expanded capitalist reproduction.

Economic conditions on the eve of WW II different than on the eve of WW I

Let's first briefly review the economic situation in the years leading up to World War I and then compare it with the radically different economic conditions that preceded the outbreak of World War II.

The years leading up to World War I were years of vigorous expanded capitalist reproduction – or, in economic slang, rapid economic growth. As a result, real capital – productive and commodity capital as well as variable capital that produces surplus value – expanded relative to the quantity of gold bullion in the world.

The era of capitalist prosperity that preceded World War I began around 1896. The decade of the 1890s had seen a big surge in gold production due to low commodity prices and the widespread introduction of cyanide for extracting gold from very poor ores, and then the discovery of gold in the Klondike in 1896.

The defeat of silver Democrat William Jennings Bryan in the U.S. presidential election of 1896 meant that the United States – already on the verge of replacing Britain as the leading industrial nation – would remain on the gold standard. This, along with the rising production of gold and the consequent accelerated expansion of the world market, brought the 1873-1896 "Long Depression" to an end. A prolonged upturn in the general price level – both in terms of gold and in terms of currency, which under the international gold standard was the same thing – set in.

By the eve of World War I, prices were beginning to rise above the values of commodities, as indicated by the developing stagnation in world gold production in the years immediately preceding the war. Therefore, World War I broke out at a particularly bad time as far as the stability of the world capitalist economy was concerned. It took the super-crisis and the currency devaluations that accompanied and followed it to lower commodity prices again to levels below their underlying labor values.

In complete contrast to the pre-World War I situation, the Depression decade preceding World War II saw the virtual complete breakdown of capitalist expanded reproduction. Indeed, the United States – the leading capitalist country – had seen years of contracted reproduction. With expanded reproduction – the very essence of capitalist production – paralyzed, vast amounts of money fell out of circulation and accumulated in idle hoards. The huge expansion of idle reserves in the U.S. banking system during the 1930s was the chief manifestation of this.

The combined effects of the prolonged stagnation of the reproductive process, the 50% fall in prices of commodities in terms of gold, and the subsequent rise in gold production meant that by the end of the 1930s, the world was awash in liquidity. The accumulation of capital in the form of gold bullion – money capital – was accelerating, while the accumulation of real capital was largely negative. As we would expect in such a situation, the rate of interest fell to the lowest levels ever seen in the history of capitalism up to that time.

The balance of forces in the money and capital market now favored the industrial and commercial capitalists over the money capitalists. This created the possibility of a rapid growth in the profit of enterprise once the rate of

profit began to recover. As we saw in my examination of the ideal industrial cycle, the beginning of a recovery is marked by a low rate of interest combined with a rapidly increasing profit of enterprise.

These conditions were the exact opposite of the situation that prevailed on the eve of World War I. Therefore, even before the war broke out in Europe in 1939, the operation of the basic economic laws that govern the capitalist system ensured that the post-World War II period would economically and, therefore, politically be very different than the post-World War I period.

The politics of World War II

World War I had ended indecisively. During the war, the United States had demonstrated that its huge industrial machine, the biggest in the world, made it by far the most powerful nation in the world militarily. However, after the war, the United States rapidly dismantled the huge military forces it had assembled. The U.S. did not occupy Europe militarily after the war ended.

Instead, the United States relied on its new position as the world's leading creditor nation. The U.S. insisted that Britain and France repay the loans the United States had made to them during the war – loans that had been used not to finance Europe's economic development but rather its economic destruction. (Soviet Russia – the Soviet federation had not yet been formed – repudiated the debts the czarist regime owed to the United States.)

This forced Britain and France to finance their war debts by squeezing the needed funds out of defeated Germany in the form of reparations payments. Germany was forced to borrow great amounts of money from the United States, both to meet its reparations payments and rebuild its economy – after the contracted reproduction of World War I. In this way, the "victorious" British and French transferred their war debts onto the shoulders of the defeated Germans.

The only way that Germany could pay these debts was through exports to the United States. The U.S., however, stubbornly refused to open its markets to the Germans, or indeed any other nation. The U.S. behaved as though it was still a developing industrial capitalist nation in debt to Europe rather than the most powerful imperialist-creditor country in the world. Instead of establishing its military and political domination over Europe, the United States' policy was to subordinate Europe economically.

If during the 1920s the United States had wanted to encourage European recovery, it would have opened its home market to European commodities and forgiven the war debts that Britain and France owed. The U.S. could then

have urged that Britain and France cancel the reparations that Germany owed them. But after World War I, the U.S. pursued the exact opposite policies.

After World War II, however, the United States reversed its policies. The U.S insisted on occupying Germany and Japan after the war (in contrast, after World War I, defeated Germany as a whole was not occupied, except for the French occupation of the Rhineland). And the occupation of Germany and Japan has continued well into the 21st century.

In 1949, the United States created the so-called North Atlantic Treaty Organization to institutionalize these occupations as far as Western Europe was concerned. NATO, from the beginning, had a double purpose. The first was to threaten the Soviet Union and its new Eastern European allies and, if necessary, put down any revolutionary movement in Western Europe.

The second purpose was to ensure that neither Germany nor any other European imperialist power would rebel against U.S. domination. During the "Cold War," the United States and its other supporters in NATO absurdly claimed that its military forces in Europe were necessary to defend these countries against a possible Soviet attack. The last thing that the Soviet Union – after losing at least 20 million people as a result of World War II and facing a United States armed with the atomic bomb that it had actually used against Japan in the closing days of the war – would have considered was a military offensive into Western Europe!

Real purpose of NATO clarified

The real purpose of NATO became clear after the Soviet Union was destroyed under the Gorbachev regime between 1985 and 1991. While the Warsaw Pact, the defensive alliance formed by the Soviet Union in 1955, was abolished, NATO was not. Instead, the United States signed up the Soviet Union's former Eastern European allies into NATO and then expanded this operation further to include some of the former Soviet Republics.

Its attempt to induct Ukraine into NATO has led to the bloody Russo-Ukrainian war.

Even though Russia was now capitalist and thus represented no "social" threat to any existing capitalist nation, the United States was determined to tighten its encirclement of Russia through NATO. The only thing that would satisfy U.S. imperialism was the full transformation of Russia, with its vast natural wealth, into a semi-colony – with the emphasis on "colony," not on "semi" – of the United States. This policy did not stem from the "evil" personalities of this or that U.S. president, as non-Marxist political progressives

would have it, but rather from the very nature of capitalism and the monopoly capitalism that of necessity grows out of capitalist "free competition."

It is absurd to think that capitalist Russia represents any threat to either Germany or Japan. Indeed, by maintaining their "alliance" with the United States, Germany and Japan risk being dragged into a future U.S.-Russian war – or, in the case of Japan, into a future U.S.-China war. It wouldn't take many nuclear weapons to destroy either of these geographically rather small countries.

Why then did the governments of Germany and Japan tolerate the presence of U.S. troops decades after World War II ended? And why did the United States insist on maintaining these forces in Germany and Japan? There is only one reason. They were (and are) there to ensure the defeated Axis powers remain U.S. satellites.

The nature of U.S. domination of modern Germany and Japan

The United States maintained its domination of Germany and Japan not only through the stick – military occupation. It also used the carrot. Unlike after World War I, the United States made major economic concessions to the capitalists of Germany and Japan. The U.S. agreed to allow the Germans and Japanese access to its huge domestic market. The refusal of the United States to do this after World War I was one of the underlying causes of World War II.

This policy, however, proved a costly one for the United States. If the U.S. had used its military rule of Germany and Japan to dismantle the German and Japanese economies, U.S. corporations would have had the world market pretty much to themselves for many decades to come. If the U.S. could have gotten away with such a policy, its corporations would have grown vastly richer than they actually did – not that they were exactly poor as it was!

But as World War II was ending, the United States had its hands full with its struggle against the Soviet Union and its allies – the most important of these allies on the European continent being the revolutionary-minded workers of Western Europe – combined with revolutionary China, Korea, and Vietnam, later joined by Cuba and other restless former colonial or semi-colonial countries. The U.S. was eager to transform the former colonial and semi-colonial countries that had been dominated by European colonial countries and Japan into U.S.-dominated neocolonies.

And perhaps more importantly, the United States was afraid of a head-on collision with the workers of Western Europe. After the war, the U.S. did consider forcibly dismantling the German and Japanese corporations.

The so-called Morgenthau Plan – named after Roosevelt's Secretary of the Treasury Henry Morgenthau – aimed at transforming highly industrialized Germany into an agricultural country. In effect, Germany would have been reduced to "third-world" status. The United States had similar plans for a somewhat less industrialized Japan.

If such plans had been implemented, this would have meant huge chronic unemployment in Germany and Japan. It was extremely unrealistic to think that many German or Japanese industrial workers could be transformed back into peasant farmers as their fathers and grandfathers had been. That mode of production and way of life was gone for good. Shortly after the war, in the face of the growing influence of the Western European Communist parties and the rapid growth of other left parties and labor unions, the United States was forced to renounce such plans.

The postwar world takes shape

Unlike after World War I, the U.S. would allow Germany and Japan, as well as Britain and France, access to its huge home market. German, Japanese, Italian, British, and French corporations would be allowed to compete economically with U.S. corporations within the U.S. home market and the world market as a whole. In addition, the United States would guarantee raw materials-short Germany and Japan access to raw materials and foodstuffs. However, no political or military competition would be tolerated on the part of the defeated Axis nations.

Why didn't the German and Japanese governments rebel against U.S. domination?

Suppose a government came to power in either Germany or Japan that wanted to compete with the United States, not just economically but militarily and politically as well. Such a government would first have to send the U.S. troops and bases packing. Any attempt to do this would mean a major confrontation with the United States and, in the case of Germany, with NATO.

Even if the U.S. government agreed to peacefully withdraw its forces if requested to do so – which is far from certain – the United States could retaliate by limiting access of the German and or Japanese corporations to the U.S. home market – and other markets policed by the vast U.S. armed forces. The United States could also use its military power to cut off the flow of raw materials and foodstuffs to any anti-U.S. German or Japanese government that might emerge.

For these reasons, the capitalists of Germany and Japan have shown no desire to challenge the U.S. military – and ultimately political – control of their countries that has prevailed since 1945.

Love of profit, not love of country, motivates capitalists

Since the Japanese and German capitalists have made huge profits under these post-1945 arrangements, much greater profits than they ever made when Germany and Japan were fully sovereign countries before World War II, they were reasonably satisfied with these arrangements. In contrast to the situation after World War I, they gave little support to right-wing nationalist forces – which existed in both Germany and Japan – that sought to restore full independence to these countries on an imperialist basis.

While capitalist propaganda constantly attempts to convince the workers that "love of country" is the highest value, the capitalists themselves are governed only by "love of profit." Since World War II, "love of profit" has so far kept the German and Japanese capitalists loyal supporters of the U.S. empire.

The status of Britain and France after World War II

Though Britain and France were among the "nominal" victors, they found that their military and political independence regarding the United States was also melting away after World War II. This became clear during the Suez Crisis of 1956.

In 1956, the Egyptian government under the Arab nationalist President Gamal Abdel Nasser had nationalized the Suez Canal. London and Paris were determined to take it back and put nationalist Egypt back under their semi-colonial control. They teamed up with the government of Israel – as always eager to serve as a colonial policeman to any imperialist power that desired its services – and invaded Egypt. The United States, however, had no interest in British, French, or Israeli control of the Suez Canal. What was important to Washington was the ability of the U.S. military to seize control of the canal in a crisis.

Therefore, Washington told London, Paris, and Israel to end their invasion of Egypt. The United States used its financial power – threatening to withdraw support for the shaky British pound – and even its military power if it came to that. Realizing they were in no position to resist – financially, not to speak of militarily – Britain, France, and Israel were forced to withdraw.

After Suez – despite French President Charles De Gaulle's nationalist gestures – it became clear that Britain and France were also unable to seriously compete with the United States either politically or militarily. As was the

case with Germany and Japan, they were pretty much limited to competing with the United States economically. Therefore, one of the most important results of World War II was to reduce the other imperialist powers to satellite imperialist powers of the U.S. empire.

The biggest problem the United States faced in 1945 was the survival of the Soviet Union. As long as the Soviet Union existed, there was one major power that was not under the military and political control of the United States. Unlike Germany or Japan during World War II, it represented a rival social system whose existence was made possible by the workers' revolution of October 1917. In addition, the survival of the Soviet Union, combined with the weakening of the old colonial powers, especially Britain, France, and Japan, created the conditions for many of the colonized countries to struggle to regain their independence.

U.S. imperialism sometimes – though not always – gave a certain amount of support to colonial independence movements from the old colonial imperialist powers when it served to advance its interests. For example, the United States demanded full access to the Indian market after World War II, much to the chagrin of London. This encouraged Britain to give India its independence in 1947 since the costs of holding India in colonial slavery were not justified if Britain could not monopolize the Indian market for itself. And U.S. policy during the Suez Crisis saved Egypt from being turned back into a British semi-colony.

Despite saving Egypt from being re-colonized by Britain during the Suez Crisis, the United States proved to be no friend of the people of the Middle East! If you have any doubts, ask the Palestinians, the Iranians, the Iraqis – or the Egyptian people!

After President Nasser died in 1970, Egypt was transformed into a U.S. neocolony. The same tendencies are visible in India. The United States acted the way it did during the Suez Crisis because it wanted to control the Middle East – it did not want any other imperialist power to control that region. It was willing to share some of the loot it extracts from the Middle East with the other imperialist powers, but only on its terms.

As a result of the destruction of Soviet power between 1985 and 1991, the situation confronting the former colonial or semi-colonial countries changed radically for the worse. Countries that sought to develop independently could no longer look to the Soviet Union and its Eastern European allies for support in their struggle against the imperialist powers dominated by U.S. imperialism.

After the Soviet surrender, the United States imagined that it would be able to rule the world pretty much unopposed in a so-called "New World Order." It did not, however, quite turn out that way. Since the Soviet Union was destroyed, U.S. imperialism became both more greedy and more parasitic. As a result, the United States faced growing resistance throughout the world under various ideological banners that refused to go away. Far from bringing the peace that Gorbachev and his supporters claimed it would, the first 20 years after Gorbachev saw a series of shooting wars waged by the U.S. world empire against Iraq, Serbia, Afghanistan, and Libya. Eventually, this led to the bloody Russo-Ukrainian war.

A powerful but decaying global empire

By the early 21st century, the U.S. world empire was in decline. Perhaps in the not-too-distant future, a new period of political and military anarchy will succeed U.S. domination, much like it succeeded British domination between 1914 and 1945. Because of the basic contradictions of capitalist production that we have been examining in this work, any capitalist "order" – whether the British-dominated one that prevailed from 1815 to 1914 or the U.S.-dominated one that has prevailed since 1945 – contains the seeds of its own undoing.

But unlike World War I, World War II had a decisive outcome. It established the domination of U.S. imperialism over the globe – though not forever and not unopposed like Washington policymakers dreamed of – but for many decades to come. This is the biggest political difference between the post-World War I and post-World War II periods.

The Bretton Woods Conference and the international monetary system of the U.S. world empire

The largely British-managed international gold standard that prevailed from the 1870s to 1914 had worked reasonably well for the capitalist system. It could not eliminate cyclical economic crises, but no international monetary system can do that. Neither was there a debacle on the scale of the 1929-40 Great Depression under the classical gold standard. The regime of the classical international gold standard, with its fixed exchange rates and "limited" economic crises, had encouraged the rapid growth of global trade and international export of capital – capitalist globalization.

Capitalist Depression phobia

Since the 1929-40 Depression, capitalist economists and governments have been determined to avoid a similar Depression at almost any cost. They feared that the capitalist system might not survive "Depression II." Even the prolonged retreat of the world workers' movement that preceded the destruction of the Soviet Union and was then accelerated by it failed to end capitalism's Depression phobia. Despite the supposed "end of history" that followed the Soviet political collapse, the capitalist class continues to display a curious lack of confidence about its long-term chances of survival.

Micro- & Macroeconomics

As we saw in an earlier chapter, beginning with Keynes, the bourgeois political economy split in two. One part, called microeconomics, is simply the old marginalism. Its purpose remains what it has always been – ideological. Microeconomics presents capitalism as an absolute mode of production based on "fair," mutually beneficial exchanges without exploitation or contradictions. The microeconomists, therefore, hold that capitalism as a system will last as long as human life persists.

The other wing of modern bourgeois economics, macroeconomics, seeks to understand the workings of the capitalist economy within the limits required to develop policies that provide the capitalist governments and central banks with "tools" designed to stabilize capitalism economically – above all, to prevent cyclical economic crises from turning into Depression-breeding super-crises.

However, the bourgeois macroeconomists have not returned to the concept of labor value since that would open the door to the understanding of profit – surplus value – as arising from the unpaid labor of the working class. Though some marginalist concepts can be tacitly ignored when they get in the way of stabilization policies, there has been no real return to classical political economy and still less to the economic science developed by Karl Marx.

As a result, modern bourgeois macroeconomics is empirical, shallow, and superficial. It analyzes only the outward appearances, like all forms of "vulgar economics" do. And so our modern bourgeois macroeconomists have no real understanding of the nature of such basic economic categories as value, money, price, profit, interest, and rent. The "tools" they have pro-

vided the capitalist governments and central banks have a powerful built-in tendency to backfire.

One conclusion that the new discipline of macroeconomics drew was that the general price level must never be allowed to fall. We can see the beginnings of the policy of "permanent inflation" in Roosevelt's New Deal. The Roosevelt administration, quite frankly, sought ways to increase prices.

This was in contrast to the policy of capitalist governments and central banks during the era of the classical international gold standard, which was to maintain the gold value of the currency – the price of gold in terms of the currency – at a fixed level. This was believed to be the key to economic stability. The policies of the gold standard years assumed that the general price level that emerged from market forces was the optimum one.

The macroeconomists claimed – and claim – that this policy was a huge mistake. When prices fall, they point out, the industrial and commercial capitalists tend to put off new purchases of raw materials and machinery and commodity capital, waiting for prices to fall further. Such a situation, the macroeconomists maintain, tends to drag out and deepen depressions.

In addition, falling prices tend to increase the real wages of employed workers. Of course, if falling prices are accompanied by an economic crisis, the reduction in the quantity of work will still drive down the overall real income of workers. When this happened, there would be far less work available, so the actual standard of living of the workers would still fall despite the rise of real hourly wages. Keynes put great emphasis on the tendency of falling prices to raise hourly real wages in his 1936 "*General Theory*," considered the foundation work of macroeconomics.

The macroeconomists noticed that prices had generally risen around 1 to 3% a year during the prosperity of 1896-1913 that preceded World War I, as well as other long-term periods of capitalist prosperity, such as the one that followed the gold discoveries of 1848-51. Lacking any understanding of the real nature of value, money, and price, they imagined that correct policies by the governments and central banks could ensure a 1896-1913 – or 1848-1873 – type of "creeping inflation" that would generate permanent capitalist prosperity. This policy was later dubbed "inflation targeting."

Virtually all bourgeois macro-economists agreed on this. They only differed about the policies that can bring about these – for the capitalists – happy and profitable results. Should the emphasis be on fiscal policy – run-

ning deficits during periods of recession or stagnation – or monetary policy? Regarding monetary policy – the policies of the central banks – should the emphasis be on manipulating interest rates – raising them during economic booms and lowering them during periods of recession – the policy generally supported by the followers of John Maynard Keynes and, for the most part, the central bankers themselves? Or, as later suggested by Milton Friedman's followers, should monetary policy be based instead on maintaining a steady rate of growth of the quantity of money?

Ironically, the new economic policies urged by the macroeconomists proved, in the long run, to be incompatible with the postwar international monetary system, whose foundations were drawn up at the 1944 Bretton Woods Conference. As Marxists who understand the real nature of value, money, and price, we can easily understand why the new international monetary system was doomed to collapse even before its details were hammered out at Bretton Woods.

The Bretton Woods System doomed from the start

Between about 1870 and 1914, the gold standard dominated the international monetary system. The international gold standard had not come into existence through a formal agreement among the major capitalist countries. Instead, the major capitalist nations of the time found it in their interest to define their currencies in terms of a certain weight of gold and maintain the convertibility of their currencies into gold coins of a given weight. They were more or less obliged to do this because they would risk being excluded from the London capital and money markets if they didn't.

The gold-exchange standard was a variant of the gold standard that existed in the pre-1914 years. Some countries, especially colonized countries such as India – used pound-denominated British government securities alongside gold to back up their currencies. Owners of the Indian currency would demand British pounds instead of gold itself when they wanted to redeem Indian currency.

Even some of the European central banks used British government securities alongside gold as reserves, though as World War I approached, they began to shift all their reserves back into gold itself. This hoarding of and competition for gold reserves among the European central banks as they prepared for the approaching war may have played a role in the 1913-14 world recession – which followed the crisis of 1907 by only six years, considerably less than normal for the industrial cycle – which immediately preceded World War I.

After World War I, there was an attempt to restore the pre-war international gold standard. However, it was undermined by the high prices of commodities relative to underlying values. As we saw in earlier chapters, this expressed itself in a shortage of gold.

Therefore, to a much greater extent than before World War I, the gold-exchange standard was used in place of the "pure" gold standard following World War I. Countries short of gold used dollar-denominated U.S. government securities alongside their scarce gold reserves to back up their currencies.

Also, some countries, such as Britain, used a weaker form of the gold standard called the gold bar standard rather than a gold coin standard. Instead of coining gold, the government and the Bank of England were willing to sell gold bars – bullion – for only large sums of pounds – Bank of England banknotes.

Unlike before the war, a person who owned five-pound notes could no longer go to the nearest branch of the Bank of England and redeem them for five gold sovereign coins.

All these modifications of the classic gold standard were attempts to economize on scarce gold. As we now know, it all ended in the super-crisis of 1929-33 – with its unparalleled unemployment – which finally solved the problem of the world gold shortage by increasing the purchasing power of gold and, at the same time, increasing its supply measured in terms of weight. However, the price for these happy results was the super-crisis of 1929-33 and the Great Depression it created.

As the inevitable U.S. victory approached in 1944, a conference was held in Bretton Woods, New Hampshire, to lay out plans for an international monetary system to underpin the now U.S.-dominated world capitalist system.

Unlike after World War I, gold was plentiful, but its distribution was even more lopsided, with most of the world's gold held by the U.S. Treasury. This was only one manifestation of U.S. domination. While the European and Japanese economies emerged heavily damaged by the effects of World War II, U.S. industrial might remained completely intact. Not a single bomb had fallen on the 48 states that then made up the North American union, nor had a single shot been fired there. At Bretton Woods, the United States held all the cards.

The Bretton Woods Conference created three new "international institutions" – all dominated by the United States – that survive in the 21st cen-

tury. They are the International Bank of Reconstruction and Development, the World Bank; the International Monetary Fund; and the General Agreement on Trade and Tariffs, now called the World Trade Organization, or WTO for short. GATT – and its present-day successor, the WTO – are the organizations through which the United States controls access to its huge home market, enforces its access to foreign markets, and imposes "intellectual property" where human knowledge is treated as a commodity. (For an explanation by computer scientist Richard Stallman of what is wrong with the concept of "intellectual property," see http://www.gnu.org/philosophy.)

The World Bank was initially foreseen as providing "soft" loans for postwar European reconstruction. More important to the operations of the postwar international monetary system was the IMF, which provides loans to meet short-term liquidity crises, often with punitive strings attached.

The new international monetary system was an extension of the gold-exchange standard. The United States promised to exchange dollars held by foreign governments and central banks for gold bullion at the rate of one ounce for every $35 presented to it. As far as governments and central banks were concerned, the dollar would, in the postwar world, be a form of credit money, not the token money it was after 1971. As far as everyone else was concerned, the dollar would be token money, with the dollar price of gold varying on the open market.

However, the promise that the United States made at Bretton Woods to redeem its dollars at the rate of an ounce of gold for every $35 meant that the U.S. could not allow the "free market" price of gold to rise much above $35.

If the dollar price of gold rose significantly above $35 on the open market, foreign governments and central banks would be tempted to "buy" gold with their dollars from the United States for $35 an ounce and then sell the gold on the open market at the higher dollar price. They could then use these dollars to buy more gold at $35 and either hold the gold or sell it for dollars at a higher price. If they did this, they could repeat the operation with the extra dollars "earned" by selling the gold they got from the U.S. Treasury in exchange for their dollars until all the gold in the U.S. Treasury was exhausted.

Other currencies would be linked to the dollar at fixed exchange rates, and through the dollar would also be defined in terms of weights of gold, as had been the case in the days of the classic gold standard. Indeed, the fixed exchange rates allowed smaller fluctuations around the par value than

the old gold points of the pre-World War I international gold standard had allowed. To this extent, the Bretton Woods system was a "better" gold standard than the old pre-1914 system had been.

However, under certain circumstances, currencies could be devalued against the dollar – and gold. Suppose a country faced a balance of payments deficit and lost reserves – essentially U.S. dollars. Under the Bretton Woods System, it could raise interest rates, which could mean recession; it could borrow from the International Monetary Fund and hope the balance of payments deficit would go away without a recession – or perhaps raise interest rates more gradually, resulting in a milder recession – or it could devalue its currency. Indeed, major devaluations of European currencies occurred in 1949, and France devalued its currency several times during the late 1950s economic crisis.

The macroeconomists who designed this system hoped this would allow governments and central banks far more flexibility to fight recessions than they had had under the pre-war international gold standard or during the abortive attempt to revive the gold standard after World War I.

By implication, the one currency that could not be devalued was the U.S. dollar. The dollar was defined as 1/35th of a troy ounce of gold and was the anchor of the entire system. If the dollar went – that is, if it was devalued – the entire Bretton Woods System would collapse.

The hopeless contradiction of Bretton Woods

As macroeconomists saw it then and still see it today, the huge decline in prices in the early 1930s brought the capitalist system to the verge of collapse. The key to avoiding a new Depression with a capital "D" was to ensure that no major price deflation would be allowed. Instead, the job of governments and central banks was to ensure a gradual rise in the general price level – about 1% to 3% a year – much as had occurred between 1896 and 1913 and between 1848 and 1873.

However, these policies conflicted with the basic economic law that governs the capitalist system, the law of the value of commodities. The old international gold standard had been kept "healthy" by periodic drops in the general price level that offset the periodic inflations of the general price level. In this way, prices fluctuated around an axis ultimately determined by their labor values.

But the new economic doctrines held that governments and central banks must do everything they can to prevent such periodic falls in the general price level.

If the Bretton Woods System had survived, this would have meant that over time, prices would have progressively and permanently risen above values. The dollar price of gold would be frozen at $35, but all other prices would gradually drift higher. If this happened, the industrial capitalists who produced gold would experience a gradual but relentless rise in their cost price but would be unable to raise the "price" at which they sold their particular commodity – gold. That would be fixed at $35 a troy ounce.

This implied that the profitability of mining and refining gold would progressively fall and sooner or later disappear altogether. And under capitalism, when it isn't profitable to produce a commodity – even if the commodity in question is the money commodity itself, whose in use value the value of all other commodities is measured – it isn't produced.

The combination of the policy of "permanent inflation" and the Bretton Woods System guaranteed that the shortage of gold of the inter-war years would not only sooner or later reemerge, but it would grow progressively worse as gold production fell toward zero. Sooner or later, something had to give. And it did. What has to be explained is not why the Bretton Woods System collapsed but why it lasted as long as it did. We will examine this question in the coming chapters.

In addition to these hopeless contradictions involving the new international monetary system, capitalist governments faced a grave, shorter-term problem. As we saw in the preceding chapters, the decision of the United States to raise tariffs during the 1929-33 super-crisis meant that European countries could not possibly repay their debts to the United States except through bankruptcy. Wall Street moneylenders ended up losing much of the money they had lent to Europe.

As we saw above, right after World War II, Washington was seriously considering the destruction of the German and Japanese economies. Because of this, the men on Wall Street – despite the huge sums of idle money capital burning holes in their very deep pockets – were unwilling to lend money for purposes of European reconstruction. They feared that the Europeans would not be able to repay their debts again.

For its part, Washington was alarmed by the strength of the Communist Parties in Europe – the Italian Communist Party had the majority of the population behind it right after the war. Fearing it was on a headlong collision course not only with the Soviet Union but the workers of Western Europe and Japan as well, Washington was forced to give up any idea of dismantling the economies of Germany and Japan.

The so-called Marshall Plan signaled a definite shift by Washington away from destroying the European and Japanese economies. The Marshall Plan program of "soft" loans and grants to Western Europe was a signal to the Wall Street money lenders that, unlike after World War I, this time it was safe to lend money to war-torn Europe and Japan. The so-called economic "miracles" of the 1950s and 1960s that followed were crucial to the survival of the capitalist system during these critical years. As happened a century earlier, after the 1848 revolutions, the radicalization of the workers in Western Europe and Japan was drowned in a tide of rising capitalist prosperity.

But the newly established U.S. world empire paid a price. As capitalism boomed in Western Europe and then even more so in Japan, the U.S. faced economic competition – though not military or political – on a scale it had never experienced.

CHAPTER 28:
Historical Trends in Industrial Cycles

Almost every economic textbook states that post-World War II business cycles were much milder than pre-World War II business cycles. It is claimed that periods of "expansion" have become much longer, while periods of contraction or recession have become much shorter.

How the NBER produced a trend toward longer expansions and shorter recessions

The National Bureau of Economic Research is a private organization that studies economic trends from the pro-capitalist perspective of professional bourgeois economists. Among other things, this outfit dates each economic expansion and contraction, as the NBER calls recessions, that have occurred in the U.S. since 1857.

The capitalist media, along with most professional economists, treat the estimates of the NBER of cyclical turning points as though these were unchallenged facts, much like the orbits of the eight planets around our sun. Even Marxists sometimes treat the NBER calls on economic cycles as though they were the work of objective scholars with no biases whatsoever.

However, if we look into economic history, which all too few people do, we find something peculiar about the NBER cyclical calls. Though the NBER denies it, its contraction – recession calls since World War II – virtually always correspond to drops lasting at least two quarters in the U.S. Commerce Department's real GDP (Gross Domestic Product) estimates. Sometimes, an official NBER contraction might consist of a quarter of falling real GDP, followed by a quarter of a slight rise in the real GDP, followed by several quarters of once again falling real GDP. But that is the extent of the deviation of NBER "contractions" from the U.S. Commerce Department estimates of the real U.S. GDP.

Changes in industrial production during the 1870s

Prior to World War II, the NBER considered virtually any period of falling prices – which were largely farm prices in the 19th century – as representing contraction, but then shifted to using the GDP data for the post-World War II period.

In the 19th century, agriculture represented a much larger proportion of total output than today. It is well known that, due to the decentralized character of agricultural production compared to industry, prices for agricultural commodities are far more likely to fall than those for finished industrial commodities. In industry, as opposed to agriculture, any difficulty in selling commodities at existing prices is more likely to result in declining production and employment – recession – than is the case in agriculture.

This is not to deny the suffering that U.S. farmers experienced during the "long depression" in agricultural prices – in terms of gold – that began with the financial crash of 1873, which hit first Austria and Germany and about six months later spread to Wall Street with the failure of the Jay Cooke investment banking house. However, industrial recession – falling industrial production and employment with rising unemployment affecting employment in the "service sector" – is not the same as falling agriculture prices, even if they sometimes go together. Periods of falling agricultural prices can and often do last well beyond the industrial recession or even occur in the absence of an industrial recession.

Tendency of monopoly to worsen industrial recessions completely hidden by NBER's cyclical calls

As the centralization of capital has progressed and the monopoly pricing power of large industrial corporations and cartels has increased, so has the severity of fluctuations in industrial production and employment. The reason is that centralized industrial corporations – trusts – and cartels tend to respond to any difficulty in selling their products at existing prices by cutting production, not prices. In contrast, small producers, especially smaller farmers who are "price takers" as opposed to "price makers," have no choice but to accept lower prices whenever demand weakens.

Far from cutting production during falling prices, smaller farmers do everything they can to maintain, if not increase, production. By using completely different criteria to define "contractions" in different historical periods, the NBER has manufactured a tendency toward longer "expansions" and shorter "contractions."

The obviously false NBER cyclical calls are underlined by the fact that economic historians consider the era of fastest economic growth in the history of the U.S. economy to be the late 19th century. But if we were to believe the NBER cyclical calls, almost half of this period represented periods of economic contraction!

The five complete industrial cycles between 1945 and 2007

The first NBER "contraction" for the U.S. economy was in 1945-46. This was not a cyclical crisis at all but a "reconversion" crisis. A reconversion crisis represents a shift from a war economy with contracted reproduction back to normal expanded capitalist production. This is not to deny that there were indeed waves of layoffs that swept industry in the U.S. and other countries in 1945-46.

Reconversion and transition recessions after World Wars I and II

For the two world wars of the 20th century, the transition to a normal peacetime economy involved both a reconversion recession and a second "transition" recession before normal "peacetime" industrial cycles resumed.

The reconversion recession after World War II occurred in 1945-46, and a similar reconversion recession occurred in 1918-19, right after World War I, which ended in November 1918. In both cases, the reconversion crisis represented the fact that war production declined at a much faster pace than civilian production rose in the months immediately following the end of both world wars.

In both immediate postwar periods, prices continued to rise rapidly, not only in currency terms but in terms of gold as well. Therefore, after both wars. Deflationary measures were taken to curb demand and halt these price increases. If these deflationary measures had not been taken, the continued rapid rise in prices in terms of gold would have led, at some point, to a run out of the dollar into gold and massive dollar devaluation.

The massive currency devaluation would have been the market's way of lowering prices in terms of gold without lowering prices in terms of currency. This, however, could have led to runaway inflation. This is exactly what happened in Germany and other central and eastern European countries after World War I, which did not experience the transition recession of 1920-21.

The U.S. transition recession of 1920-21

In the U.S., since the U.S. dollar had not depreciated against gold during World War I, the rise in U.S. dollar prices in 1919-20 represented a rise not

only in terms of dollars but also in terms of gold. In 1919-20, as normal European agricultural and civilian production resumed and exports of war-related items from the U.S. ended, the balance of payments shifted sharply against the U.S.

The Federal Reserve System, which in those pre-New Deal days maintained a large gold hoard of its own, experienced a major external drain. To preserve its gold hoard, the Fed was forced to sharply raise its (re)discount rate. The high-interest rates, though they reversed the gold drain, led straight to the recession of 1920-21 with its 45% drop in wholesale prices and considerable, if somewhat smaller, declines in prices at the retail level.

If the inflation of 1919-20 had not been stopped, the U.S. would have been forced off the gold standard, and the U.S. dollar would have faced a major devaluation against gold. In the worst case, the U.S. might have experienced the runaway inflation that occurred in Eastern and central Europe.

Though the 1920-21 recession more closely resembled a cyclical crisis than the 1918-1919 recession, it was not a cyclical crisis either. It did, however, mark the final transition to a peacetime capitalist economy – though prices were still out of line with underlying labor values as we saw in earlier chapters – and the beginning of the 1920-1929 industrial cycle, which turned out to be the only full industrial cycle between the two world wars.

Therefore, the 1920-21 recession relaunched the industrial cycle, which is a necessary component of normal capitalist expanded reproduction even if the capitalist expanded reproduction process was far from fully "normalized" due to the continued inflation of prices above values and prices of production. It took the super-crisis of 1929-33 to correct this problem and finally put the process of expanded capitalist reproduction on a "sound" footing once more.

Comparing the transitional recessions of 1920-21 and 1948-49

The Federal Reserve System halted the inflation and associated gold outflow in 1919-20 by raising the rate at which it (re)discounted commercial paper. However, this method was not available to the Federal Reserve System in 1948 when it moved to halt the continuing postwar inflation.

As long as the Fed was committed to keeping the rate of interest on government bonds and interest rates in general low, merely raising the discount rate would not have ended postwar inflation. The U.S. commercial banking system was flush with government bonds, which were convertible at the Fed into Federal Reserve notes – "green money" – at a fixed price. Or, technically,

deposits at the Federal Reserve Banks convertible into "green money" whenever the commercial banks needed cash to meet their depositors' demands.

Under these conditions, the Fed could not discourage the commercial banking system from making loans and thus halt the inflationary growth of bank loans and the consequent expansion of the "money supply" by raising its (re)discount rate. Instead, the Fed had to raise reserve requirements, much like it had done in 1936-37, just before the Roosevelt recession. This worked, and the post-World War II inflation was halted.

In August 1948, the U.S. producer price index peaked at 28.2. It reached a low of 25.9 in December 1949. This was a decline of a little more than 8%. Consumer prices also fell during this mildly deflationary recession. Many people alive then remembered the deflationary recession of 1920-21, when producer prices had plunged by 45%. There were widespread expectations in the business world and elsewhere that prices after World War II were due for a similar plunge. Therefore, the fact that producer prices declined by only 8% surprised many.

Regarding declines in industrial production and employment, the transition recession of 1948-49 was also mild compared to the 1920-21 recession. The deflation's mildness was a harbinger of the moderately inflationary era of capitalist prosperity that was setting in. Prices were entering a long-term upward trend. The rise in prices reflected both the effects of Roosevelt's 40% devaluation of the dollar against gold and a rebound of prices in gold from the low levels of the Depression years.

Though the deflation in prices during the 1948-49 recession was mild, this was still the most deflationary recession in terms of the U.S. dollar – as opposed to prices in terms of gold – of any other recession between 1945 and 2007.

At its highest point, in August 1948, according to the official data, producer prices were still slightly below the May 1920 index peak of 28.8. But if you take into account the 40% Roosevelt devaluation of the dollar, prices in terms of gold were well below the levels that prevailed at the end of the post-World War I inflation. This was all the more true if we consider the somewhat higher dollar price of gold – about $40 – on the free market as opposed to the "official" dollar price of gold of $35 an ounce. Therefore, though the World War II war economy and its inflationary aftermath had driven up the general price level in terms of gold as well as dollars, it did not drive it up all the way to the levels that prevailed after World War I.

In contrast to the situation after World I, where there was an increasingly acute global shortage of gold leading up to the super-crisis of 1929-33, the

world as a whole was awash in gold after World War II. In contrast to the situation in 1919-20, the U.S. experienced no gold drain, though the U.S. Treasury held most of the world's gold reserves. This is not to mention the gold reserves of other countries that were held for "safekeeping" in the U.S. When these facts are taken into consideration, it is not surprising that the drop in prices in the U.S. during the 1948-49 recession was considerably less than was the case during 1920-21.

Still, there are obvious resemblances between the recessions of 1920-21 and 1948-49, if not in degree, then in kind. Neither of these recessions was a true cyclical crisis, but both represented the resumption of the industrial cycle after the termination of expanded capitalist reproduction and accompanying industrial cycles by both instances of a war economy.

The dating of the first postwar industrial cycle

During the early days of the Korean War (1950-53), it seemed possible that the "local" war on the Korean Peninsula was simply the first stage of a new all-out World War III that would bring a new war economy. This indeed was the perspective of General Douglas MacArthur, who wanted to attack China with atomic bombs – the far more destructive hydrogen bomb had not yet been developed.

Fearing the imminent arrival of a new all-out war economy, the industrial and commercial capitalists went on a massive buying spree, buying raw materials and other commodities before prices rose even higher and before a new war economy might make some unavailable at any price. But after Truman fired MacArthur, it became clear that Washington had decided against launching a new all-out world war at that time.

As soon as this became apparent, the inflationary wave halted, and prices stabilized, though at higher levels. Indeed, businesses now had excessive levels of many raw materials. However, the shooting war in Korea continued with no end in sight, so prices remained high. The U.S. economy, though not in a full-scale war economy, where expanded capitalist reproduction is suspended, was pretty close to it during the Korean War.

In July 1953, the new Eisenhower administration negotiated a truce with the (North) Koreans and the Chinese. U.S. war spending was cut back, though it remained high by traditional "peacetime" standards. But the United States was now the seat of a worldwide empire, and with a world empire came massive militarization. For the U.S., the days of small "peacetime" military budgets were a thing of the past.

The end of the Korean War marked the beginning of the 1953-54 NBER economic "contraction." The U.S. recession of 1953-54 had some of the characteristics of a "reconversion crisis," such as those of 1918 and 1945, and some characteristics of a "Kitchin inventory recession," intensified by the speculative inventory accumulation during the Korean War when fears of a full-scale world war that would pit the U.S. empire against the Soviet Union and the newly established Peoples Republic of China were high.

It does not appear to have marked a downturn in the international industrial cycle proper. One indication was that there was little diffusion of the 1953-54 U.S. recession beyond the U.S.

The first true post-World War II downturn in the global industrial cycle

The first real cyclical downturn in the global industrial cycle after World War II came in 1957-58. The unemployment crisis created by this downturn in the United States was to last into the early 1960s. This slump was far more serious than the recessions of 1945-46, 1948-49 or 1953-54. Unlike the 1953-54 recession, the 1957-58 recession was not confined to the United States; its impact was worldwide.

According to Wikipedia, the global downturn "hit economically disadvantaged countries hardest, because it involved a decline in the purchases of raw materials, both agricultural and mineral, by developed nations." The article continues: "The terms of trade of the underdeveloped countries was adversely affected. In Europe, no less than in the United States, there was a fairly sharp decline in investment in fixed capital."

Whether or not particular countries experienced a technical recession, according to capitalist statisticians, the countries of both the imperialist and "developing" worlds certainly felt the impact of the downturn of 1957-58.

"In the United States, unemployment rose, but there was little or no decline in personal income," Wikipedia continues. "Auto sales fell 31% over 1957, making 1958 the worst auto year since World War II up to that time. Unemployment in Detroit stood at a high of 20% by April. Imports into the United States from Europe stayed high, but the recession in Europe reduced European purchases of American raw materials. And so the balance-of-payments deficit in the United States sharply increased. In Europe, however, a surplus in their balance of payments developed."

Compared to the downturns that had preceded World War II, the 1957-58 recession had one major new feature. Prices kept rising right through the

recession. Wikipedia notes: "In the U.S., consumer prices rose 2.7% from 1957 to 1958, and after a pause, they continued to push up until November 1959. Wholesale prices rose 1.6% from 1957 to 1959. The continued upward creep of prices became a cause of concern among economists.

This reflected the changed economic policies on the part of the governments and central banks in the wake of the super-crisis of 1929-33. As we have seen, the U.S. government was determined in the postwar years to do all it could to prevent a recession from turning into a new super-crisis, or even a major depression of the pre-World War I type.

No 'panic' in 1957-58

During the 1957-58 world recession, large industrial and commercial capitalists did not panic. They were confident that the governments and central banks would move quickly to expand monetarily effective demand. Working with the central banks, the commercial banks would be able to, if necessary, extend loans to any large industrial and commercial capitalists who might be in trouble with their creditors due to large accumulations of unsold commodities. This would then be followed by deficit spending by the central governments to further inflate monetarily effective demand.

In traditional overproduction crises – those that occurred between 1825 and the 1930s Depression – the industrial and commercial capitalists who had acquired large debts during the preceding boom would often find themselves unable to pay their debts upon the outbreak of the crisis and were driven into bankruptcy. Therefore, when a crisis broke out, these capitalists would often "panic" and dump their inventories – commodity capital – on the market at low prices, even if this meant a major loss of their capital. As a result, the general price level would fall sharply as soon as a crisis broke out. In the short run, this would mean a wave of bankruptcies, banking and credit crises, plunging production, and, not least, sharp drops in employment followed by waves of wage cuts.

But these periodic "panics" played an important role in keeping the capitalist economy "healthy" in the long run. It was precisely these periodic plunges in the general price level that followed the inflation of credit and prices that occurred during the booms that kept prices in line with underlying labor values in the long run. This is, after all, the main function of the industrial cycle within expanded capitalist reproduction.

Periodic price falls increased the purchasing power of money and encouraged the production of gold – money material – as falling commodity prices

raised the profits in the gold mining and refining industries. They, therefore, played a necessary role in the expansion of the total global hoard of money material that was a necessary condition for the continued growth of the world market. Without growth of the world market, capitalist expanded reproduction – that is, capitalism itself – would not have been able to continue.

During the Depression, both the governments and most bourgeois economists – especially the followers of Keynes – had concluded that the key to avoiding major depressions was to prevent a fall in the general price level. Of course, the prices of individual commodities or even whole classes of commodities, such as primary commodities, might, and sometimes did, fall, but the cost of living as a whole must continue to inch upward. This was the new doctrine of the (bourgeois) macroeconomists.

As long as the cost of living kept rising, most (bourgeois) economists and capitalist governments believed, a major depression could not develop. Therefore, when the economic indicators began to decline sharply in the fall of 1957, the Federal Reserve System pumped huge amounts of reserves into the U.S. banking system, and the federal government stepped up its spending, allowing a large deficit to develop to increase monetarily effective demand.

In the 1950s, deficit spending in the United States consisted of accelerated spending on arms and the interstate highway system designed to encourage people to purchase automobiles, then the heart of the U.S. industrial economy. Instead of cutting prices on their unsold commodities, the large industrial and commercial capitalists waited until the government's "demand management" would take effect and allow them to sell off their overproduced commodities at or near high boom-time prices.

The Fed slashes the 'Fed funds rate'

The federal funds rate, the rate of interest that commercial banks charge each other for overnight loans, fell from 3.5% in the fall of 1957 to as low as 0.5% during the winter of 1958 and hit 0.36 % at one point in July 1958. After 1951, manipulating the "Fed funds rate" emerged as the Federal Reserve System's preferred tool in its attempts to stabilize the economy. It remained so at the beginning of the Great Recession in 2007.

A fall of the Fed funds rate from 3.5 to under 0.5% over a few months showed just how concerned the Federal Reserve System was about the sudden drop in economic activity that had occurred during late 1957 and early 1958. The economy bottomed out by the end of the first quarter of 1958, and the economic indicators then resumed their rise. However, the success of the

Fed in quickly halting the first real post-World War II crisis of overproduction had important long-term consequences. And as it turned out, despite the rising economic indicators, the crisis was not quite over after all.

An important feature of the 1957-58 global economic downturn in the global industrial cycle was that it was the first downturn of the "Keynesian era." How did Keynesian "anti-crisis" policies affect the course of the downturn? The first thing to note was that Keynesian policies failed to prevent this downturn in the first place. Later, during the 1960s, Keynesian economists claimed that the downturn of 1957-58 could have been avoided if bolder actions – more deficit spending by the federal government – had been followed and blamed the excessively conservative fiscal policies of the Republican Dwight D. Eisenhower administration.

The other feature was that the 1957-58 recession – compared to 1929-33, the last preceding true cyclical crisis – was both mild and short. Keynesian economists claimed that Keynesian policies had passed their first real test with flying colors. The economists declared severe crises and deep depressions to be a thing of the past.

The "mildness" of the 1957-58 recession, both in length and severity, was greatly exaggerated, however, by comparison with 1929-33. The 1929-33 super-crisis was the only other true cyclical crisis that many people then alive had lived through. As we have seen, the crisis of 1929-33 was very far from a typical cyclical crisis since it was greatly intensified by the aftereffects of World War I, a decidedly "non-cyclical" event.

If the 1957-58 recession were compared to pre-1914 crises, it was worse for the workers in one respect. In the pre-1914 crises – and the super-crisis of 1929-33 as well – the fall in wages and employment was somewhat compensated for by a fall in the cost of living. As a result, real hourly wages rose during recessions. This was not the case in 1957-58, though the growth in unemployment insurance – both government-sponsored and private – did compensate for the failure of the cost of living to fall during the recession.

To what extent the continued rise in the cost of living was compensated for depended, for workers, on the exact percentage of the normal wages received during the period of their unemployment. Workers with strong unions fared best, while workers with no unions were hit hardest by the continued rise in prices during the recession.

Especially when we consider the completely different economic conditions that preceded World II – the unprecedented economic stagnation associated with the Depression decades compared to the strong boom con-

ditions that had dominated the pre-World War I years – the Keynesian "triumph" appears far less impressive.

Between the effects of the Depression and World War II, expanded capitalist reproduction, the essence of capitalist production, was suspended for 15 years! This is an event unprecedented in the history of the capitalist mode of production. Huge amounts of idle money capital had been accumulated in the form of massive growth in the world's gold hoard. These conditions were the opposite of those that led to the super-crisis of 1929-33 and were highly favorable for a renewed capitalist expansion.

When this is taken into account, the failure of the 1957-8 downturn to approach in either depth or duration the super-crisis of 1929-33 was not quite the triumph for Keynesian "stabilization" policies that it seemed to many people at the time.

Workers gain, bosses lose

The expansion of social insurance, especially unemployment insurance, represented real gains for the working class and cushioned the impact of unemployment on the workers in the imperialist countries. This was especially true if the unemployment was not prolonged, which tended to be the case for many, though not all, workers due to the short duration of the 1957-58 downturn.

The bosses were not particularly happy about this, of course. To the extent the workers receive unemployment checks during recessions, they do not face the kind of extreme pressure to get a job at any wage they did in the days before unemployment insurance. Unemployment insurance makes it more difficult for bosses to use the high unemployment caused by downturns in the industrial cycle to slash wages and thus increase the rate of surplus value and the rate of profit.

Keynesians hoped to use inflation to keep real wages down

Keynesian economists argued that the "permanent creeping inflation," later dubbed "inflation targeting," a central plank in their program, put downward pressure on real wages instead of money wages. Based on the arguments we examined in the chapters on Keynes, the Keynesian economists explained that cuts in money wages were not the same thing as cuts in real wages.

In his "*General Theory*," the "bible" of Keynesian economics, Keynes claimed that falling wages caused prices to fall. The Keynesian economists

– Keynes himself had died in 1946 – told the bosses that if they succeeded in cutting the money wages of the workers, the prices that they charged for their commodities would drop, neutralizing any gains from cutting money wages. The bosses themselves, however, were not entirely convinced by these arguments. They grumbled that the "socialist" policies of governments inspired by Keynesian economics and the "over-strong trade unions" were preventing them from cutting wages.

For those bosses who were still unconvinced, the Keynesian advocates of "enlightened capitalism" had another argument. Times have changed, they explained. The Soviet Union had just launched the world's first artificial earth satellite, Sputnik, in October 1957, just as the recession of 1957-58 was gaining momentum. If social insurance in general and unemployment insurance in particular were abolished or even cut back, the workers might start listening to "the Communists." The Keynesian reformers explained to the bosses that it was much wiser to make some concessions that could be at least partially neutralized by the "inflation targeting" policy rather than lose everything.

The price of Keynesian economics that capital cannot pay in the long run

However, there was a price to be paid for the relative "mildness" of the first global post-World War II crisis of overproduction, a price the capitalist economy could not pay in the long run. Since there was no fall in prices, there was also less stimulation to gold production.

It does appear that the 1957-58 downturn provided some stimulation to gold production, which finally rose above the levels of the late Depression around this time. Even in the absence of price declines, the decline in the turnover of capital caused by the drop in sales lowered the rate of profit in most industries during the 1957-58 recession. But no such drop in turnover occurred in the gold industry. In addition, in those years, the gold mining companies – located mostly in apartheid South Africa – could hold wages at very low levels.

Under the Bretton Woods international monetary system that was then in effect, the South African gold mining companies could sell all the gold they could dig out of the ground using super-exploited African labor to the U.S. Treasury for $35 an ounce. The role of South African apartheid in prolonging the period of capitalist prosperity during the Cold War was thereby crucial.

Even without a general fall in prices, the rate of profit of the gold mining and refining industry still rose relative to the rate of profit in other industries, which was reduced by the recession of 1957-58 and its aftermath. Capital, as we know, is always flowing from industries with relatively lower rates of profit to industries with relatively higher rates of profit. However, the stimulation of gold production due to the 1957-58 global recession would have been considerably greater if prices had fallen as they had done in earlier crises.

Despite the apparent onset of a strong recovery in the spring of 1958, it turned out the economic crisis that had begun in 1957 was not quite over after all.

The U.S. economy double dips

As the Federal Reserve pumped money into the U.S. economy to drive down interest rates, the governments of Europe began to wonder how long the United States would be willing to give them an ounce of gold for every $35 they had in their dollar reserves. How much longer would it be possible to keep gold selling at $35 an ounce while the price of everything else was creeping slowly but relentlessly higher under the Keynesian policy of "inflation targeting"?

Sensing that a rise in the dollar price of gold – or what comes to the same thing, the devaluation of the dollar – was only a matter of time, they began to demand gold for some of their dollars. Just as it appeared as though the United States was quickly recovering from the 1957-58 recession, the U.S. faced the first major drain on its gold reserve since the bank runs of 1931-33. Only 14 years after the Bretton Woods agreement of 1944, the Bretton Woods international monetary system was facing a serious crisis.

To save the Bretton Woods system, the Federal Reserve was obliged to quickly raise interest rates again. From a low of under 0.5% in the summer of 1958, the Fed funds rate rose to 4% by the winter of 1960. Now, as Marx noted, business expansions can continue if interest rates are steady or are rising only slowly. However, rapid interest rate increases soon prove fatal to business by causing credit to freeze up.

The rise in interest rates necessary to save the Bretton Woods system threatened to abort the recovery that had begun in the first half of 1958. As the U.S. presidential election campaign got underway in 1960, the United States began to slip back into recession, though the rate of decline was less than it had been in 1957-58. The resumption of the recession in the United States meant that U.S. unemployment began to rise once again before it

had a chance to fully recover from the 1957-58 recession. The U.S. was once again facing a prolonged unemployment crisis, though the new crisis was not as severe as the unemployment crisis of the Depression years.

It is pretty obvious that the brief upswing of 1958-1960, followed by a relapse into "mild recession" in the U.S. economy in 1960-61, was not a true industrial cycle in its own right. The next peak in the global industrial cycle did not arrive until 1969. However, it was foreshadowed by the "credit crunch" of 1967 in the U.S. that led to the so-called mini-recession in the U.S. at the end of 1966 and the start of 1967, and the somewhat deeper downturn in West Germany in 1967. After 1966-67, the economic boom did not resume with the same intensity as in 1965-67. A case might even be made that the actual peak of the global industrial cycle was 1966. Perhaps it is most accurate to say that the global industrial cycle that began in 1957 ended in 1966.

The industrial cycle of 1957-1966(69) and the prosperity of the 1960s

Running against the backdrop of high unemployment left over from 1957-58 and a new rise in unemployment brought on by the renewed recession, the Democratic presidential candidate, Senator John F. Kennedy of Massachusetts, ran on the slogan of "getting America moving again." This was a definite echo of the 1932 presidential election, even if the crisis was not nearly as severe. The Republican candidate for president, Vice President Richard M. Nixon – known as "Tricky Dick" – who was to be the victor in the 1968 U.S. presidential election, later blamed the Federal Reserve Board for ruining his first attempt to win the White House in 1960.

Since Roosevelt had devalued the dollar in 1933, there was nervous speculation in the international gold market that a new Democratic president might devalue the dollar yet again to "get America moving." At one point, the dollar price of gold rose to $40 an ounce on the free market. This further pressured the Federal Reserve Board to keep interest rates relatively high, worsening the recession and subsequent unemployment. As it turned out, however, Kennedy rejected dollar devaluation and was determined to keep the dollar price at $35 a troy ounce.

The London Gold Pool

To reinforce the shaky Bretton Woods system, the London Gold Pool was established shortly after Kennedy assumed office. The U.S. Treasury and the European central banks agreed to intervene in the open market to keep the market price of gold at $35 an ounce.

The members of the London Gold Pool and their initial gold contributions in tonnes (and USD equivalents) to the gold pool were:

Country	Participation	Amount (by weight)	Value
United States	50%%	120 t	$135 MM
Germany	11%	27 T	$30 MM
United Kingdom	9%	22 t	$25 MM
France	9%	22 t	$25 MM
Italy	9%	22 t	$25 MM
Belgium	4%	9 t	$10 MM
Netherlands	4%	9 t	$10 MM
Switzerland	4%	9t	$10 MM

(source: Wikipedia article on London Gold Pool)

If the dollar price of gold rose above $35, they would sell gold from their reserves; if the price threatened to fall below $35, they would buy gold. The U.S. dollar would be supported not only by the credit and gold of the United States but also by the credit and gold of its European satellite imperialist countries.

In the early years of the Kennedy administration, the Gold Pool worked well. The United States had emerged from the double dip of 1960-61 with a larger trade surplus, and the dollar was once again a strong currency. The Bretton Woods system had managed to survive the first postwar global downturn.

But as prices kept creeping up – very slowly, to be sure – during the first half of the 1960s, the chances of its surviving the next global economic crisis were not good. However, the approaching demise of the Bretton Woods international monetary system was not the worst danger confronting world capitalism in those years. An even bigger problem involved the secular rise in the rate of interest.

The ticking time bomb of secular rising interest rates

The very success of the capitalist central banks and governments in limiting the effects of downturns in the industrial cycles meant that interest rates were ratcheting up. In a classic crisis, the rise in interest rates during the boom was offset by a similar fall in interest rates during the crisis and depression that followed. That is, the fall in interest rates during the recession reversed the rise in interest rates during booms. In this way, the interest rate was kept below the rate of profit. Or, what comes to the same thing, it kept the profit of enterprise – the difference between the total profit defined as surplus value minus ground rent and interest – positive.

But after World War II, though interest rates continued to fall during recessions, they fell less during recessions than they rose during booms. This was a consequence of the very success of Keynesian policies in limiting recessions. At first, the capitalist system could tolerate this because, thanks to the Great Depression, the post-World War II period had started with an exceptionally low rate of interest while the rate of profit rose sharply. But as interest rates kept rising more during booms than they fell in recessions, the profit of enterprise came under increasing pressure.

Falling rate of profit on a collision course with rising rate of interest

A situation of secular rising interest rates would have been sustainable only if the rate of profit as a whole was rising sufficiently to offset this increase in interest rates. But nothing of the sort was happening.

The combination of capitalist prosperity and the consequent rise in the demand for the commodity labor power, expanded social insurance, and the need of the capitalists to make economic concessions to the workers so the workers wouldn't "listen to the Communists," combined with the renewed rise in the organic composition of capital stimulated by rising money and real wages – meant that there was once again downward pressure on the rate of profit. Rising interest rates were on a head-on collision path with a gradually declining rate of profit.

As we have seen, profit (ignoring ground rent) is divided into interest, which goes to the money capitalists, and the profit of enterprise, which goes to the industrial and commercial capitalists. If the rate of interest keeps rising, assuming the rate of profit is unchanged, the entire profit will eventually consist of interest alone. And this will happen even faster if the rate of profit declines.

For example, if the best that industrial capitalists can earn is 10% – and not without a considerable risk – while the rate of interest on long-term government bonds is 10%, it is just as profitable and far less risky for the industrial capitalists to turn into money capitalists and purchase government bonds at 10%. But if all the industrial capitalists turn themselves into money capitalists, production of surplus value ceases, and with it, capitalism itself. At the point where the rate of interest equals total profit, the very motivation to produce surplus value – that is, to engage in capitalist production – is destroyed.

South African apartheid prolonged the postwar boom

As we examine the contradictions of the post-World War II economy and its Keynesian economic policies, the question becomes not why the postwar boom – really two industrial cycles that were dominated by their boom phases – ended but why it lasted as long as it did. The basic reason was the huge amount of idle money capital that was accumulated during the prolonged cessation of capitalist expanded reproduction between World War I and World War II.

As mentioned above, another factor that should not be overlooked was the bestial system of South African apartheid. Apartheid rule made normal trade union activity for the African gold miners in South Africa – then by far the world's leading gold producer – impossible. Or, as Marx would say, the conditions of apartheid made it impossible for the gold miners employed in the South African gold mining industry to obtain the full value of their labor power. In the final analysis, it is the industrial workers employed in the gold mining and refining industry, not the central bankers, who create the additional money that capitalist expanded reproduction needs if it is to continue.

As a result, it took a relatively long time before rising prices finally reduced the rate of profit sufficiently in the gold mining industry to begin to reduce total global gold production. Just as African slavery had played a crucial role in the "rosy dawn" – to use Marx's ironic words – of capitalist production, the slave-like system of apartheid helped prolong the life of the vampire-like capitalist system during its Cold War struggle against the Soviet Union and its allies.

While the postwar boom and the Keynesian policies that accompanied it were doomed to collapse in the long run, the success of capitalism in maintaining capitalist prosperity for the two decades after the war played a cru-

cial role in undermining the class consciousness of the European workers – in Western Europe, in Eastern Europe and finally in the Soviet Union itself – as well as preventing the growth of class consciousness in the United States. We must never forget the role that South African apartheid played in this success, whose disastrous consequences have cast a dark shadow across our own 21st century.

The 1960s boom

The 1960s are remembered for many things. For example, in the United States, the last phase of the Civil Rights Movement and the Black Power Movement that followed, the great movement against the Vietnam War, and at the end of the decade, the birth of the modern women's and LGBTQ+ movements.

In France, decades of strong demand for the commodity labor power, which favored the trade unions, climaxed in the great general strike of May 1968. The 1960s were when labor unions and labor-based political parties in Europe were far more powerful in the imperialist countries than they had ever been before or have been since.

In any attempt to understand the growth of radical movements in the 1960s that are in such contrast to the decades of reaction that followed, the strength of "organized labor," both labor unions and, in Europe, labor-based political parties as well, is one of the least appreciated but perhaps most important factors. The strength of organized labor was made possible by another characteristic of the 1960s that distinguished it from the following decades – capitalist prosperity.

But at the beginning of the 1960s, the economic situation for the world capitalist economy did not seem all that promising. The United States was going through the second dip of the double-dip 1957-61 economic crisis, and unemployment was stubbornly high.

The Keynesian advisors to newly elected Democratic President Kennedy were alarmed that the U.S. economy was growing much more slowly than the planned economy of the Soviet Union. They urged a major regressive tax cut, which they claimed would increase monetarily effective demand and finally overcome the lingering effects of the economic crisis that had begun in 1957. While President Kennedy did not succeed in getting the tax cut through Congress, it was passed under his successor, Lyndon B. Johnson, in 1964. It is sometimes called the Kennedy-Johnson tax cut.

The Vietnam War

This period is also noted for something else: the escalation of the Vietnam War. The combination of the regressive tax cuts of 1964 and the sudden rise in war expenditures in the mid-1960s caused monetarily effective demand and the world capitalist economy to soar. The lingering effects of the 1957-61 economic crisis were finally left behind. The economic boom of the 1960s had arrived.

Keynesian economists, nearing the peak of their influence, claimed that the problem of economic crises had finally been solved. The governments and central banks working together could always boost effective demand whenever necessary. If dangerous inflation developed – inflation over 3%, for example – they could use the same "tools" in reverse to slow it down.

Not only anything like a repeat of the super-crisis of 1929-33 but even lesser crises like the crisis of 1957-61 would surely be avoided in the future. Indeed, some Keynesian economists suggested that if society were willing to tolerate a somewhat higher rate of inflation – perhaps 4% – continuous "full employment" could be assured, and even "mild recessions" could be abolished.

The stagflation crisis of 1968-1982

Between 1968 and 1982, there were no complete industrial cycles. Indeed, the entire period from 1968 to the end of 1982 can arguably be seen as one drawn-out crisis with fluctuations or sub-cycles within it. The "stagflation decade" of the 1970s and early 1980s witnessed four official NBER "contractions" or periods of falling real GDP. The first was relatively mild, in 1969-70; the next was the more severe recession of 1973-1975; and finally, the "Volcker shock" recession of 1979-82.

The NBER divides the latter into two separate "recessions," one sharp but brief drop in 1980 and then the more prolonged decline that began in the last quarter of 1981 and lasted through 1982. It is pretty apparent that the NBER's "expansion" of 1980-81 does not come close to a real industrial cycle but merely represents an episode within a continuing crisis. Nor do the years 1969-73 or 1973-80 represent full industrial cycles. What we have is a series of partial, or in the case of the 1980-81 "expansion," aborted cycles.

A case can even be made that the entire period between March 1968, when the Gold Pool collapsed, and 1982, when the Volcker shock recession finally bottomed out, has the features of one stretched-out economic crisis

with marked fluctuations. This period, therefore, deserves special treatment that cannot be dealt with here but belongs in later chapters.

The industrial cycle of 1979-1990

The Volcker shock, which halted the depreciation of the U.S. dollar, finally allowed the industrial cycle to resume its normal course. What was, therefore, the third full industrial cycle between 1945 and 2007 was allowed to run its course and peaked around 1990 with the savings and loans crisis in the U.S. The ensuing downturn in industrial production and employment occurred at the beginning of the 1990s.

The fourth industrial cycle

The industrial cycle that began with the 1990-91 recession peaked between 1997 and 2000. The crisis that ended that industrial cycle began with the run on the Thai baht in July 1997, though the U.S. economy didn't enter recession until well into 2000. This industrial cycle lasted a full ten years, beginning in 1997 and ending with the initial August 2007 global credit panic, which began in the United States and then spread around the world.

An important feature of the crisis that began in 1997 was that it broke out in an oppressed country, Thailand, and for a considerable period seemed to be confined to the semi-colonial and neocolonial countries. All the other downturns after 1945 began in the "developed" capitalist countries, mainly in the United States.

The downturn of 1997-2003 begins the fifth industrial cycle

Therefore, the 1997 crisis began the fifth full industrial cycle following World War II. It first affected certain Asian countries, with Indonesia being hit especially hard during the first phase of the crisis. Because it began in Asia, it was dubbed the "Asian crisis." Still, it was by no means confined to Asia and eventually affected almost all capitalist countries to one degree or another, whether or not they experienced an "official recession," as defined by capitalist statisticians.

The panic of 1997 led to a major flight of money capital from the so-called Asian tigers like Indonesia and South Korea and then from Latin America into the U.S., Europe, and Japan. Because of this capital flight, the effects of the crisis were far less severe in the United States and Europe than in the oppressed countries of Asia, Latin America, and newly capitalist Russia. Due to the massive inflow of flight capital from Asia and Latin America, the housing

and automobile industries entered into strong booms in the imperialist world, which were not to end before the onset of the Great Recession in 2007-08.

One of the reasons why the housing collapse after 2007 was so devastating in the imperialist world was that the housing industry "skipped" its normal downturn due in 1997 because of a massive inflow of money capital from Asia and Latin America into the banking system of the imperialist world. The rate of interest on mortgages against residential property fell sharply starting in 1997.

The flood of money into mortgage lending blocked the normal cyclical housing recession. The "work" of the housing recession that would normally have been expected around 1997 was combined with the "normal" housing recession due around 2007, creating the "super-crisis" in residential construction that began in 2006-07. The housing collapse – both in terms of housing prices and housing construction – triggered the 2007-09 Great Recession.

Though the global effects of the 1997-2003 downturn were relatively mild in the imperialist countries, it did not leave the U.S. economy unscathed. First, in 1998, the Long Term Capital Management hedge fund collapsed, which forced the Federal Reserve System to expand the monetary base to prevent a full-scale panic in the U.S. credit markets at that time.

In late 2000, the U.S. economy entered a period of recession and stagnation that didn't end until mid-2003. In 2001, we saw a series of corporate bankruptcies, including the infamous Enron Corporation, and the NASDAQ high-tech stock market index crash. Especially hard hit was California's "Silicon Valley," which had not fully recovered from the "dot.com crash" when the effects of the Great Recession began to be felt in the Valley.

The spread of the crisis from Asia to the rest of the world

By 1999, the crisis was easing up in Asia as some of the money capital that had fled Asia in 1997-98 returned. This return flow of money capital out of the U.S. dollar and the resulting slight tightening of the Federal Reserve System, combined with a massive rise in imports of commodities from Asia into the U.S. that had begun in 1997, was enough to cause a marked decline in U.S. industrial production and employment by the fourth quarter of 2000. Despite this, the NBER claims the U.S. recession didn't begin until April 2001.

The true trough of this "saucer-type recession" is especially hard to date because of the effects of the World Trade Center attacks of 9-11. Industrial and commercial capitalists feared that consumers, concerned about the pos-

sibility of additional attacks, would stay home, causing retail sales to plunge. They reacted by running down inventories, which intensified the ongoing recession. Within days of the attacks, the media, concerned about a possible sharp drop in retail sales causing a severe recession, opened an "America is open for business" campaign and urged people to go out and hit the malls.

As the initial wave of fear caused by the attacks dissipated, inventories were quickly rebuilt. The NBER pointed to this decidedly non-cyclical event as the end of the recession. The wave of inventory rebuilding in the fourth quarter of 2001 caused an artificial surge in the GDP, and therefore, as far as the NBER was concerned, the end of the "contraction," which they proclaimed had lasted only eight months. In reality, the U.S. economy failed to gain momentum until mid-2003.

Only then did the business stagnation associated with the crisis that began in 1997 end. The NBER's claim that the U.S. recession associated with the global crisis of overproduction in 1997 lasted only eight months – one of the shortest on record – was cited by U.S. economists to claim that the stabilization policy had finally all but ended the "business cycle."

While in the late 1960s, it was claimed that Keynesian-inspired fiscal policy had all but ended the "business cycle," this time, it was claimed that the "excellent monetary policy" of the Federal Reserve System, inspired by the work of Milton Friedman, had finally stabilized the U.S. economy after 175 years of industrial cycles. These claims, loudly proclaimed by economists in the universities and by the media for a few years, were left in ruins in the wake of the panic of 2008.

Soon after the end of the fifth industrial cycle since 1945, one fact became terrifyingly clear. Industrial cycles were not getting milder and milder as "stabilization policies," whether inspired by Keynes or Friedman, improved. Instead, they were becoming more violent.

CHAPTER 29
Boom of the 1960s: The Flood Tide of Keynesianism

Thanks to the economic crisis of 1957-61, the U.S. economy entered the decade of the 1960s with high levels of unemployment and excess capacity. The millions of unemployed workers and idle plants and machines meant that industrial production could rapidly increase in response to rising demand.

As a result, during the first half of the 1960s, supply increased almost as fast as demand, and prices rose very slowly. According to the official U.S. Producer Price Index, prices changed little between 1960 and 1964.

As is typical of the phase of average prosperity of the industrial cycle, long-term interest rates rose very slowly. Still, at around 4% or slightly higher, they had risen significantly since the Korean War. Back then, the Truman administration still expected to borrow money long-term at less than 2.5% interest. Slowly but surely, long-term interest rates were eating into the profit of enterprise.

The great boom begins

During most of the early 1960s, the U.S. economy passed through the average prosperity phase that precedes the boom. But starting in 1965, the industrial cycle entered the boom phase proper, the transition from average prosperity to boom being part of the cycle. However, in the mid-1960s, this transition was helped along by government economic policies. These were the Kennedy-Johnson tax cut of 1964, combined with the rapid escalation of the war against Vietnam. After remaining virtually unchanged through 1964, the official U.S. producer price index suddenly surged 3.5% in 1965, when the escalation of the Vietnam War began in earnest.

Boom and inflation

Considering the size of the U.S. economy, the Vietnam War was far too small a war – from the perspective of the United States, not Vietnam, whose economy was set back by decades – to lead to the contracted reproduction of a full-scale war economy. However, the war did mean that a growing portion of the industrial capacity and labor power of the U.S. economy had to be devoted to meeting the needs of the war against Vietnam and the rest of Indochina. This was on top of the already high Cold War military expenditures.

When added to the effects of the Kennedy-Johnson tax cut, the result was that U.S. industry had less excess capacity and unemployed labor power than at any time since the war against the Korean people in the early 1950s. From 1965 onward, the U.S. industry could no longer increase production at the existing price level as fast as demand was growing. When such a situation arises in a capitalist economy, demand is reduced to supply through a rise in prices. The boom of the 1960s was on.

It is important to realize that the rise in prices in the mid-1960s was a rise in prices in terms of gold, not just dollars. The price rises did not reflect any depreciation of the U.S. dollar against gold. That was still to come. The Bretton Woods international dollar-gold exchange standard was still in effect.

Indeed, to strengthen the dollar-gold exchange standard, the United States and it's Western European satellites had set up the London Gold Pool. The Gold Pool was a fund of gold bullion whose specific purpose was to keep the dollar price of gold from rising above $35.20 an ounce, that is, to prevent the U.S. dollar from depreciating against gold.

The London Gold Pool

Shortly after the Kennedy administration took office, Under Secretary of the Treasury Robert Roosa proposed that the United States and Western European central banks prevent the dollar price of gold bullion on the open market from rising above $35.20 per ounce. That is, whenever the free market price of bullion threatened to hit $35.20, the U.S. and West European central banks would sell gold. If the price of bullion fell below $35 an ounce, they would buy gold.

According to Roosa's suggestions, the Gold Pool would be made up of the United States, Britain, West Germany, France, Switzerland, Italy, the Netherlands, and Luxembourg. Essentially, this meant that the dollar would now be backed not only by the gold in Fort Knox but also by the gold of Britain, West Germany, France, and the other members of the Gold Pool – much of whose gold was physically held in the vaults of the Federal Reserve Bank of

New York, located in lower Manhattan near Wall Street. The U.S. was saying to its European imperialist satellites, from now on, your gold reserves will back our currency. This is a good example of the nature of the "world order" that emerged from World War II!

The heyday of Keynes

The 1960s were the heyday of Keynesian economics. Presidents Kennedy and Johnson were surrounded by economists of the pro-business neo-Keynesian school. According to the Keynesian analysis, the U.S. economy in 1965-66 was in a state of inflation. According to Keynes, if the rate of interest is below the rate of profit at "full employment," the economy will be in a state of inflation. Indeed, by the definition used by the mainstream or neo-Keynesian economists, the U.S. economy in 1965-66 was experiencing "over-employment."

By "over-employment," the (bourgeois) economists mean that the capitalists are forced to hire workers who produce less value than they receive in wages. The workers, if we are to believe these bourgeois economists, are exploiting the capitalists! Over-employment is supposed to lead to higher money wages, falling labor productivity, and rising prices.

The above analysis of the bourgeois economists is wrong because it is based on marginalist assumptions – accepted by Keynes – that the value of workers' wages equals the value the workers produce through their labor. Therefore, according to this reasoning, at full employment, the supposed state a capitalist economy is always tending toward, the workers produce no surplus value. Instead, the marginalists, including Keynes, hold that surplus value is produced by capital – in the form of interest – and by land – in the form of rent.

Economics of boom

It is, however, true that the lower-than-average unemployment of the boom reduces competition among worker sellers of labor power and increases competition among the capitalist buyers of labor power. This does indeed tend to raise wages and reduce the rate of surplus value. Such a boom-induced fall in the rate of surplus value eventually leads to a lower rate of profit.

During a strong boom like that of 1965-66, however, the fall in the rate of profit caused by a boom-time drop in the rate of surplus value is temporarily masked. Rising prices increase profits, which are, after all, measured in terms of money. The accelerated turnover of variable capital also results in a higher rate of profit during the boom.

In 1965-66, the margin of excess capacity was, by capitalist standards, unusually low, and many types of skilled labor were scarce. Thus, it became much more difficult for the industrial capitalists to fully meet demand at the prevailing market prices. The only way the market has under those conditions to equalize supply and demand is to reduce the rate of growth of demand through an increase in commodity prices.

With the forces of production almost fully utilized, the industrial capitalists were approaching the point where major further increases in production were impossible without undertaking significant capital investments. However, such investments increase demand even more than they increase supply in the short run, which only further increases the gap between supply at current prices and demand.

Trap of an 'incomes policy'

Keynesian economists claim that the price of labor – Keynesians make no distinction between labor and labor power – determines commodity prices. Therefore, they claim that the rise in the "price of labor" drives inflation. This idea was expressed in the term "wage-price spiral."

Following Keynes's false theory of wages and prices, the neo-Keynesian economists claimed that inflation could be largely avoided by what was called in those days "incomes policies." Under an "incomes policy," the unions agree not to use their market power to raise money wages. By holding down the "price of labor," Keynesian theory holds, the prices of commodities will also be held down.

In reality, in a strong boom such as 1965-66, demand will drive up market prices of commodities – except labor power, if the workers and their unions practice "wage restraint." Therefore, if the workers follow the advice of false Keynesian "friends of labor" and tolerate an "incomes policy," the result will be a decline in real wages during the boom. The result will be a long-term rise in the rate of surplus value.

Even worse, unions that fail to take full advantage of the all-too-rare situations where market conditions favor the sellers over the buyers of labor power completely undermine themselves in the long run. This greatly increases the danger that such unions will be crushed altogether when the market once again – as it inevitably will, despite claims to the contrary by Keynesian economists – shifts in favor of the buyers of labor power – the bosses.

The question of "incomes policies" and "wage and price controls" was to play a much bigger role in the following decade. Therefore, examining

"incomes policies" does not belong here but in the following chapter. In the 1960s, unions and the workers' movement were still in a historically powerful position – both at home and abroad. Under these conditions, the U.S. government – and other capitalist governments – were still reluctant to take on the unions head-on.

Leaving aside an "incomes policy," the Keynesian answer to the problem of boom-time inflation, where demand is growing faster than supply, is to raise interest rates – especially long-term interest rates – to reduce the growth in demand sufficiently so that supply can catch up with demand. However, the central bank has much more influence on short-term interest rates, such as what is called in the United States the federal funds rate, the rate on overnight loans between commercial banks, than long-term interest rates.

When a commercial bank finds itself short of reserves – deposits with its district Federal Reserve Bank plus vault cash – it borrows money overnight from another commercial bank. In the United States, the rate of interest it pays is called the Federal Funds Rate. If the Federal Reserve System nudges up this rate – by selling some of its Treasury notes – the money market is tightened, and long-term interest rates rise, though to a lesser extent.

Another "Keynesian tool" against inflation is a restrictive fiscal policy. If possible, the central government should reduce its expenditures – or at least reduce its growth rate – raise taxes, and balance its budget. If the government runs a surplus – or even reduces its deficit – a certain amount of the inflation-breeding excess demand is removed from the economy.

With the excess demand removed, the Keynesian economists claim, supply – especially the supply of labor – will then be able to keep up with demand at current prices, halting further inflation. In the mid-1960s, the neo-Keynesians boasted that by using the "tools" they had developed, capitalist governments and central banks could deal not only with a shortage of demand – recession or stagnation – but an excess of demand – inflation – as well.

However, during the boom of 1965-66, a restrictive – sometimes called a deflationary – fiscal policy was out of the question for the Democratic administration of Lyndon B. Johnson. The administration had just convinced Congress to pass a substantial regressive tax cut in 1964 to deal with the problem of high excess capacity and unemployment – caused by insufficient monetarily effective demand – that had affected the U.S. economy in the early 1960s. How could it turn around and ask for a tax increase only a year or two later?

In addition, the administration was faced with a growing anti-war movement – unlike during the war against Korea, not to speak of World War II – and major unrest in the inner cities, especially among working-class African American youth. The last thing the administration wanted to do was to ask either the capitalist ruling class or the American people to actually pay for the war in the form of higher taxes.

The credit crunch of 1966

In light of this reality, the entire "burden" of slowing the inflationary boom fell on the Federal Reserve System. In 1966, the Federal Reserve Board moved to tighten credit. On January 19, 1966, the Fed Funds Rate fell to 1.50%. But between September 9 and 11 of the same year, the Fed Funds Rate hit 6.13%, levels last seen just before the super-crisis began in 1929.

This abrupt tightening of the money market led to a sudden freeze-up of credit, or a "credit crunch," as the media called it. It was the collision between the supply of loan money that was reduced by the Federal Reserve's tight money policy of 1966 and the demand for loans by the federal, state, and local governments, consumers, and industrial and commercial capitalists that drove the federal funds rate up so abruptly. In other words, the demand for credit exceeded the supply of credit at current interest rates.

The U.S. federal government has the highest credit rating in the world. In a credit crunch like that of 1966, the U.S. government can always get credit, even if at somewhat increased interest rates. But credit becomes unavailable, or it is available only at extravagant interest rates to all but the most creditworthy borrowers, such as the strongest – that is, the richest – corporations.

From credit crunch to mini-recession

With credit drying up, the U.S. economy entered into the so-called mini-recession of 1966-67. While the NBER refused to declare the 1966-67 episode a "contraction" in the United States, the economy of West Germany experienced its deepest recession since resuming growth after World War II.

The Johnson administration and the Federal Reserve, fearing a major economic crisis, took fright, and the Fed quickly reversed its tight-money policy. The last thing the beleaguered administration of Lyndon B. Johnson wanted was a major recession on top of its other problems!

The Fed moved quickly to ease the money market by purchasing Treasuries, and the Fed Funds Rate dropped back below 4%, falling as low as 3.25 % on May 10, 1967. The economy resumed growing, though at a lower rate, and while inflation continued, it was lower than in 1965-66.

Guided by Keynesian economics, the Fed had apparently succeeded in slowing down the economy sufficiently to dampen inflation without throwing the country into a full-scale recession and mass unemployment. Indeed, by their "skillful" monetary policy, the Fed had idled just enough industrial capacity and labor power to support the "war effort" against Vietnam while avoiding a big economic downturn. The Keynesian economists were increasingly convinced that they could manipulate the level of demand and business activity like the water in a bathtub. The problem of the "business cycle," the Keynesians declared, was finally licked.

The Tet Offensive and the end of the Bretton Woods dollar-gold exchange international monetary system

In January 1968, the Vietnamese resistance fighters launched a massive offensive – remembered as the "Tet Offensive" – against the U.S. occupiers and the puppet "South" Vietnamese army. In the countryside and the cities alike, the Vietnamese population rose against the hated U.S. occupation. The U.S. Embassy in Saigon (now Ho Chi Minh City) became a battleground.

Before the Tet Offensive, the Johnson administration and the U.S. media had claimed that the United States was winning the war against the Vietnamese resistance. Soon, the resistance fighters – called the "Viet Cong" by the U.S. media – would be exterminated. Victory was in sight.

The Tet Offensive gave the lie to this, though the Vietnamese resistance fighters paid a heavy price in terms of dead and wounded, a fact that U.S. military histories of the war still gloat over. These pro-war histories claim that the extremely high price that the Vietnamese people were forced to pay in terms of dead and wounded showed that the United States and it's South Vietnamese puppet collaborators were the real victors of the battle. What the results of the Tet Offensive really showed was how high a price the Vietnamese people were willing to pay for their freedom.

In the wake of Tet, General William Westmoreland, the U.S. commander in Vietnam, requested hundreds of thousands of additional troops. Westmoreland assured Johnson that this "troop surge" would finally enable the U.S. forces and their Vietnamese puppet army to crush the Vietnamese resistance once and for all. Johnson approved Westmoreland's request as he had always done up to this time.

Tet and the end of the London Gold Pool

From February 1962, the Gold Pool was in full operation. Starting in 1965 – the year that the United States greatly escalated its war against the

people of Vietnam – the Gold Pool began to lose gold. In 1967, with the war against Vietnam still escalating and the Fed and other central banks again easing credit to stave off the threatening economic crisis, the British pound was devalued. The final blow to the London Gold Pool was the Tet Offensive, followed by U.S. President Lyndon B. Johnson's decision to agree to Westmoreland's proposed "troop surge."

The Western European satellite imperialist countries under the Gold Pool kept selling off their gold reserves to support the U.S. dollar – thereby effectively financing the war against Vietnam with their gold, which the Johnson administration had refused to do by raising taxes.

Finally, in 1967, with the collapse of the Gold Pool clearly approaching, France under de Gaulle pulled out of the pool. But not West Germany. Hitler's heirs in Bonn announced that they would not only remain in the Gold Pool but would not be cashing in the dollars accumulating in their central bank for gold.

The successors of the Third Reich were willing – or forced – to keep financing the U.S. war against Vietnam, not only with their gold bullion but through the devaluation of their dollar reserves once the Gold Pool finally collapsed. After all, these heirs of the "thousand-year Reich" that had terrorized all of Europe just a quarter century before had little choice. They were, after all, an occupied country.

France under de Gaulle retained a little more room for maneuver. France was a nominal "victor" in the war and had even acquired its own nuclear weapons. So, they got out a few months before the Gold Pool collapsed. However, it is telling that France stayed in the Gold Pool as long as it did. The French government and central bankers under de Gaulle had also thrown away French gold to finance the dirty, genocidal war against the Vietnamese and the other peoples of Indochina.

The run against and collapse of the Gold Pool

On March 5, 1968, as word spread about the Democratic administration's latest "troop surge" in Vietnam, the Gold Pool was forced to dump 100 tons of gold on the market to keep the free market dollar price of gold at or below $35.20. On a "normal" day, perhaps five tons would have been dumped on the market. The run on the Gold Pool had begun. The Gold Pool was in the position of a commercial bank facing an old-fashioned bank run. After consultations over that weekend, a special statement was issued: "The London Gold Pool reaffirm their determination to support the pool at a fixed price of $35 per oz."

The chairman of the Federal Reserve Board of Governors, William McChesney Martin, declared that the United States was prepared to defend the $35-an-ounce gold price "down to the last ingot." The problem for Johnson, McChesney Martin, and the other warmakers in Washington was that the market was more than willing to take that last ingot of gold – and the last ingots of Washington's Western European satellites in the bargain. In a last-ditch attempt to save the Gold Pool, a huge airlift was organized to ferry gold bullion to London to dump on the open market.

On March 15, 1968, British Chancellor of the Exchequer Roy Jenkins announced that, upon "the request of the United States," the London gold market would be "temporarily" shut down. The Gold Pool was bankrupt. During the two weeks that the London gold market was closed, the pool was officially dismantled.

The end of the London Gold Pool and a few other things as well

The Gold Pool wasn't the only thing that came to an end that March. Lyndon B. Johnson was forced to inform General Westmoreland that his decision to grant Westmoreland's request for hundreds of thousands more U.S. troops to crush the Vietnamese resistance was rescinded. Instead, Johnson was obliged to announce that he would open up peace talks with the representative of the Vietnamese people.

In addition, Johnson told a nationwide television and radio audience that he would not be a candidate for the Democratic Party nomination for re-election in the upcoming 1968 U.S. presidential race. For all practical purposes, the post-World War II prosperity was over, too, though it took several years before this became apparent. And though it was not official, the Bretton Woods System was also essentially dead. Though the U.S. war against Vietnam was far from over, the way was being prepared for the victory of the Vietnamese people over U.S. imperialism and its world empire.

After the Gold Pool

After suspending gold trading in London for two weeks, a so-called two-tier system was set up. The dollar price of gold on the free market would now be set by supply and demand. The central banks and governments, however, could still convert their dollar reserves into gold at the rate of $35 an ounce. In form, this was a return to the situation that had prevailed in the early years after World War II, when the dollar price of gold bullion on the free market was usually somewhat higher than the official $35-an-ounce gold price. Indeed, it wasn't until the Gold Pool started operation in February 1962 that Washing-

ton and its Western European satellites formally promised to keep the free market dollar price of gold between $35 and $35.20 an ounce.

The U.S. government denied that the dollar had been devalued. But in fact, it was devalued. After World War II, a free market dollar price of gold significantly above $35 an ounce was viewed as temporary; now, there was no real limit on how much above $35 an ounce gold would be allowed to rise. As soon as the dollar price of gold rose significantly above $35 on the free market, the Bretton Woods system would die.

As we saw in an earlier chapter, the Bretton Woods international monetary system could only work if the free market price of gold did not rise very far above $35 an ounce. If it did, the central banks would have little choice but to "purchase" gold from the U.S. Treasury at $35 and either hold it in their reserves or sell it on the free market for the going price. If they sold the gold for dollars, they could present even more dollars to the U.S. Treasury, demanding one ounce of gold for every $35. The U.S. gold reserve would then melt away like snow on a hot spring day. However, the U.S. had no intention of allowing this to happen.

Washington, to prevent the immediate demise of Bretton Woods, was now forced to take deflationary measures that temporarily caused the dollar price of gold to fall back to $35 on the open market. Washington's deflationary moves included slowing the growth in federal spending – for example, the decision not to proceed with Westmoreland's proposed "troop surge" – a temporary tax increase, and a tighter monetary policy by the U.S. Federal Reserve System. In response, the dollar price of gold on the "free market" fell back toward $35.

Crisis in U.S. domestic money market

In response to the deflationary moves by the U.S. government, by May 1970, the U.S. domestic money market was close to panic, the stock market was crashing, and the giant Penn Central Railroad went bankrupt – the most significant industrial bankruptcy of the postwar era up to that time. The government and Federal Reserve System quickly reversed deflationary actions to "rescue" the economy, and the dollar price of gold began its relentless rise on the "open market." The clock was ticking on Bretton Woods.

Gold begins its climb – or rather, the dollar begins its descent

In February 1970, with the deflationary actions taken after March 1968 still in effect, the closing dollar price of gold on the London market averaged $34.99, one cent below the par value of $35. If the free market price of gold

had stayed at these levels, the Bretton Woods System would have continued to function. But by August 1971, the dollar price of gold exceeded $42 and was rising.

At that time, nobody knew how high and, just as important, how rapidly the dollar price of gold would rise – or more properly, how rapidly the dollar would fall against real money – on the free market, where the amount of gold that one dollar actually represents at any given instant is determined.

In mid-1971, with the dollar price of gold now well above $40 an ounce and rising, the central banks – at least the central banks of those countries that retained enough independence within the American empire to make such a request – began to present their dollars to the U.S Treasury, demanding payment in gold bullion for every $35 they presented. The U.S. Treasury faced a full-scale run on its gold reserves.

The real cause of the monetary crisis of 1971

"Because of the excess printed dollars," Wikipedia writes, "and the negative U.S. trade balance, other nations began demanding fulfillment of America's 'promise to pay' – that is, the redemption of their dollars for gold." Wikipedia continues: "Switzerland redeemed $50 million of paper for gold in July. France, in particular, repeatedly made aggressive demands and acquired $191 million in gold, further depleting the gold reserves of the U.S. On August 5, 1971, Congress released a report recommending devaluation of the dollar in an effort to protect the dollar against 'foreign price-gougers.' Still, on August 9, 1971, as the dollar dropped in value against European currencies, Switzerland unilaterally withdrew the Swiss franc from the Bretton Woods system."

Bretton Woods dies

"To stabilize the economy," Wikipedia goes on, "and combat runaway inflation, on August 15, 1971, President Nixon imposed a 90-day wage and price freeze, a 10% import surcharge, and, most importantly, closed the gold window reneging on the promise to exchange gold for dollars." With due respect to the online editors of Wikipedia, we must observe that allowing the dollar to plunge against gold was an odd way of "combating inflation."

Various explanations have been put forward by both Marxists and bourgeois economists for the end of the dollar-gold exchange system – at the time and since. "By the early 1970s," Wikipedia explains, "as the costs of the Vietnam War and increased domestic spending accelerated inflation, the U.S. was running a balance of payments deficit and a trade deficit, the first in the 20th century. The year 1970 was the crucial turning point, which,

because of foreign arbitrage of the U.S. dollar, caused governmental gold coverage of the paper dollar to decline 33 percentage points, from 55% to 22%. That, in the view of Neoclassical Economists and the Austrian School [the two main schools of marginalism –SW] represented the point where holders of the U.S. dollar lost faith in the U.S. government's ability to cut its budget and trade deficits."

From August 15, 1971, the U.S. dollar ceased to be credit money as far as the central banks and foreign governments were concerned, just like it had ceased to be credit money for U.S. citizens in March 1933. The U.S. dollar had become token money, pure and simple. The post-World War II international monetary system based on the dollar-gold exchange standard was dead.

But why did the dollar-gold exchange system that had lasted for 31 years after the end of World War II finally die in August 1971 and not some other time? The problem with the neoclassical and Austrian school explanation is its superficiality. The immediate cause of the collapse of the dollar-gold exchange standard was that the U.S. Treasury faced a run, much like a bank run, where the depositors demand cash in exchange for their deposits. But was the U.S. government in the summer of 1971 really in the position of an insolvent commercial bank? If so, how did the U.S. manage to maintain its world empire?

Growing economic competition from Europe and Japan

Until around 1970, the United States ran a persistent surplus in its trade balance. As Western Europe and then Japan began to recover from the devastating effects of World War II, they needed commodities produced by the vast U.S. industrial machine to carry out the necessary reconstruction. As the post-World War II prosperity unfolded, the economies of Western Europe, except Britain, grew consistently faster than the U.S. economy. The economy of Japan grew faster still. Indeed, the economies of West Germany and Japan grew so rapidly that it became something of a cliché to observe that the two defeated Axis powers were economic giants but political midgets.

As we saw in an earlier chapter, after World War II, in contrast to the post-World War I period, the United States opened its huge home market to the Europeans and Japanese. The U.S. would allow the German and Japanese capitalists to compete economically with U.S. capitalists but not politically or militarily.

In the first quarter of a century after World War II, the U.S. trade surplus showed a gradual tendency to shrink. Around 1970, it disappeared completely. On the other hand, the huge U.S. military expenditures necessary

to maintain its world empire meant that the United States ran a balance of payments deficit on its current account even when it was still running a surplus in its balance of trade.

The Bretton Woods system required such a U.S. deficit. Even when the U.S. trade surplus was large, American capitalists extended credits to the Europeans and Japanese as they rebuilt their economies. The United States ran a huge balance of payments deficit when it came to foreign investment – the U.S. was exporting capital – and the huge expenditures for military operations that the U.S. government carried out abroad, such as the Korean War. That deficit was almost but not entirely covered by the U.S. trade surplus and the flow of interest payments and dividends that the U.S. capitalists "earned" on foreign investments.

In this way, the quantity of dollars grew in the world economy. Under the Bretton Woods dollar-gold exchange standard, these dollars constituted the primary backing for the local currencies of Western Europe and Japan. In the absence of a U.S. balance of payments deficit, the Western European and Japanese economies would have faced much the same kind of deflationary pressure that they faced after World War I.

Why did the U.S. balance of payments deficits become a source of crisis in 1968 and 1971 when they were a requirement for the Bretton Woods system to function in the first place? Was it simply that the U.S. payments deficit had become too large, or was something else involved? What would have happened if the U.S. dollar were the only currency?

A hypothetical alternative history

In reality, even if the United States had completely abolished all currencies other than the dollar after World War II, the currency crisis that began in 1968 would have occurred anyway. Suppose the U.S. had forced all countries at Bretton Woods to adopt the dollar as their official currency. The foreign central banks would have ceased to be banks of issue, much like the central banks of France, Germany, Italy, Ireland, and other countries of the Eurozone ceased to be banks of issue with the adoption of the euro. But in exchange for this, let's suppose the U.S. government had promised to redeem dollars that the central banks and governments of other countries held for gold at the rate of $35 an ounce.

In this alternative world, there would be no question of devaluing the dollar against other currencies. There would be no other currencies, and the dollar could not be devalued against itself. One dollar at any instant in

time would always equal one dollar. However, a London Gold Pool could still have been organized by the United States and its Western European satellites under our assumptions.

But what if the private money capitalists had decided at a certain stage that the dollar – the sole currency in the world – was likely to be devalued against gold in the near future? The fictional gold pool, just like the real one, would have been forced to sell more and more gold on the open market to keep the dollar price of gold at or below $35.20.

There would be a run on gold, and the fictional London gold pool would still have collapsed – just like the real one did. As happened in the real world, the capitalist governments and central banks would have begun to redeem their dollars for gold at the U.S. Treasury as the dollar price of gold began to rise on the "free market." This would have forced the U.S. government to break its promise to redeem gold at the rate of one ounce of gold for every $35 presented to it. The only difference would have been that there would be no question of devaluing the dollar against other currencies, or what comes to the same thing, revaluing other currencies against the dollar, since there would be no other currencies.

While the existence of currencies other than the dollar complicates the situation, it is useful to understand the crisis of March 1968 and the final crisis of the dollar-gold exchange system that occurred in August 1971 to abstract the existence of such currencies.

In an article dated December 1968, Ernest Mandel, considered alongside Maurice Dobb and Paul Sweezy to be one of the leading Marxist economists in the capitalist world after World War II, came close to grasping the true nature of the March 1968 crisis:

"For thirty years ... all prices have risen (in paper money) while the price of gold has remained stable." [That is, prices expressed in terms of gold, the money commodity in whose use value the exchange value of all other commodities are measured, had risen for 30 years. Or as Mandel might have said, the prices of commodities in terms of real money – gold – have been rising since the end of the Depression. -SW]

"They forget rather quickly that in the same period *there has been a prodigious upsurge in labor productivity in virtually every industrial branch, while nothing equivalent to this has happened in the gold industry.* [Emphasis added -SW] ... [T]he relationship between gold and other goods [Mandel means commodities, perhaps a bad translation here -SW] has therefore developed strongly in the direction of a drop in value for goods, as expressed

in terms of gold." ("The Crisis of the International Monetary System," International Socialist Review, March-April 1969)

In other words, the general price level of commodities had once again risen above the underlying labor values of those commodities. Just like the situation right after World War I, even if to a lesser degree, the prices of commodities had risen above their values.

Value and price

However, the basic economic law that regulates the capitalist economy, the law of value of commodities, does not allow such a situation to persist indefinitely. The law of value of commodities does not state that market prices equal values – or prices of production – at any given point in time. Marx emphasized already in his early work, "*The Poverty of Philosophy*," that, on the contrary, they almost never do.

Rather, the law of value states that market prices are constantly fluctuating around values – or prices of production – now rising above them but then compensating by falling below them. During the Depression, market prices had fallen below values – and prices of production – but by 1968, market prices had once again risen above their values and production prices. The law of value dictated that sooner or later, market prices – in terms of gold – would once again have to fall below their underlying labor values.

How the dollar-gold exchange standard could have been saved

Could the dollar-gold exchange standard have been saved? Technically, not only could this have been done, it would have been relatively easy. All that would have been necessary to save the Bretton Woods system would have been for the Federal Reserve to raise interest rates sufficiently to break the demand for gold by private money capitalists.

Remember, all things remaining equal, the demand for gold moves inversely to the rate of interest. The higher the rate of interest, the lower the demand for gold. In England in Marx's time, there was a saying that 6% could draw gold from the moon.

Dumping gold on the market like the gold pool did could not quench the thirst for gold at the prevailing rate of interest. At the then-prevailing interest rate, all the gold that existed in the world would not have been enough. But raising interest rates sufficiently would have depressed the demand for gold by the private money capitalists back to the amount they already held. The run on gold would have been broken.

That this is indeed true is shown by the fact that the dollar price of gold did fall back to $35 an ounce when interest rates were raised in the wake of the March 1968 collapse of the Gold Pool – prolonging the death agony of the gold dollar exchange Bretton Woods system by more than three additional years.

The problem was that a rise in interest rates also meant that the crisis of overproduction that was being held at bay by the Keynesian "expansionary policies" of the U.S. government and Federal Reserve System – on a global scale, the growing U.S. balance of payments deficit being simply a part of the expansionary policy – would break out. However, the deflation and depression that would have followed, though perhaps not as extreme as the 1930s, would still have been far worse than the economic crisis of 1957-61.

That is exactly what the U.S. government, already facing a mass movement against the war in Vietnam, rebellions in the working-class African American inner cities, and the general mood of rebellion that characterized the late 1960s and the beginning of the 1970s, feared most of all. What would happen if a major new depression led to the radicalization of the heavy battalions of organized labor? The ghost of the Depression and the subsequent unionization of basic industry haunted the U.S. – and world – capitalist class.

Therefore, during the international monetary crises of 1968-71, the U.S. government and Federal Reserve System never considered raising interest rates sufficiently – and for a sufficient period of time – to save the Bretton Woods international dollar-gold exchange standard. Remember, the gospel of the bourgeois economists since the Depression had been that the general price level in terms of U.S. dollars must never be allowed to fall – a policy later dubbed "inflation targeting." The only other possibility was a major devaluation of the U.S. dollar and, to varying degrees, the other capitalist currencies linked to it.

If the amount of real money – gold – represented by each dollar has fallen – and this is what is meant by the economic slang expression "the price of gold has risen" – each individual dollar represents less gold than before. Back in the late 1960s, a dollar meant 1/35th of a troy ounce of gold.

Now, if the dollar is devalued against gold – the dollar price of gold is allowed to rise to a greater or lesser degree on the "free market" – and if the prices of commodities in terms of dollars remain unchanged, then prices in terms of gold – real money – will fall.

Keynes, who had represented Britain at the Bretton Woods conference, had never really liked the Bretton Woods dollar-gold exchange system that emerged from the conference. Instead, he proposed a worldwide paper cur-

rency that would be administered jointly by the "victorious" imperialist powers. But in reality, there was only one victorious imperialist power – the United States – and Keynes was turned down.

Since at least the 1920s, Keynes had dreamed of a "managed currency" that would finally end the monetary role of gold – or any other commodity money – once and for all. Keynes believed such a monetary "reform" – a reform that Marx demonstrated was impossible under the capitalist mode of production – would enable the monetary authorities to drive the rate of long-term interest below the rate of profit, no matter how low the rate of profit fell.

Keynes imagined that with gold "dethroned," the monetary authorities would be able to create sufficient demand to guarantee "full employment." He believed this could be done using deficit spending if long-term interest rates fell so close to zero that it would be difficult to lower them further. The threat of "general gluts" – crises of overproduction – which Keynes admitted, in contrast to the "orthodox marginalists," were possible under the capitalist system – would finally be ended once and for all. Then Keynes claimed that the alleged economic laws "discovered" by the marginalists that assume "full employment" would finally begin to operate.

Under the old international gold standard, as Keynes saw it, gold had gotten in the way of the monetary authorities creating sufficient monetary demand to ensure "full employment." Instead, the monetary authorities, such as the Bank of England, found their hands tied by their obligation to pay out five gold sovereigns for every five-pound banknote that was presented to them. Hence, according to Keynes, the crises.

Therefore, Keynes believed the gold standard in any form – even in the form of a gold exchange standard – should be abolished. But Keynes failed to convince the United States authorities of the wisdom of this at Bretton Woods. True, the Bretton Woods system was designed to be considerably more flexible than the old pre-World War I international gold standard had been. But even under the Bretton Woods system, gold could still get in the way of "expansionary policies."

For example, the gold drain that the United States suffered in the wake of the 1957-58 recession forced the Federal Reserve System to raise interest rates so rapidly to save the dollar-gold exchange system that the U.S. economy was thrown into the double-dip recession of 1960-61. Richard Nixon, the right-wing Republican candidate for president in 1960, believed the Fed's "tight money" policy in 1960 cost him the White House in the 1960 U.S. presidential election. He had no desire for history to repeat itself in the 1972 election.

With Nixon's decision to finally close the gold window in August 1971, the Keynesians were convinced that gold would no longer get in the way. The Federal Reserve System and other central banks would now be free to create whatever amount of money was required to maintain the effective demand necessary for full employment. Gold's long reign was finally over; the managed currency of Keynes's dreams was at hand! Crisis-free capitalism had finally arrived! Or so the economists thought.

The Keynesians weren't alone among the bourgeois economists in applauding Nixon's decision to finally end what remained of the dollar's convertibility into gold. Another supporter of Nixon's decision to "close the gold window" was a certain University of Chicago economics professor named Milton Friedman.

Professor Friedman had no use for Nixon's other moves announced on August 15, 1971, such as the wage-price freeze or the temporary 10% tariff. To the end of his days, Friedman complained that Nixon was the most "socialist" president in the history of the United States, even worse than that notorious pinko Franklin D. Roosevelt!

But Friedman did approve of the decision to end the last trace of the convertibility of the U.S. dollar into gold. According to Friedman, since gold coins had stopped circulating in the United States in 1933, gold was no longer money but simply "another commodity." Under the dollar-gold exchange standard, the government was "supporting" the price of gold. This violated the most sacred law of the free market: The government must not interfere with commodity prices, including the price of gold. Anything else was "socialism"! Prices, including the dollar price of gold, must be determined only by supply and demand on the free market.

Bretton Woods gold-exchange standard versus 'monetarism'

As long as the U.S. dollar – or other currencies – were still convertible into gold, the need to redeem currencies in gold could get in the way of the steady growth in the money supply that the "monetarist" Friedman held was the key to a crisis-free capitalism. For example, after the 1957-58 recession, the Fed should not have moved to restrict the growth of the "money supply" but was forced to do so by the need to maintain the price of gold at $35 an ounce. The "socialist" policy of state determination of the price of gold had caused the recession of 1960-61, which led to the defeat of the Republican presidential candidate – and future "socialist," according to Friedman – Richard Nixon.

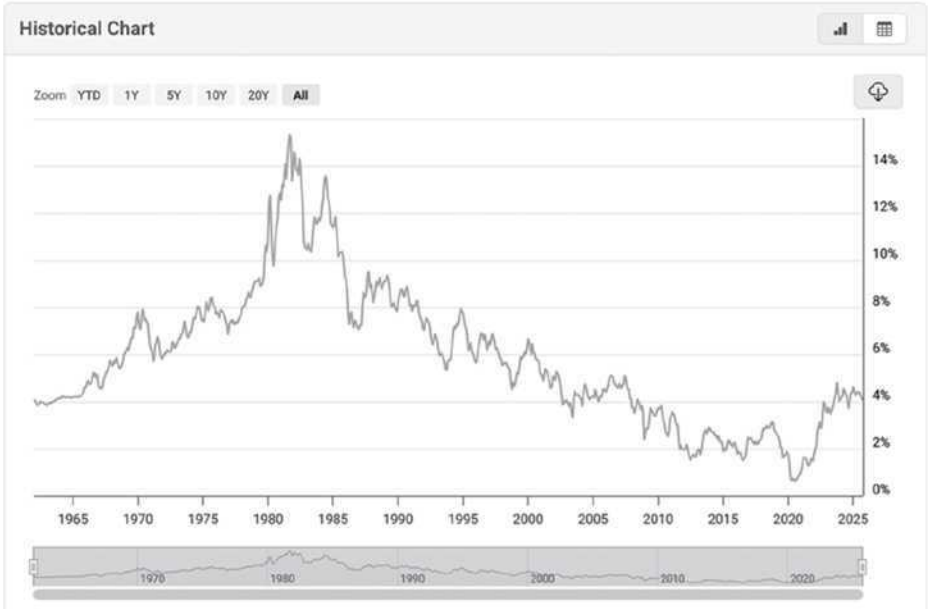
CHAPTER 30

The Industrial Cycle and the Collapse of the Gold Pool in March 1968

Industrial cycles normally last about ten years – give or take a year or two. The second industrial cycle after World War II began with the 1957-58 global recession. Given that the industrial cycle lasts about ten years, we normally expect the next global downturn to occur around 1967. Indeed, 1966-67 saw a credit crunch and a "mini-recession" in the United States, as well as a recession in West Germany from 1966 to 1967.

However, in 1967, the U.S. government and the Federal Reserve System were determined to avoid a recession on a scale similar to the one a decade earlier. As we saw in the last chapter, the Keynesian economists believed that they understood the workings of the capitalist economy well enough to develop the "tools" that would allow the capitalist governments and central banks to avoid full-scale recessions. Indeed, in 1967, the U.S. economy escaped with only a "mini-recession."

But just as the Keynesians were celebrating their ostensible victory over the industrial cycle and its crises, there came the March 1968 run on gold, which led to the collapse of the London Gold Pool. The U.S. government and Federal Reserve System, seeking to stave off the complete collapse of the dollar-gold exchange standard, felt obliged to take deflationary measures. The Fed Funds Rate, which had fallen to as low as 2% on October 25, 1967, rose to 5.13% on March 15, 1968, the day the Gold Pool collapsed.



[https://www.macrotrends.net/2016/10-year-treasury-bond-rate-yield-chart

Chart showing the daily 10-year treasury bond rate, back to 1962.

As the Federal Reserve System's deflationary measures took effect, the Fed Funds Rate rose to as high as 10.50% during the summer of 1969. Long-term interest rates rose, too, if to a lesser extent. On September 6, 1967, the rate on U.S. government 10-year bonds had risen to 5.20, well above the level of around 4% that prevailed during the first half of the 1960s – not to speak of the less than 2.5% rate at which Truman had expected to finance the Korean War. On December 29, 1969, the yield on the long-term government bond hit 8.05%.

With both long-term and short-term interest rates at such high levels, the demand for gold bullion was finally broken, and the dollar price of gold fell to around $35 an ounce by 1970. The dollar-gold exchange standard had been saved for the moment.

Restrictive fiscal policy

As we saw in the previous chapter, the March 1968 Gold Pool crisis forced the Johnson administration to rescind its decision made weeks before to grant Westmoreland's request for hundreds of thousands more troops to serve in the war against Vietnam. The hope was that the decision not to send more troops would mean a smaller U.S. balance of payments deficit, and

some of the pressure would be taken off the U.S. dollar – and U.S. interest rates. In 1969, the investment tax credit was repealed, a measure designed to encourage capital investment – expanded capitalist reproduction. The aim was to reduce the demand for credit used to finance capitalist investment. Looking at this more profoundly, the tax increases were aimed at slowing the pace of the ongoing overproduction.

Government deficit spending ended momentarily as the U.S. government moved to balance its budget. The hope was that by ending government long-term borrowing, if only briefly, the rise in interest rates, especially long-term interest rates, would be minimized. This would, it was hoped, avoid a credit crunch like that of 1966-67, or at least reduce it. In this way, the extent of the economic downturn following the move to the higher interest rates necessary to save the Bretton Woods dollar-gold exchange system would be lessened.

The recession of 1969-70

The combination of these deflationary measures pushed the U.S. economy into the first "official" National Bureau of Economic Research downturn since the recession of 1960-61. However, the recession of 1969-70 was a rather mild one as capitalist recessions go. Unemployment rose considerably but not as much as in 1957-58.

After the supply of credit on the U.S. domestic credit markets began to dry up, the Federal Reserve rapidly reversed direction, and "expansionary policies" were resumed. If this shift had not happened quickly, the U.S. economy would have experienced the sharpest downturn since the 1930s, with collapsing prices, profits, industrial production, and employment.

This was shown by the near-panic conditions on U.S. money markets in the spring of 1970, similar to the seizing up of credit that preceded the global collapse of industrial production, employment, and world trade at the end of 2008. If events had been allowed to take this course in 1970, unemployment would have increased much faster than in 1957-58, when there had been no such "panic," at least among the large industrial and commercial corporations.

The quick move to expansionary policies meant that the 1970 recession turned out to be a "shallow" saucer-type recession. A slow recovery began in 1971 – such recessions tend to be followed by slow recoveries. So it appeared that Keynesian economics had scored another victory, though not as impressive as the apparent victory in 1966-67, when an "official" recession, as defined by the NBER, had been avoided altogether.

The July-August 1971 international monetary crisis

But again, the victory was to prove illusory. In July and August, a new and this time fatal crisis of the dollar-gold exchange system erupted. On August 15, 1971, U.S. President Richard M. Nixon ended the convertibility of the dollar into gold. Though the suspension was described as temporary by Nixon until a new schedule of currency exchange rate could be agreed upon, it soon became clear that the suspension of dollar gold convertibility was not temporary at all, but permanent.

Officially, a new series of fixed exchange rates was soon announced, and a new, slightly higher official dollar price of gold was established at $38 an ounce. But the official price of gold now meant nothing. The U.S. dollar was inconvertible into gold not only for ordinary people – that had long been the case – but for governments and central banks as well. The only dollar price of gold that mattered now was the one on the open market.

There was to be one more agreement to establish yet another schedule of fixed exchange rates and another meaningless rise in the "official" dollar price – this time to $42.22 a troy ounce – of gold. However, these new international monetary agreements quickly collapsed. Soon, the Bretton Woods system based on fixed exchange rates was declared dead. Instead, currencies were free to float against one another. However, governments continued to intervene in the currency markets by buying and selling currencies to manipulate these ever-changing exchange rates.

Keynesians delighted by end of the dollar-gold exchange standard

Keynesians were delighted, convinced that gold had finally been "demonetized" for all practical purposes. With gold "officially" dethroned, the Federal Reserve System's and the government's fiscal policies could finally concentrate on achieving "full employment" – as defined by the bourgeois economists. Freed of the need to worry about defending either their gold reserves or a fixed dollar price of gold, the central banks would be free to lower interest rates to whatever level was necessary to ensure "full employment" with "stable prices" – meaning the desired level of inflation.

Nixon's other moves on August 15, 1971

Nixon announced two other moves to deal with the plunging value of the U.S. dollar. One, he announced a "temporary" 10% surcharge on imports. This was a threat to close access to the U.S. market that had been granted to the European and Japanese capitalists after 1945 in exchange for giving up any attempt to compete with the United States politically and militarily.

But Nixon could not go very far down this road. Doing so would have incentivized the European and Japanese imperialists to rebel against the U.S. empire. In addition, the closing of the U.S. market, leading to mass unemployment in either Western Europe and/or Japan, could have resulted in the radicalization of the European and/or Japanese working class at a time when the Soviet Union and its Eastern European allies with their planned economies still existed.

In addition, the shooting war against Vietnam was still raging. Nixon's moves were, at most, designed to give the U.S. government some bargaining power in negotiating cartel agreements with Western European and Japanese capitalists – for example, limiting imports of Japanese cars.

Wage and price controls

Much more important were the wage-price controls that Nixon announced. Here, too, Nixon, though very much a right-wing Republican, followed Keynesian theory and not the ideas of Milton Friedman – later to be called "neoliberalism" – to be embraced by his successors.

In an earlier chapter, we saw that according to Keynes, the general price level is governed by the level of money wages. As prices began to rise from 1965 onward, Keynesian economists advocated so-called "incomes policies" to limit wage increases.

The labor unions would agree to hold back wage increases to the level of the increase in labor productivity as reported by the capitalist governments. In effect, the unions would agree not to use their full market power to raise wages as high as market conditions permitted. If wage increases were limited to productivity increases, then – according to the bourgeois economists of the Keynesian school – price increases would slow down. These economists claimed that since real wages, as opposed to money wages, are determined by "productivity," real wages would not be affected.

And, they explained, the workers would benefit from "wage restraint" in another way. The Keynesian economists explained that with inflation controlled through "incomes policies," the Federal Reserve System and the other central banks would be free to follow "expansionary policies," and recession and mass unemployment would be avoided.

As inflation kept accelerating, however, the Keynesians blamed the unions for failing to practice "wage restraint." The Keynesian economists and the capitalist media described the accelerating inflation as a "wage-price spiral," though in reality, it was a price-wage spiral. More and more

Keynesian economists advocated compulsory wage and price controls to halt inflation. This would mean that the capitalist government would set the levels of both prices and wages. Wages are, after all, simply the price of a particular commodity – labor power.

Since the controls would be compulsory, the unions would have to go along with the wage freeze. The only other alternative would be to openly fight the government, which was something that unions, especially those in the United States, were ill-prepared to do. Especially since the New Deal, the U.S. union leadership had increasingly tended to rely on the government as opposed to the union consciousness, solidarity, and militancy of their members.

Wage and price controls fail to prevent accelerating inflation

The only alternative to wage and price controls, the Keynesians argued, would be a rise in interest rates sufficient to cause a recession with its associated unemployment. According to Keynesian theory, a recession of sufficient severity would end inflation. As unemployment rose, the balance of forces on the labor market would swing sharply in favor of the bosses, and the rise in money wages would taper off. The Keynesians claimed this would finally cause inflation to slow down or cease.

But this would be achieved only through mass unemployment, with all the suffering that goes with it. However, if the unions agreed to moderate wages "voluntarily," or if the moderation of wage increases was part of a government-enforced mandatory wage and price control system, inflation could be capped without a recession and mass unemployment. Or so the Keynesians promised.

In the United States, this seemed reasonable to many workers who were uneducated in Marxist theory. Indeed, in a socialist society, setting wages and prices would be part of the economic plan. But the economic laws of socialism are not those of capitalism. Under capitalism, any wage and price controls are a trap for the unwary sellers of the commodity labor power.

The Keynesian economists pointed to World War II as an example of successful mandatory wage and price controls. But how did the wage and price controls actually work during World War II? In a situation where prices are lower than the level necessary to equalize supply with demand, such as during World War II, a price freeze paralyzes the mechanism that, under capitalism, reduces demand to supply – a rise in prices. The result will be shortages and government rationing.

While rationing can ensure a fairer distribution of scarce commodities than high prices that only the rich can afford, it goes against the grain of capitalism. In such a "shortage economy," capitalists tend to hold commodities off the "legal markets." Instead, they offer commodities in the more or less illegal, so-called "black markets" at much higher prices. The high prices on the "illegal" markets reduce demand to the supply.

The longer price controls are in effect, the more they will tend to break down as commodities become increasingly unavailable at legal prices and can only be obtained illegally at much higher prices. Eventually, price controls are abandoned, and official prices rise rapidly to levels that again balance supply and demand. The "black markets" disappear. If the trade unions cannot win wage increases, the result will be a sharp decline in real wages.

Wage and price controls combined with currency depreciation

As the 1970s progressed, inflation increasingly reflected not so much excess demand at existing prices – as had been the case in the mid-1960s – but rather the depreciation of the U.S. dollar and other paper currencies against gold. Many modern Marxists, to the contrary, believe that paper currency cannot represent value – abstract human labor – directly.

The gold market establishes exactly how much gold a dollar or other paper currency represents in terms of a standard of weight, such as a troy ounce – a unit in which the quantity of the use value of the commodity gold is measured. In turn, depending on the ever-changing conditions of production in the gold mining and refining industries, a given quantity – weight – of gold will represent a definite amount of abstract human labor.

Unlike the abstract human labor embodied in non-money commodities, the abstract human labor embodied in a given quantity of gold is directly social. That is, the abstract human labor necessary to produce a given quantity of gold does not have to be exchanged for another commodity to demonstrate that it forms a part of the social labor of society. (See the first three chapters of volume I of "*Capital*" for a full examination of this extremely subtle, little understood, but vital point.)

Suppose a commodity – let's say a radio of a given make and quality – is selling at its value. Assume the radio is selling for $35. And assume the dollar price of gold on the open market is $35 an ounce, which was the case in 1970. In this case, it will take the same amount of abstract human labor to produce this radio as it takes to mine and refine an ounce of gold.

Now, assuming everything else is unchanged, let's say the dollar price of gold rises to $70 an ounce. If the radio continues to sell for $35, the economic real price of the radio – the price of the radio in terms of gold – will not be one ounce of gold for the radio but rather one-half ounce.

Under these conditions, the radio will be realizing only half of its value in terms of the use value of the money commodity that measures the value of all other commodities. But sooner or later, the market corrects this imbalance. If the dollar price of gold remains at $70 an ounce – all things remaining equal – the price of the radio will rise sooner or later to $70.

So, the more the price of a paper currency, such as the U.S. dollar, rises against gold, and the longer the higher dollar price of gold persists, the higher will be the rate of inflation in terms of that currency. These inflationary pressures will last until, once again, commodity prices are more or less in line with underlying labor values, and prices of production are, with some modification, ruled by value as measured in terms of weights of gold.

Now, what happens if the paper currency price of gold is allowed to soar on the open market while the capitalist government tries to freeze prices and wages? The capitalists respond to the government's attempt to force them to sell their commodities at economically real prices below the actual value and prices of production of the commodities involved by withdrawing them from the legal market. This situation leads to shortages at official prices and so-called black markets where commodities can be obtained only at much higher prices.

As sellers of the commodity labor power, the workers should do all they can to raise wages in terms of a depreciating currency, just as the capitalists do with the prices of their commodities under the same circumstances. When the government allows the currency to depreciate – as measured by the price of gold in terms of that currency – while telling the workers not to demand higher wages in the name of fighting inflation, it is the job of the unions to do everything they can to defeat the wage controls and raise the price of their members' labor power.

If the workers don't do this, prices – the Keynesians notwithstanding – will still rise in terms of the depreciating currency. If this happens, wages in terms of gold – real money – and purchasing power – real wages – will fall. The result will be a rise in the ratio of unpaid to paid labor. The rate of exploitation of the workers by the capitalists will rise.

When Nixon announced his controls, the dollar price of gold – that is, the amount of gold measured in terms of weight that a dollar represented in

the sphere of circulation – was already between $42 and $43 an ounce. That dollar already represented markedly less gold than it had when Roosevelt established the $35 an ounce dollar price of gold in 1934. In August 1973, the dollar price of gold rose to over $67. That is, the dollar had already lost almost half of its gold value since the days of Roosevelt.

Sure enough, shortages began to appear throughout the economy, and commodities were increasingly sold illegally at much higher prices on the black market. Unlike during World War II, no rationing system had been established. Working-class people and others with low incomes were especially hard hit by this concealed inflation. Things weren't helped by the failure of the U.S. trade unions to launch a broad struggle against wage controls. The collapse of the price controls was rapidly approaching.

Did the 1973 oil embargo and price increases cause the inflation?

Keynesian economists blamed the failure of their prediction that the wage and price controls program would halt inflation, not on their false economic theory – if they did that, they would have ceased to be Keynesian economists – but instead on the dramatic rise in oil prices that followed the so-called Yom Kippur war between Zionist-apartheid Israel and Arab countries.

At that time, the Arab countries announced a boycott of the United States and its satellite imperialist powers, which were supporting Israel. This short-lived boycott led to gasoline shortages in the imperialist countries and was soon followed by sharply higher oil prices in dollars and other depreciated paper currencies.

The Keynesian economists, forgetting their theory that changes in the general price level are caused by changes in money wages, blamed the rise in prices on the sharp increase in the price of oil and the OPEC "oil cartel." However, today, it is clear that the real reason for the rise in oil prices was the accelerating decline of the U.S. dollar – the currency in which oil prices are quoted – against gold. If the U.S. government had not wanted the dollar price of oil to rise, it should have preserved the gold value of the dollar.

Wikipedia writes: "This [the depreciation of the dollar against gold -SW] led to the 'Oil Shock' of the mid-seventies. In the years after 1971, OPEC was slow to readjust prices to reflect this depreciation [of the dollar –SW]. From 1947-1967 the price of oil in U.S. dollars had risen by less than two percent per year. Until the Oil Shock, the price remained fairly stable versus other currencies and commodities, but suddenly became extremely volatile thereafter. OPEC ministers had not developed the institutional mechanisms to

update prices rapidly enough to keep up with changing market conditions, so their real incomes lagged for several years. [The depreciation of the dollar hit the OPEC countries very hard when they failed to quickly increase the dollar price of oil as the dollar depreciated against gold, just like the real wages of the workers in the U.S. fell when the unions failed to fight for higher wages in dollar terms when the dollar began its plunge against gold -SW]. The substantial price increases of 1973-74 largely caught up their incomes to Bretton Woods levels in terms of other commodities such as gold."

In other words, OPEC's readjustment upward in the dollar price of oil, far from causing inflation as the Keynesian economists and the capitalist media falsely claimed at the time, was a purely defensive move in reaction to the devaluation of the U.S. dollar against gold and the inflation it had unleashed.

Since oil, as the basic source of energy, is so important to the modern world capitalist economy, it is especially sensitive to changes in the gold value of the U.S. dollar.

We can confirm this by looking at changes in both the dollar price of gold and the price of oil from September 2004 to the summer of 2008, when there was no oil embargo. At the beginning of September 2004, the dollar price of gold was $400, while the price of oil was being quoted at a little more than $40 a barrel. On August 6, 2007 – just before the initial panic of August 2007 – the dollar price of gold rose to $651.50, while the price of a barrel of oil had risen to $69.14. Therefore, the dollar price of oil more or less tracked the dollar's declining value against gold.

Then, when the initial panic hit later that month, speculators assumed that the U.S. Federal Reserve System would flood the banking system with reserves – that is, its dollar-denominated token money – in an attempt to stave off a severe recession.

In anticipation of the radical explosion in the quantity of dollar token money – paper dollars – speculators drove the dollar price of gold to over $900 – and briefly over $1,000 – at times during 2008. Not surprisingly, the price of oil soared too, despite signs that the U.S. and world economies were approaching a recessionary downturn. Indeed, even our friends at the NBER now say that the U.S. economy entered a "contraction" in December 2007, just a few months after the initial August 2007 credit market panic.

Despite the slowing economy – which, all things remaining equal, would be expected to lead to lower oil prices – the dollar price of oil reached $147 in July 2008. This, even though the Federal Reserve Board had not yet, in fact, greatly expanded the quantity of token money.

The effect on wages and politics

The failure of the unions to demand wage increases in line with the soaring cost of living did not stop inflation, as the Keynesian economists claimed it would, nor, as we will see, did this prevent the recession and soaring unemployment that was to follow quickly. While the official price levels were held back for a while by the wage and price controls, shortages and black markets multiplied as the dollar plunged against gold. What the wage-price controls did achieve was to lower the real wages of U.S. workers.

Even 40 years later, the real hourly wages of U.S. workers have yet to rise again to the levels that prevailed in 1973, despite a huge increase in labor productivity of U.S. workers over that period. Contrary to the theories of the bourgeois economists, real wages did not increase with labor productivity. Instead, in the United States, they fell as labor productivity rose.

As I have already explained, the unions were greatly undermined, which helped turn U.S. and world politics sharply to the right. The way was prepared for the election of Ronald Reagan to the U.S. presidency a few years later.

Inflation breaks out into the open

The wage-price controls imposed in August 1971, combined with easy money policies by the Federal Reserve System, created soaring demand, a wave of shortages, and, at first, a sharp rise in industrial production. Officially, the producer price index rose "only" a little more than 7% in 1972.

The sharp rise in industrial production and associated growth in employment, along with suppressed inflation – momentarily artificially suppressed by the wage and price controls – combined with the approaching withdrawal of U.S. forces from the war against Vietnam, enabled Nixon to win a landslide reelection victory against his opponent, the liberal Democrat George McGovern. But as the dollar's fall against gold accelerated, the price controls crumbled. Inflation broke out into the open.

In 1973, the rate of inflation in the U.S. economy, as measured by the producer price index, rose above 17%! The index rose similarly in 1974 – a far cry from the mere 3.5% rise in the producer price index that was considered so alarming back in 1965!

Nixon's Keynesian wage and price control program had failed miserably as an anti-inflation program, though it was all too successful in lowering the living standard of U.S. workers.

Inflation turns into stagflation

What was happening was a new form of financial crisis. Traditionally, in the days before Keynesian economic policies, the sellers of commodities would often panic when a crisis hit and dump their commodities on the market at significantly depreciated prices. In the days of the classical international gold standard, the devaluation of the currency against gold was considered unthinkable, so there was no panic as far as currency values in terms of gold were concerned.

In 1973-74, however, the financial crisis took a different form. The sellers of commodities weren't all that concerned that their creditors would demand repayment, forcing them to raise cash at almost any price. Keynesian government and Federal Reserve policies would keep up demand and maintain the flow of credit, or so it was believed.

Rather, in the "Keynesian world, " the owners of currency and currency-denominated financial assets – money capitalists – panicked. Fearing that the dollar and the other paper currencies were about to lose the bulk of their value, the money capitalists stampeded into the gold market – and, for a while, into oil and other commodity markets.

Back in the 19th century, Marx noted that a panicky move into banknotes – currency convertible into gold – had largely replaced moves to hoard gold itself that had occurred in former times. In 1973-74, the "former times" returned – thanks to Keynesian economics – and gold itself rather than currency was once again the object of hoarding.

The result, not surprisingly, was a sharp rise in commodity prices – not just oil – in terms of dollars, if not gold. The market was attempting to raise all commodity prices to match the suddenly sharply reduced gold value of the dollar and other paper currencies.

But the market couldn't succeed in this endeavor because, though the Federal Reserve System was increasing the quantity of dollar token money – the monetary base – it was not doing so at anywhere near the rate that the dollar was now depreciating. In terms of the gold that the monetary base and the broader money supply represented, and in terms of real purchasing power, the monetary base and with it the broader money supply were contracting.

Keynesian economics bankrupt

The Keynesian economists relied on the belief that inflation and recession are opposite states of the economy that could not occur at the same time.

But what if economic stagnation and inflation coincided? That is exactly what confronted the U.S. – and world – capitalist economies in 1973-74.

Since prices in terms of depreciating currency were rising faster than the central banks were printing/creating it, interest rates soared, and credit froze. Credit-sensitive industries such as construction and automobiles fell into a sharp recession. But there were also big movements into oil and many other primary commodities as the capitalists sought to rid themselves of dollar – and other currency – denominated assets.

This maintained the demand for these commodities at the expense of other commodities, such as autos and houses. The overall result was that monetarily effective demand stagnated, real wages rapidly declined, and interest rates rose sharply. Stagflation had arrived.

If the Federal Reserve Board had moved to increase the rate of growth of the monetary base – token, or paper, money – to the actual level of price increases in a bid to stave off recession, the panicky move out of paper currencies and into "hard gold money" and critical primary commodities such as oil would only have accelerated. The printing presses of the governments and central banks would have found themselves in a race with the skyrocketing general price level – in terms of paper money.

In this type of panic, if they doubled the monetary base, for example – as they did during the more traditional type of panic of 2008 – prices might have jumped not two-fold but four-fold in a very short period of time. The rate of inflation would have increased geometrically.

If the central banks had attempted to keep up with the rising general price level in terms of their plunging currencies, they would have had to keep the printing presses turning ever faster. This is exactly how runaway inflation and even hyperinflation leading to the complete collapse of the currency, such as in Germany in 1923, develops.

Inflationary crises and the Austrian school

The Austrian school upholds Say's Law and thus denies even the possibility of a general overproduction of commodities. Instead, to use Marxist terminology, the Austrian school claims that crises occur because of overproduction in Department I – means of production – relative to Department II – means of consumption.

Inflationary crises, such as those in 1973-74 and again in 1979, indeed do cause an overproduction in Department I relative to Department II, though not for the reasons the Austrians give. According to the Austrian school,

the central banks' inflationary policies cause the market's long-term interest rate to fall below the "natural" interest rate. According to the Austrians, industrial capitalists are, in effect, tricked into thinking that society wants to save – as opposed to consume – more than it does.

If central banks were abolished, the Austrians argue, the market interest rate wouldn't deviate significantly from the "natural" rate of interest. According to the Austrian theory, the natural rate of interest reflects society's desire to "save" – put off consumption instead of immediately consuming. As long as the market rate of interest equals the natural rate of interest, the Austrian school holds, the market maintains a correct proportion between Department I and Department II. Therefore, the Austrians conclude that as long as the market rate of interest is not allowed to deviate from the natural rate of interest, there will be no economic crises.

As we have seen in earlier chapters, there is, in reality, no such thing as a natural rate of interest. The idea of a natural rate of interest is a false analogy with the role of commodity prices in the classic school of political economy and the Marxist critique of classical political economy.

What determines the rate of interest?

In addition to their market price, commodities indeed have a natural price – the price of production determined by labor values – that forms an axis around which market prices fluctuate according to supply and demand. In contrast, the rate of interest is determined by the quantity of loan money capital versus the demand for loan money capital. But what determines the quantity of loan capital?

The quantity of loan money is determined in the long run by the quantity of gold bullion produced relative to other commodities. Therefore, everything else remaining equal, the more gold bullion that is produced, the lower will be the rate of interest.

However, the quantity of gold bullion produced is determined by the rate of profit in gold mining and refining, both absolutely and relative to the other branches of production, and not the rate of interest. A high rate of interest in no way stimulates the production of gold bullion unless or until the high rate of interest leads to a crisis that lowers the general price level.

Therefore, in contrast to commodity prices, there is no "natural" rate of interest. What is true is that the long-term rate of interest cannot, for very long, rise above or equal the rate of profit. If the long-term rate of interest equals the rate of profit, the profit of enterprise falls to zero, and the in-

centive to produce surplus value disappears. In such a situation, a portion of the industrial and commercial capitalists will convert themselves into money capitalists.

For example, largely industrial corporations will close down factories and instead enter the "financial services" business – that is, turn themselves into money lenders. The increase in the number of money lenders will once again lower the long-term interest rates to a level below the rate of profit and thus restore a positive profit of enterprise. We will be able to examine this phenomenon more closely in the chapters that examine the post-stagflation economy – the era of "financialization."

In contrast to the Austrians, capitalist crises are indeed caused by an overproduction of commodities in both Department I and Department II relative to effective monetary demand, which is ultimately determined by the quantity of gold bullion produced relative to the production of other commodities.

To claim that crises are caused by an overproduction in Department I relative to Department II – or an overproduction of Department II relative to Department I – is thus another way of denying that the general overproduction of commodities is the cause of crises and staying within the limits of Say's Law. Say's Law concedes that a partial overproduction of commodities backed by an underproduction of other commodities is possible. It only denies the possibility of a general overproduction of commodities.

That said, an overproduction of commodities by Department I relative to Department II is perfectly possible, either within the framework of a general overproduction of commodities or in its absence. One of the consequences of rapid currency depreciation is that it causes overproduction of commodities in Department 1 relative to Department II.

During a period of rapid currency devaluation, industrial capitalists are eager to get rid of their rapidly depreciating currency and convert it into commodities as quickly as possible. Or, as they see it, they want to buy the elements of constant capital, including both the elements of circulating capital, such as oil and fixed capital – for example, steel, machine tools, etc. – before their prices in terms of depreciating currency rise even more.

However, such inflationary devaluations of currency have the effect of undermining the credit system. Prices are rising faster than the rate of growth of the quantity of money tokens, which ends up limiting the growth in the quantity of loan money in terms of purchasing power.

Under these conditions, the velocity of circulation accelerates towards the maximum possible that the development of the banking system, computerization, and so on allows. As the limits of the velocity of circulation are reached, the money supply grows tight, and any attempt by the central bank to ease the money market by accelerating the rate of growth of the (token) money supply leads to even faster depreciation of the currency against gold and a consequent rise in the rate of inflation.

Therefore, during periods of rapid currency depreciation, it becomes difficult for consumers to obtain mortgages and loans for durable consumer goods such as automobiles. In addition, the purchasing power of the general population, even for commodities bought with cash and not credit, is undermined by the falling real incomes caused by inflation.

Therefore, as the industrial capitalists scramble to convert their depreciating money capital into new means of production at an accelerated rate, the demand for consumer commodities, especially but not only those consumer commodities purchased with credit, declines. This leads to a growing disproportion between a "booming" Department I and a contracting Department II.

Therefore, the Austrian theory of crises does not reflect so much the workings of the industrial cycle as the runaway and hyperinflations that hit Austria, Germany, and other central and eastern European countries in the wake of World War I and the Russian Revolution.

The reasons for the inflation of 1918-23 in central Europe and the worldwide 1970s inflation were quite different. In 1918-23, the inflation reflected the wave of revolutions that swept the eastern half of Europe – especially the Russian socialist revolution of October 1917 and the fear on the part of the ruling classes of eastern and central Europe that this revolution would spread to their countries, as well as the effects of a lost war, reparations payments and so on.

In the 1970s, in contrast, inflation was caused by the doomed attempt to prevent the outbreak of a cyclical overproduction crisis by expanding the quantity of paper – token – money.

But despite their different causes, in both cases, the inflation did generate a relative overproduction in Department I relative to Department II. In both cases, the inflation was followed by years of stagnation in heavy industry – especially the steel industry – that had boomed during the inflation but then suffered a dramatic collapse in demand for their products as soon as the currencies stabilized.

How hyperinflations develop

If the central banks keep attempting to accelerate the rate at which they create token money in an attempt to keep up with the accelerating rate of inflation – the accelerated rate of currency depreciation – a vicious circle sets in. The more the central banks accelerate the rate of growth of the quantity of token money, the more the market prices further accelerate the growth rate. The result is that prices rise faster relative to the quantity of money. This is how genuine hyperinflations developed, such as in Germany in 1923.

Therefore, the only way in the 1970s for the central banks, led by the U.S. Federal Reserve System, to avoid this ultimate economic catastrophe of global runaway inflation within the framework of the capitalist system was to halt a further acceleration of the rate of growth of token money.

Usually, central bankers target short-term interest rates, like the U.S. Federal Funds Rate – the rate at which the commercial banks lend out their surplus reserves to other commercial banks experiencing a shortage of reserves.

During the 1970s, however, currency devaluation against gold had already gone so far that ever-higher interest rates were needed to prevent a descent into runaway, if not full-scale, hyperinflation. Under the conditions of the 1980s, if the Federal Reserve had attempted to halt the further rise in interest rates by accelerating the rate of growth of the quantity of token money it was creating, the result would have been runaway inflation and even full-scale hyperinflation where the currency essentially becomes worthless – is demonetized.

In the 1970s, the Fed could not avoid severe recessions since an extreme economic collapse would have followed runaway or worse inflation. A merely "severe recession" was the best that could be achieved under the prevailing conditions. The Keynesian nostrums were melting away, along with the gold value of the U.S. dollar and its satellite paper currencies.

Where the Keynesians went wrong

Remember, Keynes conceded that crises of generalized overproduction were possible in a capitalist economy. But he denied they were inevitable.

In reality, due to the basic contradiction of the capitalist mode of production – the contradiction between socialized production and the continued private appropriation of the product – periodic crises of generalized overproduction are not only possible, but inevitable once capitalist production has developed to a certain point.

Capitalist production can only exist as the expanded reproduction of capital. And the expanded reproduction of capital, if it is to continue, means periodic crises of generalized overproduction.

The inflationary panic of 1973-74 showed the limits of Keynesian "expansionary policies" that attempted to suppress the symptoms of contradictions of capitalist production – periodic crises of generalized overproduction – while retaining the capitalist mode of production itself, with all its contradictions that make, among other things, periodic crises of the generalized overproduction of commodities inevitable.

Statistics kindly made available by the U.S. Federal Reserve System tell the story. On July 24, 1974, the Fed Funds Rate hit the then-unheard-of level of 14.19%! That level proved necessary to finally break the back of the demand for gold and halt an acceleration of the inflation rate.

Long-term interest rates tell a similar story. On August 15, 1971, the rate of interest that the U.S. government had to pay on 10-year bonds was 6.41%. In August 1971, when Nixon finally killed what was left of the international dollar-gold exchange standard, the fed funds rate stood at 5.63%.

But with the end of the last remnants of the international gold standard, the Fed was now free – or so the Keynesians imagined – to drive down interest rates to a level that would ensure "full employment" – meaning the level of unemployment that, in the judgment of the Fed leadership, represented the best interests of the capitalist system.

But the Keynesians were fooling themselves. Gold got in the way under the "fiat" monetary system far more brutally than ever before under any form of the gold standard. In February 1972, the Fed Funds Rate fell to as low as 3.13%, fueling a strong surge in industrial production.

The consequent "prosperity" helped re-elect President Nixon by a landslide in the November 1972 presidential elections. There was no repeat of 1960 when a recessionary dip in the economy helped ruin "Tricky Dick's" first try for the White House. So far, so good. But by July 1973, the Fed Funds Rate rose above 13% for several days, and it was often above 10% for the rest of the year.

The long-term interest rate rose, too, though, as is always the case during crises, not quite as much as short-term interest rates. The long-term rate was soon above 6% again, and during 1973 rose for a while above 7%, hitting 7.20% on September 14, 1973. The Fed, determined to compensate for the oil boycott and the sharp rise in the price of oil, then drove the long-term interest rate back below 7%.

But the growing panicky demand for gold soon undid the Fed's "Keynesian" moves to lower interest rates. By February 1974, the long-term interest rate was back above 7%. On August 26, 1974, long-term interest rates ratcheted to 8.16%. As is typical, long-term interest rates are more stable than short-term interest rates, but their movements, too, pointed relentlessly upward.

As interest rates soared, the demand for gold was finally broken. Remember, if interest rates rise high enough, the demand for gold will always be broken. But it now took considerably more than the 19th century's 6% to "draw gold from the moon." On December 30, 1974, the dollar price of gold hit $195.25. After that, the dollar price of gold began to decline; that is, the depreciation of the dollar for the time being was halted.

Though shaky, the dollar had stabilized, even if only briefly, as it turned out. As soon as the shaky stabilization of the dollar occurred, a recession hit with full force, beginning in the fourth quarter of 1974 and continuing through the first quarter of 1975. Industrial production and employment plunged, and unemployment soared. The rate of decline was even sharper than had been the case in 1957-58.

Back in August 1971, the Keynesians claimed that Nixon's wage and price controls would end the problem of accelerating inflation without a recession. But Keynesian policies had not only brought soaring inflation and lower real wages; they had completely failed to stave off recession. Their only "achievement" was to lower the living standards of wage earners. In every other respect, Keynesian policies had failed.

No full industrial cycle in the mid-1970s

Industrial production peaked in the fall of 1973, only four years after it had peaked in 1969. The four-year period between the third quarter of 1969 and the third quarter of 1973 did not constitute a full industrial cycle. The crisis of overproduction that was already heralded by the credit crunch and mini-recession of 1966-67, then by the collapse of the gold pool in March 1968, and finally the recessionary dip in the economy in 1969-70, now broke out into the open as a sudden glut of unsold inventories appeared in warehouses in the fourth quarter of 1974. This led to the usual results: the collapse of industrial production and employment not only in industry but throughout the economy. As is the case with all general crises of overproduction, the crisis unfolded on the entire world market.

Resemblances to 1957 and 1960-61

In some ways, the 1974-75 collapse resembled the second dip of the double-dip recession of 1957-61. The recession of 1957-58 was followed by the secondary recession of 1960-61 when the Fed eased "too rapidly" and gold began to flow out of Fort Knox. Or perhaps it was a triple dip if we take the 1966-67 "mini-recession" as the first dip. But unlike the case in 1957-61, when the secondary recession of 1960-61 was milder than the primary recession of 1957-58, the recession of 1974-75 was much worse than the recession of 1969-70, not to mention the "mini-recession" of 1966-67.

Though economic indicators began to rise again in the spring of 1975, the economic crisis was far from over. More dips were coming before the U.S. and world capitalist economy finally emerged from the crisis in the early 1980s.

CHAPTER 31:
The 'Volcker Shock' and Start of the Neoliberal Era

As we saw in the previous chapter, the devaluation of the U.S. dollar in terms of gold had temporarily halted by the end of 1974. After peaking at $195.25 an ounce on December 30, 1974, the dollar price of gold fell to $104.00 on August 31, 1976.

As a result, during 1975, the rate of U.S. inflation, as measured by the government producer price index, was "only" about 4.4%. Still, the index rose more in the recession-depression year of 1975 than in the inflationary boom year of 1965. This was despite a slump that was considerably worse than that of 1957-58.

Workers in the U.S. – and other capitalist countries – were hit in two ways. First, workers' living standards were lowered by the rising cost of living in terms of the devalued currency their wages were paid in. The cost of living would have declined in a more traditional type of recession-depression.

Second, as was the case in a traditional recession-depression, wages were under downward pressure from the high unemployment rate. In the case of U.S. workers, this was on top of the disastrous wage and price controls imposed by the Nixon administration and applauded by "pro-labor" Keynesian economists.

Keynesians plead 'special circumstances'

Neither the U.S. government nor the Federal Reserve System was quite ready yet to ditch the Keynesian economics that had dominated "macroeconomics" up to that time. As we have seen, Keynesian economists pleaded special circumstances to explain away the inflationary economic crisis of 1974-75.

These economists claimed that the Arab oil boycott of late 1973 and early 1974, followed by the sharp rise in the price of oil carried out by the OPEC

cartel, had caused prices in general to soar. This inflation, in turn, reduced real purchasing power, which led to the severe recession of 1974-75. Indeed, the capitalist media and most economists of the time described the recession of 1974-75 as "oil-induced."

The Keynesian economists overlooked the fact that the global oil industry had long been dominated by the "seven sisters" international oil cartel, which OPEC was now challenging. Why was the oil cartel of the oil-producing oppressed nations inflationary while the oil cartel of the big oil corporations owned by U.S. and European capitalists was not?

Due to the continued high unemployment from the 1974-75 recession, continuing if reduced inflation, as well as the aftermath of the Watergate scandal that had swept the Nixon administration away, the Democratic candidate for president, Jimmy Carter, managed to defeat the unelected Republican president Gerald Ford in the 1976 U.S. presidential election. The new Democratic administration wanted to continue the traditional Keynesian policies. After all, Keynesian policies had worked reasonably well before 1968. Why wouldn't they work again in the future?

By late August 1976, the dollar price of gold had fallen back to $104 an ounce. This was partly achieved by renewed U.S. gold sales on the open market, designed to discourage speculation in gold. The fact that these sales were deemed necessary shows that the broader economic crisis that had begun with the collapse of the London Gold Pool in March 1968 had not been overcome. This was the case notwithstanding the rise in industrial production and the reduction in the rate of inflation that became apparent from the spring of 1975 onwards.

However, even before the U.S. presidential election of November 1976, the dollar had resumed its decline against gold. This was a bad omen for the new Democratic administration of Jimmy Carter. At first, however, the renewed decline of the dollar was modest. It wasn't until July 1978 that the dollar price of gold rose above the $195.15 level first reached on December 30, 1974. Soon after this happened, the whole "recovery" that had begun in the spring of 1975 began to unravel. The chronic crisis the U.S. and world economies had faced since March 1968 was about to become acute again.

In 1976, as a result of what proved to be a short-lived partial recovery in the dollar's value against gold, the producer price index rose just 4.84%, only slightly higher than the rise that occurred during the crisis-depression year of 1975. The Federal Funds Rate, which had risen to as high as 14.33% during the crisis in 1974, fell back to 4.72% on January 23, 1976.

The ability of the Federal Reserve System to lower the Federal Funds Rate to the relatively low level of 4.72% without the dollar price of gold soaring was a sign that the acute monetary crisis of 1973-74 had been eased, though only at the price of the deep industrial slump of 1974-75.

Long-term interest rates remain stubbornly high

However, long-term interest rates fell far less than the Federal Funds Rate. The rate the federal government had to pay on 10-year bonds hit 8.13% in September 1974. On September 16, 1975, the rate for these bonds reached 8.59%, a bad sign for the economic "recovery" that had begun the previous spring. On December 28, 1976, reflecting the rise in the gold value of the dollar, the interest rate on "10-year governments" dropped to a still historically high level of 6.84%

This showed that the money capitalists still lacked long-term confidence in the dollar. They feared – and correctly, as it turned out – that the massive devaluation of the dollar would soon resume. The stubbornly high rate of interest was particularly alarming for Keynesian economists.

Remember, in his "*General Theory*," Keynes had counted heavily on the alleged ability of the "monetary authority" under a paper money system to lower long-term interest rates by increasing the supply of token money. Just as an increase in the quantity of gold money, all else remaining equal, will lower long-term interest rates, Keynes hoped that an increase in token money – not metallic money – created by the monetary authorities would also lower interest rates.

Keynes made the mistake – fatal to his conclusions – that token money would follow the same laws as metallic money. However, as we saw earlier, token money follows laws quite different from gold money. What happened next provided a classic illustration of this.

Soon after the dollar resumed declining against gold, long-term interest rates began to rise again. By the summer of 1979, with the dollar price of gold hovering around $300 – well above the high point reached in the crisis year of 1974 – long-term interest rates were around 9%, higher than they had been at any stage during the crisis of 1974-75.

Inevitably, by 1978, the rate of inflation, as measured by the U.S. producer price index, accelerated once again, rising by more than 10% that year. It was becoming clear to both Wall Street and Washington that something was very wrong with Keynesian economics.

In 1979, President Jimmy Carter nominated fellow Democrat Paul Volcker as chair of the Board of Governors of the Federal Reserve System.

Volcker was confirmed by the U.S. Senate and assumed office in August 1979. Volcker, who had been head of the Federal Reserve Bank of New York, the Federal Reserve Bank closest to Wall Street, was highly respected in top Wall Street and Federal Reserve System circles. It wasn't long before the new Fed chief faced a major crisis.

The crisis of 1979-80

At the time of Volcker's appointment in August, the dollar price of gold – the measure of the dollar's growing depreciation against gold – was fluctuating around $300 more or less. On January 21, 1980, gold was quoted at $850 a troy ounce at the afternoon London gold market fixing. In intra-day trading, the dollar price of gold hit $875 before falling back. That is, the U.S. dollar had lost considerably more than half its gold value within only five months!

In August 1979, one dollar had represented 1/300th of an ounce of gold, or a little more on some days, while on January 21, 1980, the dollar represented only 1/850th of an ounce of gold. It was becoming clear to the leaders of the Federal Reserve Board that a drastic change in policies was necessary if U.S. and world capitalism were to avoid a disaster far worse than even the super-crisis of 1929-33.

Paul Volcker, Milton Friedman, and the crisis

The immediate problem that Volcker faced was similar to the problem that the U.S. and world capitalist economies had faced in 1973-1974. But now the situation was far more serious. By giving Keynesian economics "one more chance" and following "expansionary policies," the Federal Reserve System had dealt a mighty blow to what remained of the confidence the world's money capitalists held in the U.S. dollar, the main reserve currency of the capitalist world.

Confidence in the U.S. dollar was collapsing as money capitalists dumped dollar-denominated assets and shifted to gold or primary commodities such as oil. It seemed that the world capitalist economy was on the brink of its first global runaway inflation in its history.

While many capitalist countries have experienced runaway inflation or even hyperinflation, runaway inflation has never hit the central or reserve currency. If the dollar succumbed to runaway inflation, it would drag down every other capitalist currency with it. If this ever happens, the result will certainly be the worst crisis – not excepting the super-crisis of 1929-33 – by far in the history of capitalism.

After the German papiermark collapsed in 1923, massive loans from the United States stabilized the German currency and credit system. But if the dollar had gone the way of the German papiermark, who would make the loans to the United States to reestablish a functioning currency and credit system? It was the threat of just such a nightmare crisis that Paul Volcker faced shortly after he assumed office.

The coming of the Volcker shock

The immediate task before the Volcker Fed was to break the panicky demand for gold, whatever the cost of employment and output. And under capitalism, there is only one way to do this. Interest rates had to rise and rise drastically, and then stay at extremely high levels for an extended period. Any further delay, even a delay of a few weeks – or even days – would mean that interest rates would have to rise considerably more and stay up all the longer to break the abnormal demand for gold. Without this, the necessary degree of confidence in the dollar as a national and world currency, without which the modern capitalist economy could not function, would not be restored.

The political problem

The problem facing Volcker and his Federal Reserve Board colleagues was not technical. Under a paper money system, it is not that hard for a capitalist central bank like the Federal Reserve System to raise interest rates when confidence in the currency plunges. All the central bank has to do is slow the growth rate of its token money creation, or, as was the case with the "Volcker shock," simply refrain from increasing it. The real problem facing Volcker and his colleagues at the Fed was political.

High interest rates are extremely unpopular among people of virtually all classes except for the money capitalists. If the Fed had announced that much higher interest rates were necessary – for the capitalist economy, they certainly were – and then proceeded to take the actions necessary to raise them, there would have been a huge public outcry. The demand would have been raised for Congress and President Carter to oust Volcker and take direct command of the Fed.

The neoliberal era begins

Instead, the ruling group in the United States – this was before Reagan's election – decided to dump Keynes and instead embrace the theories of Milton Friedman. By dumping Keynes, the Reagan era of "neoliberalism" in

a very real sense was already beginning, even though Reagan's election was more than a year in the future.

In contrast to Keynes and to the central bankers themselves, who, after all, are practical people, Friedman advocated a slow, steady rate of growth of the money supply, which he defined as cash not deposited in the banks plus the credit money – checking account deposits – created through bank loans.

Friedman, as a neoclassical economist, dogmatically insisted that the capitalist economy was extremely stable, abstracting the rate of change in the quantity of money. He insisted that all the real instability – the inflations, booms, and busts – that mark the actual history of capitalism was caused by changes in a single independent variable – the rate of change in the quantity of money. The University of Chicago neoclassical economics professor then went on to treat the rate of change in the quantity of money as though it were external to the capitalist system.

Under the gold standard, Friedman reasoned, changes in the quantity of money were determined by changes in the balance of payments and globally by the level of gold production. That is why Friedman supported Nixon's decision to finally end the dollar's limited convertibility into gold in August 1971 while denouncing the rest of Nixon's"anti-inflation program" as "socialist." The reason that Friedman supported Nixon's decision to finally end the dollar's limited convertibility into gold was that, as long as the U.S. Treasury's gold window remained open, a steady rate of growth of the U.S. money supply would be impossible.

But Friedman complained that the Federal Reserve Board, as a government agency, was doing a lousy job of keeping the rate of growth of the money supply stable. In the early 1930s, the Fed had allowed the money supply to contract by one-third, allegedly bringing on the Great Depression. In the 1970s, it was making the opposite mistake and was allowing the money supply to soar. Friedman held that the cycles of booms and busts would virtually disappear if only the central banks followed his advice and stabilized the rate of growth of the money supply.

Since capitalist central banks under a paper money system only really control the quantity of token money it issues – the monetary base – Friedman's theory comes down to the claim that the ratio between the broader money supply (cash plus credit money) and token money is stable, or at most changes only very gradually over long periods. It also depends on the turnover of money – the velocity of circulation – being stable.

However, the concrete history of capitalism shows that neither the ratio of the broader money supply to the monetary base nor the velocity of circulation of the currency is stable. Even if these variables are somewhat stable over periods of decades, they are certainly not stable during the different phases of the industrial cycle.

During crises, as we have already seen, the quantity of credit money contracts sharply relative to the monetary base, and the velocity of circulation slows dramatically. The classic demonstration of this occurred during the super-crisis of 1929-33. The growth rate of the monetary base accelerated just as the Friedman-defined money supply began to contract rapidly in 1931. This is all illustrated in the concrete statistical data found in the back of Friedman and Schwartz's "*Monetary History*." Friedman, the statistician, refuted Friedman, the economist.

The crisis of 2008-09 provided yet another illustration of this economic law. Though the Fed doubled the monetary base, the broader money supply grew much more slowly while the velocity of circulation declined sharply. If the relationship between the monetary base and the broader money supply had remained unchanged, the doubling of the U.S. monetary base would have caused the U.S. economy to experience triple-digit inflation in 2008 and 2009. But in reality, the general price was stable, almost unchanged.

During booms, in contrast, the supply of credit money expands rapidly relative to the monetary base as demand for bank loans soars and the velocity of circulation of the currency accelerates. Far from being the cause of the industrial – or business – cycle, fluctuations in the money supply, as defined by Friedman, are the consequences of the cycle. Friedman built his entire theory of inherent capitalist stability on this fallacy – inverting cause and effect. If there were no industrial cycles and instead only "full employment," the rate of growth of the money supply would be stable. A capitalist economy without industrial cycles crowned by periodic crises of overproduction is indeed a basic assumption of neoclassical economics and the quantity theory of money. Friedman was guilty of attempting to prove capitalist stability by assuming capitalist stability.

As a practical macro-economist and banker – not an ideologue like Friedman – the Democrat Volcker knew full well that Friedman's theories were nonsense. Volcker had only contempt for Friedman as an economic theorist who had spent his entire adult life as an ivory tower professor and, unlike Volcker, had never actually worked in a commercial or a central

bank. Volcker had done both. However, as it turned out, Friedman was very useful politically.

Friedman had his uses

During the 1970s, Friedman wrote a popular economic column that appeared in Newsweek magazine, where he was paired off against the conservative pro-business "neo-Keynesian", neoclassical economist Paul Samuelson. As the decade of the 1970s wore on, and inflation kept on accelerating, Friedman's "common sense" claim that inflation would not go away until the rate of growth of the money supply was reduced – as he explained in popular language in his Newsweek column – made him appear to be some sort of economic genius compared to the blundering Keynesians.

In contrast to the Keynesians, Friedman kept predicting – correctly – that inflation would accelerate and existing Keynesian policies would not solve the growing unemployment crisis. The University of Chicago professor kept being vindicated on these points by the course of events as the decade wore on.

Therefore, the Federal Reserve System, shortly after Volcker's appointment, decided that instead of announcing that they were going to allow interest rates to rise sharply – which was their real policy – announced that from now on, the "quantity of money" would be targeted, as opposed to short-term interest rates such as the Federal Funds Rate, as is normally the practice of central banks. The Federal Reserve leadership would then explain that since they no longer targeted interest rates, they could do nothing about the skyrocketing interest rates.

Birth of the 'Rust Belt'

As the "Volcker shock" unfolded over the next three years, unemployment soared, credit-sensitive industries such as residential construction and auto plunged into deep depression, and much of basic industry collapsed, especially in the older capitalist countries such as the United States and Britain. The "rust belt" was born, as much of the steel industry – which had been the backbone of the huge U.S. industrial machine – was shut down and the plants demolished.

Unlike the case during the Depression, when factories idled by the supercrisis were reopened as that crisis passed, this time, the plants were closed for good. The same process unfolded in Britain, the birthplace of modern industry, under the government of "Iron Lady" Margaret Thatcher.

In the United States, whole cities that had been built around heavy industry, such as Buffalo, New York, were devastated. As the old U.S. steel industry centered in Pittsburgh, Pennsylvania, all but died, the United Steel Workers union, which had represented the workers who had worked in these plants for generations, was largely wiped out.

African Americans especially hard hit by the Volcker shock

Especially from World War I onward, African Americans were able to get jobs – though they were the worst and most dangerous jobs – in heavy industry. Escaping from the dying sharecropping economy of the old Jim Crow South, they were able, with the rise of the Congress of Industrial Organizations, to gain experience in union organization – though, unfortunately, the new CIO unions were far from free of racism. At least the CIO, for all its defects, gave African American workers an arena in which to fight.

The experience gained by the African American working class in the unions prepared the way for the Civil Rights movement of the 1950s and 1960s. But the Volcker shock slammed the door that the CIO had opened for African Americans – and poor people of other races and nationalities as well. The result was ruined cities, generations of working-class youth – especially working-class youth of color – who never could get jobs, the growth of urban street gangs that lived off the drug trade, and a soaring prison population that rose over the next few decades to well above 2 million.

Paul Volcker quickly became one of the most hated men in America. "Volcker's Fed," Wikipedia writes, "also elicited the strongest political attacks and most widespread protests in the history of the Federal Reserve (unlike any protests experienced since 1922), due to the effects of the high interest rates on the construction and farming sectors, culminating in indebted farmers driving their tractors onto C Street NW and blockading the Eccles Building."

But Volcker was respected on Wall Street. Much to the chagrin of the liberal-progressive wing of the U.S. Democratic Party, he served as a senior economic advisor to President Barack Obama, who took over as president from the hated George W. Bush during the 2008-09 economic crisis.

Naturally, many well-meaning progressives wondered: What was this Wall Street favorite, the hated chief organizer of the Volcker shock, which destroyed the chances of several generations of working-class youth – especially African American youth – doing in the administration of the supposedly progressive Barack Obama?

Was there an alternative to Volcker's policies?

In volume III of "*Capital*," Marx wrote: "For the sake of a few millions of money many millions of commodities must therefore be sacrificed. This is inevitable under capitalist production and constitutes one of its beauties."

In other words, the Bank of England, to save a few millions in gold in its vaults, had to sacrifice much of the wealth of the nation – and the jobs of British and indeed workers throughout the world. Marx described this ironically as one of the "beauties" of the capitalist system.

The founder of scientific socialism, however, did not denounce the Bank of England for doing this in the way U.S. progressives denounced Paul Volcker for doing the same thing. Instead, Marx used his characteristic irony to explain how the Bank of England had no real choice under the capitalist mode of production. And that as long as the capitalist system lasts, so will this "beauty" – along with the other "beauties" of the capitalist system.

Unlike Marx, Keynesian economists, starting with Keynes himself – and many no doubt well-meaning reformers – believed that there must be a way of removing this "beauty" from the capitalist system. But the crises of the 1970s – even more than the super-crisis of 1929-33 and more than the crisis of 2007-09 – demonstrated the need to sacrifice the wealth of the world periodically – and the lives of the world's workers – to save the gold bars in the vaults of the central banks or the gold value of the currency under a paper money system.

It is a built-in feature of the capitalist system. You cannot get rid of this necessary "beauty" without the transformation of capitalist production into socialist production. This was the conclusion of the greatest economic scientist of all time, Karl Marx. Marx's finding was confirmed in practice by the crisis of the 1970s and its climax – the Volcker shock.

Therefore, the "real barbarous relic" isn't the role of gold within the capitalist monetary system, as Keynes claimed. Nor is gold the cross that weighs down on the backs of labor as the silver-tongued William Jennings Bryan proclaimed. The real "barbarous relic," the "cross" that weighs down on the backs of all those who must work, is the capitalist system of wage labor itself.

The real alternative

Under the conditions prevailing in 1979 – that is, a crisis of overproduction that had long been prevented from coming to a climax as a result of repeated "Keynesian" interventions in the economy – the only alternative to the Volcker shock was to end the contradiction between the socialization

of the process of production and the private appropriation of the product, which is the real cause of the periodic crises of overproduction.

In other words, the only alternative to the Volcker shock – and the "monetarist" policies as they were called in the 1970s in Britain, presided over by Margaret Thatcher and similar policies in other capitalist countries – would have been a socialist revolution.

However, no economic crisis, no matter how severe, can bring about a socialist revolution automatically. That was true during the super-crisis of 1929-33, and it was true during the 1970s. The socialist transformation of society must be carried out as a conscious act of liberation by the working class. Unfortunately, in 1979, neither the U.S. working class nor the global working class was anywhere near the level of organization, especially political and class consciousness that would have been necessary to carry out such a revolution.

Given this political reality – and, of course, our job as Marxists is to change this political reality – there was no alternative to the Volcker shock. Closing their eyes to reality, many well-meaning liberals and progressives who want to avoid the dangers of revolutions and the excesses that often accompany them – and unfortunately, many Marxists as well – treat Volcker's policies as some kind of horrible mistake.

According to them, Volcker and the Federal Reserve System should have expanded the quantity of token money to the extent necessary to prevent the already extremely high interest rates of August 1979 from rising further. This, they claim, would have avoided the contraction of industrial production, employment, and indeed entire industries with all the consequences that necessarily followed.

Exactly how the collapse of the dollar and the satellite capitalist currencies would then have been avoided is something that our progressive critiques fail to explain. If the progressives are correct, then Paul Volcker is one of the greatest criminals of all time. Yet far from being treated as a criminal by his "liberal" and "pro-labor" Democratic Party, Volcker was to serve as a respected elder statesman in the Democratic administration of Barack Obama.

If we claim in the face of reality that Paul Volcker made a "mistake" when he allowed interest rates to rise as high as they did, we are covering up the realities of the capitalist system. This is, of course, exactly what the professional bourgeois economists are paid to do, whether they are Austrians marginalists, traditional neoclassical marginalists, Keynesians, or Friedmanites.

However, when Marxists prettify the capitalist system – through the failure to fully appreciate and understand Marx's economic discoveries – we are betraying our mission. Our mission is to tell the truth about the capitalist system, no matter how ugly this truth is. And the truth about capitalism is very ugly indeed!

Volcker shock no mistake

The Volcker shock was therefore no mistake. It was necessary at the time to maintain the capitalist system of exploitation of wage labor in the long run. The "masters of the universe" on Wall Street know this full well, which is why, a generation later, they so respected the by then elder statesman Paul Volcker.

As Marxists, we, of course, despise the Paul Volckers of this world for devoting their considerable intellects and talents to extending the life of the capitalist system. We must, however, despise them for their real crime. Their real crime is the defense of the capitalist system despite all its "beauties."

Remember, the Volckers did not design the capitalist system or craft its beauties. If they had been able to design a system of exploitation from the ground up, we could assume, as intelligent and sane human beings, that they would have designed a more rational system. But as practical people functioning in the real world, they and their successors have had no other choice but to defend the capitalist system as it is and not a more rational system of exploitation that can exist only in the fantasies of reactionary ideologues like Milton Friedman, or in the heads of well-meaning Keynesian reformers.

The numbers tell the story

When Paul Volcker was appointed, the Federal Funds Rate was already closing in on 11%. But by the end of October, the federal funds rate had soared to over 16% as the Volcker Fed moved to keep the growth of bank reserves to a rate below the soaring rate of inflation and the consequent growth in the demand for credit defined in dollar terms.

Despite this, the dollar price of gold – the measure of the dollar's depreciation against gold – continued to soar. This shows how much Keynesian policies had "succeeded" in undermining the confidence of money capitalists in the currency. Not until January 21, 1980, did the dollar hit rock bottom at $875 an ounce.

How high would the dollar price of gold have risen – or more properly, how far would the gold value have fallen – if the onset of the Volcker shock had been postponed for a few months or even a few weeks?

On March 14, 1980, Carter imposed credit controls – that is, restricted the ability of commercial banks to sell securities for cash. This drove the Fed Funds Rate even higher. On March 28 and 29, the Fed Funds Rate soared to 19.71%! As the commercial banks halted bank loans, the supply of credit money – checking account deposits – and the "real economy" began to fall off the cliff. Since the Volcker Fed was committed to a reduced rate of growth in the money supply – not a dramatic contraction – it quickly reversed policy. President Carter, for his part, quickly canceled the credit controls.

The demand for gold broken

The super-high interest rates finally broke the demand for gold. On January 21, 1980, gold closed in London at $850 an ounce. Remember, it had been under $300 an ounce five months before. But right after Carter announced his credit controls, the dollar price of gold fell briefly below $500. The collapse of the dollar against gold was brought to a screeching halt.

As the credit controls were lifted, interest rates plummeted. By May 1980, the Fed Funds Rate had fallen below 9%. Soon, the level of economic activity, which had been falling rapidly as credit contracted, began to revive. The National Bureau for Economic Research announced that the "contraction" of 1980 was over, and a new economic expansion was beginning. Though the recession had been sharp, it was also the shortest on record, according to the NBER and the capitalist media.

However, the sharp fall in interest rates caused the demand for gold to begin to soar once again. By October 9, 1980, gold closed in London at $690 an ounce. The run into gold, briefly halted by the sky-high interest rates and recession in the spring, was gaining momentum once again as interest rates fell. The only solution available to the Volcker Fed was to restrict again the growth of its token money, which would enable the rate of interest to rise sufficiently to break the renewed rush into gold before it gained even more momentum, even if this meant that interest rates would rise above their heights of March 1980.

The Fed also had to avoid repeating the mistake – and it was a mistake – that it and President Carter had made in the spring and summer of 1980 of easing too quickly in the face of weakening economic data. Interest rates would not only have to rise sharply again, but they would have to stay up for a prolonged period. This time, however, the Carter White House stepped aside, allowing Volcker to let interest rates rise in a more orderly way than had been the case in 1980.

By mid-December 1980, the Federal Funds Rate was above 20%. By the end of December, it reached 22%, higher than it had been in March during Carter's short-lived credit controls.

Long-term interest rates tell a similar story. On March 24, the rate of interest on 10-year U.S. government bonds hit 13.17%. But on September 8, 1981, long-term interest rates rose to 15.59%. This was the price for the "premature" easing during the summer of 1980.

The NBER 'expansion' that was 'dead on arrival'

With interest rate levels like these, the "recovery" the economy had begun in the summer of 1980 had no chance of surviving. The "expansion" of 1980 was truly dead on arrival. By the fall of 1981, the NBER was forced to acknowledge that the "expansion" of 1980-81 had turned out to be the shortest in history. Of course, a one-year "expansion" does not represent a real upturn in the industrial cycle!

The rate of profit during the 1970s

It is widely understood that inflation inflates profits. If commodity prices rise between the time the production process is completed and the time the commodities are sold, profits will rise accordingly. However, if prices keep rising, more money will be necessary to carry out production on the same scale, let alone on the expanded scale that the capitalist economy requires.

Therefore, most economists assume that profits during periods of inflation, calculated in terms of currency, are partially illusory. Various attempts to adjust profits for the inflation of the 1970s have been made by economists, both bourgeois and Marxist. Among Marxists, these calculations have played a role in the attempts to document Marx's law of the tendency of the rate of profit to fall, which he developed in Volume III of "*Capital*."

The problem with these estimates is that their authors don't understand that what matters in capitalist production is not "real profits" in terms of commodities – "real purchasing power" – but profits in terms of money – that is, real – gold – money. Economically, real profits must always be measured in terms of the use value of the commodity that serves as money.

A capitalist deciding whether to expand their real capital now or wait for a more favorable moment does not have a choice of holding or investing "unchanging real purchasing power." The only choice is between holding money in some form or investing.

True, the purchasing power of money – even gold money – is a variable and not a constant. Despite this, the exchange values of commodities and

capital are always measured in terms of money. Pure real purchasing power as some sort of mathematical constant does not and cannot exist outside of the imagination of economists and statisticians.

Indeed, during periods of crisis, the fact that the purchasing power of money is not a constant but a variable is an advantage to its holders since the purchasing power of money rises. Even – and especially – during the inflationary 1970s, while the purchasing power of paper money was declining, the purchasing power of gold money increased dramatically.

When the official currency rapidly loses purchasing power, the capitalists can hold real money – gold – instead of the depreciating currency, but not unembodied, unchanging "purchasing power." During the 1970s – leaving aside the production of gold itself – holding gold was more "profitable" in terms of depreciating paper currencies than almost every other "investment," with the possible exception of holding non-reproducible works of art and other such collectibles.

During the decade of the 1970s, misers who simply hoarded gold emerged richer than those individuals and corporations who attempted to act as capitalists – that is, to expand their capital as measured in the use value of gold. As it became evident that simply holding gold – hoarding it – was the best "investment," more and more capital flowed into gold.

This explains why it took ever higher interest rates to prevent the dollar and other paper currencies linked to it from collapsing altogether. Such a trend cannot last for long under capitalist production. Capitalism could not have continued if it had not returned to profitability on a gold basis. A capitalism where, in the long run, simply hoarding gold is more "profitable" than actually carrying out capitalist production in order to produce additional surplus value is not a sick capitalism; it is a dead capitalism.

During the 1970s, the capitalist economy was operating at a loss in real money – gold. This does not mean that workers were not producing surplus value any more than the massive losses in U.S. dollars in the early 1930s meant that workers weren't producing surplus value back then. In both cases, it meant that though surplus value was being produced, it wasn't being realized in terms of real money. This is why the Volcker shock was absolutely necessary if the capitalist system of production was to continue.

What really happened during the 1970s?

As both interest and inflation rates soared during the 1970s, Keynesian economists tried to comfort themselves with the thought that while nom-

inal interest rates were climbing, the "real" rate of interest was below zero. Therefore, even if the monetary authorities couldn't control the nominal interest rates, they could, the Keynesians argued, still control the "real" rate of interest. And, they argued, isn't it the real rate of interest – the rate of interest in terms of commodities as opposed to money – that matters?

However, when inflation fell dramatically during the Volcker shock, nominal interest rates remained stubbornly high. The long-term rate of interest on government bonds, for example, didn't fall below double-digit levels until 1985! Suddenly, it wasn't only nominal interest rates that were very high; it was "real" interest rates. Interest rates in terms of commodities were extremely high, as well as the interest rate in terms of real money - gold.

This was all the more ironic because Keynes had predicted that interest rates would fall toward zero as "scarcity" vanished and the rentiers would be "euthanized." But that was not how things were working out. The era of "financialization," when the money capitalists – Keynes's rentiers – were to thrive like never before, was dawning.

Price, profit and gold production in the 1970s

Earlier, we saw that the growth in world gold production, which was slowing sharply in the late 1960s, started to drop in 1970 when commodity prices in terms of gold – not just paper dollars – experienced a final spike. The very brief success that the government and the Federal Reserve System had in driving the dollar price of gold back to $35 an ounce without any deflation in the nominal price level meant that prices in terms of gold had now reached the highest levels since the immediate post-World War I period.

Even the slave-like conditions of apartheid that prevailed in South Africa, then the leading gold bullion-producing country, which had kept profits in the industry artificially high, could no longer keep profits high enough to prevent gold production from entering its first sustained decline since the end of World War II.

When the Fed and the other central banks tried to continue stimulating the economy by holding down the interest rate by increasing the rate of growth of their token money, the price of gold in terms of the various paper currencies soared. Between 1970 and January 1980, the dollar price of gold rose from $35 an ounce to $875.

As long as there were huge reserves of idle money capital left over from the Depression, long-term interest rates remained very low. Under these conditions, Keynesian economics seemed to work well. But, under the eco-

nomic conditions that prevailed after the Depression and World War II, the global capitalist economy would have been expected to expand rapidly even without Keynesian policies. If Keynesian policies had not been followed, crises like the one that began in 1957 would have been sharper and cyclical swings greater, but interest rates would in the long run have been lower, and the long-term growth of the capitalist economy would have been higher.

As the industrial cycle resumed from 1948 onward, real capital began to expand more rapidly than the world's supply of monetary gold. The result was a gradual tendency for interest rates to rise. Interest rates still rose in booms and fell during recessions, but they rose more in booms than they fell in recessions.

Since interest rates were initially extremely low due to the Depression and the prolonged halt in expanded reproduction that lasted through World War II, interest rates were well below the rate of profit in the early post-war period, which was also the early post-Depression period. They could rise for some time before they threatened to wipe out the profit of enterprise – which forms the real incentive to produce surplus value. As long as these conditions prevailed, the Keynesian policies of weakening recessions or even postponing them by cutting interest rates and increasing demand through government deficit spending could work.

But even during the heyday of Keynesian economics, the secular rise in long-term interest rates indicated that it was only a matter of time before the efficacy of Keynesian policies would end. By the end of the 1960s, as the boom, intensified by the expansionary Kennedy-Johnson tax cut and the Vietnam War, accelerated the rise in prices in terms of gold, gold production first stagnated and then, after 1970, declined.

If the rules of the gold standard in any form – including the rules of the Bretton Woods dollar-gold exchange standard – had been followed, the result would have been a classic deflationary depression. Such a depression on the backs of the workers and other toilers would have sharply lowered long-term interest rates and thus set the stage for a new series of "expansionary" industrial cycles.

The combination of falling prices, which would have increased the quantity of gold money in purchasing power terms, combined with the rise in both the relative and absolute profitability of gold mining and refining industries, would have increased gold production and thus, over time, increased the quantity of gold in terms of weight as well. This would have created the conditions for a new expansion of the world market and a new

upsurge in capitalist production, always assuming that the political rule of the capitalist class would have survived.

In a classic depression – one without Keynesian intervention – the stagnation in the accumulation of real capital, combined with rising gold production, reduces the ratio of real capital to gold. That, in turn, leads to lower interest rates. More of the surplus value goes to the industrial and commercial capitalists in the form of the profit of enterprise and less to the money capitalists in the form of interest. All of this encourages a rise in investment when the economy recovers, just as it did after World War II.

The high unemployment of depression also leads not only to lower money wages. It leads to a rise in the rate of surplus value. Not only does a greater mass of the surplus value go to the industrial and commercial capitalists in the form of the profit of enterprise, but the total mass of surplus value also increases. This acts as a powerful counter-tendency to the tendency of the rate of profit to fall. One, it counteracts the tendency of the rate of fall by increasing the rate of surplus value. Two, it encourages the industrial capitalists to employ cheap variable capital as opposed to constant capital, thereby slowing the rise in the organic composition of capital. In this way, the law of the rate of profit to fall is transformed into the law of the tendency of the rate of profit to fall.

The policies of the Keynesians did change the form of the economic crises somewhat. Instead of deflation of prices in terms of currency, there came the "deflation" of the value of a currency in terms of gold and the resulting inflation of prices in terms of depreciated currency, combined with unprecedented interest rates, as the money capitalists progressively lost confidence in paper currencies.

On two occasions, first in 1973-74 and then in 1979-1980, panicky flights to safety in gold led not only to extreme inflation but violent recessions that finally drove even the official unemployment rate in the United States above 10% by late 1982. In Western Europe, too, unemployment reached levels characteristic of the post-World War I period rather than the "full employment" of the early post-World War II years.

While some of the "third world" countries – and also the Soviet Union, which was a major oil producer – had benefited from the high prices of primary commodities during the 1970s, they were hard hit by the Volcker shock. They were squeezed between the rising interest rates on the high debts they had contracted during the inflationary period and the falling prices of the primary commodities they sold.

From the 1970s to the 'Great Moderation'

Many Marxists during the 1970s assumed that the inflationary conditions with frequent and increasingly severe recessions would simply continue, just as many economists, both bourgeois and Marxist of an earlier generation, had assumed the Depression conditions of the 1930s would continue or resume after World War II.

Similarly, many bourgeois and Marxist economists had assumed that the prosperity of the 1950s and 1960s, thanks to new Keynesian economic policies, would continue indefinitely. But the "stagflationary" conditions of the 1970s did not prove any more permanent than the Depression conditions of the 1930s or the postwar prosperity of the 1950s and 1960s had been.

Indeed, the fact that during the 1970s, the capitalists could not make profits in terms of gold meant that the stagflationary conditions of that decade could not possibly have continued for much longer. These conditions were brought to an abrupt end by the Volcker shock of 1979-80, giving way to a new and very different period, commonly referred to as the "Great Moderation," which will be the next chapter's subject.

The level of gold production during the 1970s

As anybody who has studied the history of the 1970s knows, prices in terms of dollars – and other paper currencies – rose sharply. But though prices in terms of paper currency rose sharply, they had not risen nearly as fast as the gold value of the dollar, and the other paper currencies more or less linked to it had fallen.

Therefore, already in the wake of the crisis of 1974-75, prices in terms of gold were considerably lower than they had been in 1970. If you look at the trend line in world gold production, you will notice that after declining for about five years in the first half of the 1970s, gold production bottomed out, though it remained depressed compared to the peak of 1970.

Ironically, the effect of the highly inflationary recession of 1974-75 on gold production was similar to the effect of the highly deflationary recession of 1920-21. The deflation of 1920-21 halted a sharp decline in gold production, though gold production remained depressed relative to the previous peak around 1915 until the super-crisis of 1929-33 stimulated it anew. While the recession of 1974-75 was highly inflationary in paper money terms, it was highly deflationary in gold prices.

However, the decline in gold prices brought about by the 1974-75 crisis was not enough to turn gold production decisively upward. This took a new

crisis within the crisis, which erupted beginning in 1979. This, too, brought an even greater surge in paper money prices and an even sharper deflation in terms of gold prices.

The result was that the profitability of the world gold mining and refining industry, both relative to other industries and absolutely, soared. The gold industry was the great exception to the lack of profitability of capitalist production during the 1970s. Not surprisingly, beginning with the 1979-82 crisis, global gold production began a prolonged upward movement that was to continue until the turn of the 21st century.

At the beginning of the prolonged crisis in March 1968, I showed how the prices of commodities in terms of gold had risen above the underlying labor values of commodities. By the early 1980s, the prices of commodities in terms of the money commodity, gold – the commodity that measures the value of all other commodities in terms of its use value – were now well below the values of those commodities.

Behind the scenes, the law of value of commodities had once again asserted itself.. With respect to the fall in market prices measured in terms of gold bullion, the situation resembled the bottom of earlier periods of deep crisis. But in one respect, the level of interest rates, the situation was the exact opposite of earlier crisis bottoms.

By dramatically lowering the prices of commodities in terms of gold – though, of course, not paper currency – the prolonged economic crisis that raged with varying degrees of intensity from March 1968 to the end of 1982 had acted as a classic depression. The paper money inflation in prices had simply hidden the deflation in terms of gold.

But in terms of the rate of interest, the division of the profit between the money capitalists on one side and the industrial and commercial capitalists on the other, the results were virtually the opposite of a classical depression.

For example, in March 1968, at the beginning of the protracted crisis that extended through the decade of the 1970s into the 1980s, the yield on 10-year government bonds was about 5.57%. In January 1983, at the end of the prolonged crisis, the rate of interest on 10-year bonds was hovering around 10.5%! It wasn't until August 1993 that the yield on the U.S. 10-year government bond finally fell below the levels that had prevailed in March 1968, more than a quarter of a century before.

CHAPTER 32:
The Reagan Reaction and the Coming of the 'Great Moderation'

After World War II, the Keynesian reformers took unjustified credit for the postwar economic upswing. During the reactionary 1980s, it was the turn of the extreme right-wing governments that had come to power in Britain in 1979 and the United States in 1981 to take unjustified credit for the end of the protracted economic crisis of 1968-1982.

These right-wing governments attempted to take back as many concessions as possible that had been won by the working class after World War II. At first, the policies of the new reactionary governments were called "monetarist"; later, they were called "neoliberal" for reasons that will become apparent below.

As we saw in the last chapter, the monetarist, or neoliberal, era in the United States began with the appointment of Paul Volcker as chairman of the Federal Reserve Board by the Democratic administration of Jimmy Carter in August 1979. The post-World War II reformist era had been made possible by the generally expansionary economic conditions combined with what for capitalism was an unusual lack of currency and banking crises.

As we have seen, this era of rapid economic growth and stable financial conditions was part of the aftermath of the super-crisis/Great Depression era. Ordinary economic crises and the depressions that follow in the economic sense temporarily stabilize the capitalist system, and the super-crisis of 1929-33 and the resulting Depression did the same thing but on a "super" scale.

Therefore, it was the super-crisis/Depression itself – not New Deal-inspired financial regulations or the post-World War II Bretton Woods monetary system – that were responsible for the unusual lack of banking and currency crises. This also explains the lack of deep, prolonged slumps in production, employment, and world trade, and the overall high level of eco-

nomic growth in the real economy. The collapse of the London Gold Pool in March 1968 marked the end of this early post-World War II era of capitalist prosperity and financial stability.

The Rise of Thatcher and Reagan

Attempts during the 1970s to re-launch the post-World War II capitalist prosperity through Keynesian methods – deficit spending and monetary expansion – repeatedly failed. This was the economic basis for the new era of reaction that was symbolized but not caused by the election of Ronald Reagan in the November 1980 U.S. presidential election and the rise to power of Margaret Thatcher in Britain in 1979 with her "there is no alternative" slogan (TINA).

What Thatcher meant was that there was no "Keynesian" alternative to her reactionary monetarism as long as the British pound was plunging in value both against gold and even against the falling dollar on world currency markets. The attempts during the 1970s to pull Britain out of its economic decline through Keynesian policies had even more dismal consequences in the form of skyrocketing inflation and interest rates than similar policies had in the United States.

Therefore, the non-Marxist British Labour Party and the non-Marxist British left in general, which based itself on the economics of Keynes rather than Marx – and even the Tory "wets" (members of the British Conservative Party who opposed some of the more hard-right policies of Thatcher) – no longer represented a viable alternative to Thatcher's policies of currency stabilization. Thatcher's "stabilization" policies were carried out at the expense of the working class and its allies for the benefit of the capitalist exploiters.

Monetarism and the Volcker Shock

The Volcker shock, in essence, involved a brutal, but for the capitalist system absolutely necessary, radical rise in the rate of interest that was required to restore confidence in the dollar and its satellite paper currencies. It was presented to the public, however, as the adoption of the policies of Milton Friedman, whose theories supposedly corrected the mistakes that the Keynesian economists had made.

In the 1950s and 1960s, Friedman was considered a right-wing fringe theorist because of his opposition to then-dominant mainstream Keynesian economics. But as economic conditions worsened after 1968, Friedman moved from the fringe to the mainstream.

Friedman claimed that the capitalist economy would avoid sharp swings in the industrial cycle if the rate of growth of the "money supply" – legal tender token money in the hands of the non-bank public plus commercial bank--created credit money – were stabilized. If this were done, Friedman and his supporters held, the contractions of the money supply that had marked classic pre-World War II crises, on one side, and the "stagflation" of the post-1968 years with its rising prices – in terms of paper money – growing unemployment and rising interest rates, on the other, would now be avoided.

Friedman's Alternative to Keynesianism

In contrast to Keynes, the Friedmanites also claimed that there was no need for expansionary fiscal policies, such as public works programs or even extended unemployment insurance, to combat the effects of mass unemployment caused by recessions. Unlike Keynes, who feared that long-term mass unemployment would turn the working class and even large sections of the middle class against the capitalist system, Friedman claimed that as long as the money supply kept growing at a slow but steady pace, a prolonged deep economic depression and its associated mass unemployment was impossible.

Unlike the Keynesians, who see unemployment as caused by a lack of monetarily effective demand for commodities, the monetarists claimed that the growing unemployment of the 1970s was caused by what they called the "high natural rate of unemployment." The only way to lower unemployment's "natural rate" was to cut back social insurance, bust the labor unions, repeal minimum wage laws, and so on. The more this was done, the supporters of Friedman claimed, the more the "natural rate of unemployment" would fall toward zero.

Such policies, along with the steady growth rate of the money supply – which, according to Friedman, requires a paper money system, not any form of gold or gold-exchange system – would bring permanent "full employment" without serious inflation or deflation. By upholding the system of paper money – especially as implemented in practice – the monetarist policies represented a kind of right-wing "corrective" to mainstream Keynesianism rather than a full return to classical economic liberalism, which was based on the pre-1914 international gold standard.

The 'Great Moderation'

Between 1983 and 2006, there were only two "contractions" in the U.S. economy, according to the National Bureau of Economic Research, one in

1990-91 and another in 2001. The official statisticians claimed both were "brief and mild." In many European countries, statisticians reported that there was only a period of slow growth rather than an actual recession.

With so few recessions – and generally mild recessions at that – for over a quarter of a century, you would think that the 1983-2006 period would be one of great capitalist prosperity. In reality, 1983 to 2006 was an era of profound decline for the economies of the United States, Western Europe – not to speak of Eastern Europe after 1989 – and Japan.

Nor were the two major cyclical downturns of the Great Moderation, one in the early 1990s and the other between 1997 and 2003, as brief and mild as bourgeois economists claim.

The Early 1990s Downturn

In the early 1990s, the U.S. experienced the collapse of the savings and loan home mortgage financial system and a resulting major real estate crisis. The early 1990s downturn in the industrial cycle hit the Nordic countries of Europe, especially Finland, extremely hard. These countries experienced major banking and currency crises.

In Finland, official unemployment rose above 16%, and the GDP dropped by more than 10% over three years. Ironically, the recession of the early 1990s was more severe in the Nordic countries than it was elsewhere because the economy of Finland was extremely hard hit by the dismantling of the economy of the Soviet Union under Gorbachev and Yeltsin. As a result, Finland's trade with what had been the Soviet Union declined by 70%.

While newly capitalist Russia continued to languish in a deep depression caused not by cyclical factors but by the transformation from a higher mode of production – the socialist beginnings represented by the state-owned Soviet planned economy – to a lower mode of production – capitalism – the economy of capitalist Finland bounced back after "only" three years of deep economic crisis.

The Late 1990s Crisis

The next capitalist economic crisis, which began in July 1997 with the devaluation of the Thai baht, was both protracted and, in some countries, extremely severe. However, the United States, Japan, and especially Western Europe were able to dodge the worst of that particular crisis.

In Argentina, the crisis in 2001 was arguably worse than the crisis of 1929-33 in the United States and Germany. However, no imperialist country experienced a banking or currency crisis during this downturn. The curren-

cy and banking crises and their associated deep depressions were confined to the oppressed countries.

The U.S. seemed to come close to a major credit crisis in September 1998, when the giant Long Term Capital Management hedge fund was on the brink of collapse and had to be bailed out by the Federal Reserve Bank of New York. As a result, U.S. credit markets briefly seized up. But in contrast with what was to happen in 2007, this credit market crisis quickly passed.

Stock Market Volatility

Though the period between 1983 and 2006 saw dramatic stock market gains, two major stock market crashes occurred. One was the short-lived but violent stock market panic of October 1987, and the other saw the U.S. NASDAQ high-tech stock index lose more than half its value during the so-called "dot-com" crash that started in March 2000.

On March 9, the NASDAQ closed at 5046.86. This peak was not surpassed until it closed at 5056.06 on April 23, 2015, more than fifteen years later. The economy of Silicon Valley, located in northern California, had not fully recovered from the aftermath of the dot-com crash when it was engulfed in the "Great Recession."

The early 2000s recession saw the giant swindling Enron energy trading company collapse in December 2001. The fiber-optic industry was devastated by massive overproduction during 2000-2003, leading to major corporate bankruptcies.

Therefore, in contrast to the stability of the 1948-1968 period, which saw few currency and banking crises or major corporate bankruptcies, the global financial and banking system was far less stable during the 1983-2007 Great Moderation, and overall global economic growth was lower.

However, compared to the super-crisis of 1929-33 and the "stagflation" crises of the 1968-1982 period, which threatened on two occasions – 1973-74 and even more in 1979-80 – to bring down the currency and credit system of the entire capitalist world, the Great Moderation of 1983-2006 was indeed an era of relative capitalist economic stability and prosperity.

Despite the stock market crash of 1987 and the turn-of-the-century dot-com crash, the Great Moderation era saw the greatest boom in stocks and bonds in the history of the capitalist world. If you were a money capitalist – like most of the "opinion makers" and financial "experts" who write for the capitalist press – 1983-2006 was the greatest period of prosperity the world had ever seen.

No 'Great Boom' in the Real Economy

However, if you look at the "real economy" – especially the sphere of factory employment – you get a quite different picture. A look at the trend of factory employment in the United States, the leading capitalist country in those years, tells the story.

From the War of "Independence" at the end of the 18th century – which marks the birth of industrial capitalism in the United States – to 1979, with cyclical ups and downs, factory employment showed a secular upward trend. True, since factory employment is very sensitive to changes in the industrial cycle, such employment always dipped during periods of sharp crises and lesser recessions, but it always rose to new highs when economic growth resumed.

This held good even for the super-crisis and Depression of the 1930s. After the Depression ended, factory employment rose well above the levels of the 1920s and stayed there. It did show a fall from the extraordinarily high level of the World War II war economy when workers – many of whom were women – who were not in uniform were pressed into the factories to make means of destruction. But after the "re-conversion crisis" of 1945, factory employment resumed its secular rise, falling during recessions but rising more during expansions.

The Long-Term Decline in Factory Employment and the Decay of Capitalism

After World War II in the United States and other highly industrialized capitalist countries, the percentage of factory workers declined, a tendency that had begun to appear in Britain even before World War I. This reflected a dramatic decline in the farm population first in Britain and then in the United States and other imperialist countries. As capitalism develops, the number of factory workers grows relative to small farmers or peasants but drops relative to the broadly defined "service workers" category.

As long as small farmers or peasants formed a large percentage of the population, the number of factory workers grew relative to the entire population. However, once the small farmer/peasant portion of the population fell below a certain level, the percentage of factory workers in the total population starts to decline relative to the percentage of service workers. However, even after this happened, the number of factory workers continued to rise in absolute terms, falling temporarily only during recessions.

The Unprecedented Decline During the Great Moderation

Despite only two official NBER "contractions" in the U.S. economy and perhaps one official recession in many European countries over the 23 years from 1983 to 2006, factory employment fell more during recessions than it rose during NBER expansions. For example, in the United States, the three official NBER "expansions," two of which were "the longest expansions of record," according to the NBER, factory employment eroded during expansions and plunged during the two official periods of "contraction" recognized by the NBER.

Indeed, long stretches of the NBER "expansions" were characterized by falling factory employment. Factory employment behaved over large stretches of NBER "expansions" of the Great Moderation more like it did during pre-1979 NBER "contractions."

During the final official expansion of the Great Moderation – 2001 to 2007 – factory employment increased for only a small fraction of the expansion. Across the entire expansion, U.S. factory employment declined considerably.

This is even true if we take the more realistic dates of mid-2003 to mid-2007 for the last upswing of the industrial cycle during the Great Moderation. As a result, even before the crisis that started in 2007 began, official employment in manufacturing in the U.S. was the lowest since the late 1940s. On the eve of the 2007-08 Great Recession, the entire growth in factory employment that had occurred during the post-1948 prosperity had been wiped out!

If we use the criteria of total factory employment, the recession that began with the Volcker shock in 1979, despite some fluctuations, has never ended but has continued to deepen. The 45-year, and counting, recession in U.S. factory employment stands in the sharpest contrast to the unparalleled performance of U.S. and world stock and bond markets between 1982 and 2007!

Global Trends

These trends were not unique to imperialist countries. The economies of Latin America generally experienced slower growth than they did before the Volcker shock. Indeed, some countries, such as Argentina, that have often been described as "semi-industrialized" experienced drastic economic decline during the Great Moderation. Throughout the Great Moderation, Africa remained an economic disaster zone.

The Rise of China

The great exception to the semi-stagnation of the Great Moderation was Asia, where in some countries, economic growth since 1983 has been considerable and in a few dramatic. This has been especially true of China since the Deng Xiaoping-led government opened up China to outside capitalist investment and began to encourage the expansion of Chinese-owned capitalist enterprises after 1978.

The growth of capitalist industry and exploitation has been nothing short of spectacular. As a result, the China that celebrated the 60th anniversary of its great revolution in 2009 was not only unrecognizable compared to the China of 1949 but even the China of a decade earlier.

The dismal performance of the "real economy" between 1983 and 2006 – China and a few other mostly Asian countries excepted – forced the capitalist media to boast not about the "unparalleled boom" as they did in previous periods of long-term capitalist upswing but only about a "great moderation."

In long-term capitalist upswings of the past, such as the mid-Victorian boom between 1848 and 1873, the years from 1896 to 1913, and – after World War II – 1948 to 1968, factory employment grew in all capitalist industrial countries. True, output grew much faster than the growth in factory employment due to the rising productivity of labor that characterizes the entire history of capitalism. But before 1979, while industrial production grew much faster than factory employment due to the rise in the productivity of labor – and the growth in the organic composition of capital – factory employment had always grown in absolute terms.

While the growth of labor productivity has been considerable over the last 30 years, and as a result, the performance of factory output has certainly not been as dismal as factory employment, there is no indication that the growth in the productivity of labor has been faster since 1979 than it was in the pre-1979 era.

Certainly, there is not enough difference to account for the decline in factory employment in so many capitalist countries. The Volcker shock that began under Democrat Jimmy Carter in 1979 marked a major watershed in modern economic history, perhaps in the long run more important than the year 1929, which saw the beginning of the super-crisis.

Why Did Factory Employment Decline?

We can explain the post-1979 decline of factory employment as due to the "decline of capitalism." But this is no real explanation. It's like saying that

factory employment in the United States and other imperialist countries dropped because the number of factory workers declined in those countries.

We, as Marxist economic scientists, must answer why this unprecedented, prolonged decline in factory employment occurred. And will factory employment continue to decline in the future?

What we say below is tentative because we are exploring a new phenomenon in the history of capitalism. In the past, many Marxists, and even more so bourgeois economists, had gone astray by proclaiming relatively prolonged but ultimately temporary deviations from the long-term path of capitalist development as permanent, only to be confounded when capitalism resumed its "normal" path.

As is always the case when confronting a new phenomenon, we should always "consult" Marx. Marx was not a religious prophet who had a lifeline to the almighty. But he often gives us valuable clues that help us analyze new phenomena in capitalist development and decay.

There are many reasons to suspect the long-term decline in factory employment in many capitalist countries is closely related to two other phenomena that have characterized the last 30 years. One is financialization – what John Bellamy Foster of Monthly Review has called the rise of "monopoly-finance capital."

Closely connected to this has been the rise of the dollar standard, which replaced the old dollar-gold exchange standard of the early post-World War II era. In this and the following chapter, we examine financialization and the "paper dollar" standard that replaced the gold-exchange Bretton Woods system in the early 1970s. Both developments are crucial in understanding the current condition of the world capitalist economy and its future evolution.

Aftermath of the 1968-82 Crisis – The Rise of 'Financialization'

At the end of the prolonged crisis of 1968-1982, the U.S. and world economies differed in one important sense from the situation that followed a traditional capitalist economic crisis. Typically, in the wake of a major economic crisis, interest rates, both short-term and long-term, are far lower than before the crisis.

This was particularly true in the wake of the Depression of the 1930s. At the end of the Depression era in 1940, the interest rate of return on Aaa (lowest risk) corporate bonds was 2.84%. In 1946, after the end of the World War II war economy, the return of Aaa bonds was even lower at 2.53%. It was only from 1946 on that normal expanded capitalist reproduction resumed.

As it turned out, 2.53% was to be the lowest interest on corporate Aaa bonds until the end of the series, which runs from 1933 to 2010. The very low long-term interest rates were important in launching the post-World War II protracted capitalist prosperity.

Due to the fifteen-year breakdown of expanded reproduction due to the Depression and World War II, combined with rising gold production during the 1930s, interest rates, both long-term and short-term, were at the lowest levels in the history of capitalism up to that time. These low interest rates, combined with a high rate of profit, were the conditions that made possible postwar World War II capitalist prosperity.

The Role of Interest Rates

A low long-term interest rate encourages some money capitalists to become industrial or commercial capitalists and in general encourages the spirit of enterprise. In referring to industrial and commercial capitalists, I am not simply referring to individual money capitalists who might be tempted to try their luck at becoming industrial and commercial capitalists, though this does play a role. Since the end of the 19th century, the world capitalist economy has been increasingly dominated by corporations – associations of money capitalists – that act collectively as individual industrial and commercial capitalists.

Individual holders of shares in industrial and commercial corporations can be said to function as money capitalists insofar as they invest money capital—M—in the shares with the expectation of "earning" a return in the form of dividends and/or capital gains, thereby realizing an augmented money capital—M'. The difference between M' and M earned by stockholders is equivalent to the accrued interest "earned" by holders of corporate bonds plus the capital gains to the extent that the price of the stock rises on the stock exchange.

The main difference between the two types of "moneyed" capital is that the return on shares is variable, whereas the return on corporate bonds is fixed.

Money Capitalists and Industrial Capitalists and Commercial Capitalists

While there are pure money capitalists, there are no pure industrial or commercial capitalists. Marx explained that every industrial and commercial capitalist is also a money capitalist, just like every industrial capitalist is a dealer in commodity capital – a merchant capitalist. We can see why this is so if we look at the basic formula of industrial capital: M→C...P...C'→M'.

The process always begins with M. Unless our industrial capitalists work entirely with borrowed capital, they must also be money capitalists – owners of capital in the form of money. This is why industrial capitalists are entitled to the interest on their own – but not on borrowed – capital.

In the unlikely event that our industrial capitalists are working entirely with borrowed capital, if the business is successful, we would expect them to transform some of the profit of enterprise into new capital during the next expanded cycle of production. They will thus become the owners of this new capital in the form of money and will, to that extent, become money capitalists.

The same is true of commercial capitalists. There, the commercial or trading capital cycle is expressed by the formula M→C→M' where C is commodity capital. The trading capitalists begin with a sum of money – money capital – then transform it into commodity capital – commodities that contain unrealized surplus value. They buy the commodities at a price that does not fully realize the surplus value embodied in them and then proceed to sell them at a price that does fully realize the surplus value the commodity capital contains.

In this way, the commercial capitalists get their slice of the surplus value produced by the unpaid labor of the working class. Therefore, the trading capitalist is also, to a certain extent, a money capitalist, except when the trading capitalist works with entirely borrowed capital.

Corporate-dominated Monopoly Capitalism

This becomes even truer as industrial capitalism evolves into corporate-dominated monopoly capitalism. Modern non-financial corporations – industrial and commercial corporations – are careful never to allow any cash they have to lie idle. If they cannot immediately transform idle cash into productive capital in the case of industrial corporations, or into commodity capital in the case of commercial corporations, they invest it in various interest-bearing securities.

By doing this, they act as money capitalists, not industrial and commercial capitalists. Everything remaining equal, the more that capitalist production and trade fall under the control of large corporations, the more the industrial and commercial capitalists will function as money capitalists as well as commercial or industrial capitalists.

The Long-Term Tendency of the Rate of Interest

As we know, the rate of profit has a long-term tendency to decline. Leaving aside ground rent, if the division between the profit that goes to the

industrial or merchant capitalist remains stable, the rate of interest would have a tendency to decline with the rate of profit.

However, because as capitalism develops an increasing number of capitalists cease to be active capitalists and become money capitalists, an increasing quantity of the total social capital is invested on the money market – rather than being transformed directly into merchant or productive capital. This creates a tendency for the rate of interest to fall independently of the fall in the rate of profit. Even more than the rate of profit, the long-term tendency of the rate of interest is downward.

In addition, not only individual capitalists can transform themselves from active capitalists into money capitalists. The collective capitalists called corporations can do exactly the same thing. The extent to which "non-financial" corporations act as money capitalists instead of industrial and/or commercial capitalists varies with the stage of the industrial cycle and the interest rate.

If, for example, business is stagnant, corporations will tend increasingly to invest their growing cash revenues that cannot be immediately transformed into productive or commodity capital in low-yielding securities such as government bonds or short-term Treasury notes.

If, however, business is expanding vigorously – that is, the process of capitalist expanded reproduction is proceeding with great vigor – the "non-financial" corporations quickly transform any money that passes through their hands into productive or commodity capital. When the corporations do this, they reduce the supply of money loan capital, driving up the rate of interest. This is one of the reasons that interest rates rise during the boom phase of the industrial cycle.

Profit, Interest, and the Profit of Enterprise

Another factor determining to what extent the corporations – and non-corporate capitalists – act as industrial and commercial as opposed to money capitalists is the relationship between the rate of interest and the rate of profit. If the rate of interest is low while the rate of profit is high, any industrial or commercial corporation incurs a high "opportunity cost" if it invests its capital in low-yielding securities, which yield at best the average rate of interest, rather than investing it in its industrial or commercial business, which yields the average rate of profit.

If it invests in low-yielding securities during periods of brisk business, it will be losing out on opportunities to appropriate the profit of enterprise.

Under these conditions, industrial and commercial businesses can transform their money capital into real – productive or commodity – capital. They will hold only the smallest possible balances of money – or interest-bearing – capital. If they don't do this, they will incur significant "opportunity costs" in terms of the profit of enterprise not obtained, and losing market share to competitors, which leads to the decline of the business and its eventual collapse.

High Rate of Profit and High Rate of Interest

But what about a situation where both the rate of profit and the rate of interest are high? Suppose the rate of profit is high, but all the profit goes to interest and not the profit of enterprise. Assume the rate of long-term interest is 12% and the rate of profit is also 12%. Though the rate of profit is a high 12%, the profit of enterprise is 0%.

In this situation, it makes no sense for industrial capitalists to borrow money at 12% if they only expect to make a profit of 12%. If the industrial capitalists work with borrowed capital under these conditions, they will realize no profit.

But even if working entirely with their own capital, if the industrial capitalists expect to make only a 12% rate of profit, it would be much less risky to let the business decay and invest cash revenues in government bonds or other low-risk long-term securities.

As Marx explained, in the long run, the rate of interest must be lower than the rate of profit. If it isn't, industrial capital decays as the production of surplus value grinds gradually to a halt. But if such a process unfolds, it will unleash the forces that will inevitably reduce the rate of interest over time until once again the rate of interest is below the rate of profit, restoring a positive profit of enterprise. This, in a nutshell, is Marx's theory of interest.

In the last chapter, we saw that the capitalist economy cannot exist for long if the rate of profit in terms of gold is negative. It cannot exist if simply hoarding gold is more "profitable" than industrial investment.

It is also true that capitalism cannot exist in the long run in a situation where the rate of interest is not below the rate of profit. If the rate of interest is equal to or higher than the rate of profit, the very incentive to produce surplus value is destroyed. Real capital will contract, but the very contraction of real capital will bring about a fall in the rate of interest until it is once again below the rate of profit.

The Long Shadow of Keynesian Economic Policies

We can now see that the Keynesian economic policies of the 1950s and 1960s, though they did for a while reduce the intensity of cyclical crises, caused severe long-term damage to the capitalist economy that extended far beyond the Volcker shock. It was, after all, Keynesian economic policies that preceded the Volcker shock and not the Volcker shock itself that was responsible for the long reign of high interest rates.

This is shown by the fact that from the end of World War II to the Volcker shock, interest rates kept rising on a secular basis. But after the Volcker shock, both long-term and short-term interest rates fell for a generation.

The Dollar Paper Money Standard

While interest rates finally began to fall after the Volcker shock, they remained far above the historical levels for a prolonged time. In the wake of the Volcker shock, currencies were stabilized, but the money capitalists wondered how long the stabilization would last.

After the Volcker shock, the U.S. government rejected suggestions to restore the gold standard – even though President Ronald Reagan was said to favor it personally. Instead, the administration limited itself to continuing to allow U.S. citizens to own monetary gold; a ban on owning it was imposed by Franklin Roosevelt in 1933 and then lifted by President Gerald Ford in December 1974.

The coining of gold bullion produced in the United States was resumed at various mint prices. For example, the mint price for an ounce of gold was $50. However, since the mint price of these new gold coins was far below the market dollar price of gold bullion, these bullion coins were used for hoarding only, though they were formally legal tender currency. Commodity prices and debts continued to be expressed in terms of legal-tender paper dollars and not the new gold dollars.

Both Keynesians and Friedmanites Opposed a New Gold Standard

During the Great Moderation, bourgeois economists – not only Keynesians, who were now much reduced in numbers and influence, but also "monetarist" followers of Milton Friedman – continued to believe that prices in terms of currencies should never be allowed to fall. This was incompatible with a new gold or gold-exchange standard.

The new consensus among bourgeois economists was that the Keynesians had gone much too far in the late 1960s and the 1970s in believing that

it would be possible to eliminate the "business cycle" entirely – or almost entirely – through government deficits financed by paper money created by the "monetary authorities." In the future, the aim of a "stabilization policy" should not be to eliminate the business cycle but simply to keep it within "moderate" limits.

According to the consensus view that developed in the years of the Great Moderation – except for the "Austrian school," which is not taken seriously in policy-making circles – in the past, under the gold standard or gold exchange standard, the "monetary authorities" had their hands tied and therefore in a crisis were not able to create sufficient money to prevent the business cycle from leading periodically to deflation, panics, and severe depressions with their resulting unemployment crises.

In the 1970s, the new gospel went, governments and monetary authorities had gone to the opposite extreme, believing that they could eliminate the business cycle if only they issued money in sufficient quantity whose quantity was no longer limited by the discipline of a gold or even a gold-exchange standard. This caused the monetary authorities to balloon the "money supply," which brought the capitalist economy to the brink of runaway inflation and disaster. A middle course should be followed in the future to avoid both extremes.

The early postwar promises that in the future, capitalism would experience permanent "full employment" if only it were given another chance were, in effect, withdrawn. Instead, there was the more limited promise that a depression would never again be allowed to spiral out of control, such as what happened in the 1930s.

However, without the "discipline" of a revived gold standard in some form, the money capitalists feared that the devaluation of the paper currencies would resume sooner or later. There had been brief "stabilizations" of the dollar between 1968 and 1982, after all. But the depreciations quickly resumed. Why would it be any different in the future?

After all, hasn't the whole history of currency since the coining of money metals was invented about 2,500 years ago been the history of the debasements of these currencies, with brief intermissions of stabilization, such as the international gold standard of 1870-1914?

After currencies were pushed to the brink of collapse during the 1970s, causing them severe losses, the money capitalists were reluctant to lend money except at very high rates of interest. If the monetary authorities tried

to force down these high rates of interest by flooding the money market with newly created legal tender token money, the money capitalists would respond by dumping their paper assets for "hard money" in the form of gold.

As a result, especially early in the Great Moderation, long-term interest rates remained high. For example, in 1968 at the beginning of the stagflation crisis, the rate of interest on Aaa corporate bonds was 6.18%. At the end of the crisis in 1983, it was 12.05%. The yield on Aaa corporate bonds was much higher at the end of the crisis than it was at the beginning of the crisis. This is sharp contrast with the 4.49% rate on Aaa after the crisis in 1933 and the 3.01% which prevailed in 1940 at the end of the Depression. With interest rates that high, there was little room for a positive profit of enterprise.

However, converting a considerable section of the industrial and commercial capitalists – or corporations – into money capitalists implies an abnormal expansion of credit. We will examine this more closely in the next chapter, exploring the causes of the "Great Recession."

The Dynamics of Financialization

We can examine financialization as it unfolded. The extremely high rate of interest tempted the leaders of "corporate America," and capitalists in other countries as well, to enter the "financial services business" – that is, to make money by lending it out at interest as opposed to acting as industrial or commercial capitalists.

The formula of interest-bearing capital is simply M—M'. Production and, indeed, commodities themselves drop from view. Money seems to be breeding money, as though it was a living organism.

The big capitalist corporations increasingly transformed themselves into collective money capitalists following the Volcker shock. The real industrial economy entered into decay – deindustrialization. As corporations that had previously been mostly industrial or commercial companies began to buy and hold interest-bearing securities of various types, the demand for these securities progressively rose. As the demand for interest-bearing securities rose, the rate of interest on them slowly but relentlessly declined.

Where Did the Money Come From to Buy All Those Securities?

But where did the money come from to buy the huge quantities of securities, derivatives, and other financial instruments that drove the rate of interest relentlessly lower as financialization proceeded? It could not ultimately come from the monetary authorities.

The new money that finally lowered interest rates came not from the monetary authorities but from where new money has always come – the labor of the workers employed in the industry that produces money material. And this industry – the gold mining industry – starting in the 1970s had suddenly become profitable once again, both relatively and absolutely.

Professor Friedman Falls on His Face

If the 1970s allowed Milton Friedman to move from the fringe to the mainstream, the 1980s turned out to be a bad decade for Milton Friedman. After the Volcker shock, Friedman looked at the rate of growth of the "money supply" and once again predicted accelerating inflation, just as he had correctly done throughout the 1970s.

But this time, the University of Chicago professor fell on his face. The rising "money supply," instead of driving up inflation, began to accumulate into hoards in the banks or was invested in the bullish bond and stock markets rather than being burned up in the form of sharply higher prices. As the quantity of money increased, the supply and demand for gold could be equalized at gradually lower rates of interest.

What was happening was that the quantity of metallic money, due to the rise in the rate of profit in producing it, was growing substantially faster than it had grown in the 1970s. The effect of an increase in the quantity of metallic money, all other things remaining equal, is to lower interest rates.

This rise in gold production, which made the economic stabilization of capitalism possible after the Volcker shock, no matter how shaky, was no accident. It was the working out of the law of value of commodities, which, over the long run, equalizes prices with their underlying values, though only through the deviation of prices from their labor values – or more strictly prices of production – in the short run.

The dramatic fall of commodity prices in terms of gold that was concealed behind the accelerating rise of prices in terms of depreciating paper currency during the 1970s had made the gold mining and refining industries fabulously profitable. Capital, always in search of the highest profits possible, flowed into the gold-producing industry.

As a result, gold production steadily increased from the early 1980s to the turn of the century. The resulting rise in the quantity of metallic money helped make possible a decline in the rate of interest without a new Volcker shock during the years of the Great Moderation.

The Return of Keynesian Thinking

To the bourgeois economists, who have no understanding of value, profit, prices, or interest rates – they are barred from such an understanding by their rejection of the law of labor value and surplus value – it seemed as though the Keynesian world had, to some extent, returned. Once again, the monetary authorities had regained their ability to lower interest rates, even if interest rates remained abnormally high for an extended period of time. As late as 2000, the interest rate on Aaa-rated corporate bonds was approximately 7.2%. In contrast, the rate stood at 5.10% as of October 16, 2025.

A consensus among bourgeois economists began to form that the 1970s had been an aberration caused by the gross abuse of Keynesian economics between the Vietnam War era and the Volcker shock. Keynesian medicine could be used in moderation, especially in an emergency, which hopefully would never occur, but it would have to be used with caution. An overdose would be disastrous.

Therefore, Friedman's quantity theory of money – monetarism – became increasingly discredited in university circles. However, this was not explained to the "lay public."

Whatever Happened to 'Monetarism'?

The University of Chicago professor's insistence that what was good for the capitalist class corresponded to the interests of society – no social insurance, no labor unions, no rent control, no minimum wage laws – was simply too good to give up, even if his monetary theory – his supposedly great discovery – had proven to be nonsense.

The term "monetarism," therefore, quietly disappeared and was replaced by "neoliberalism." It was, after all, possible to advocate cuts in – and even the abolition of – social insurance, labor unions, minimum wage laws, and so on without advocating a fixed rate of growth in the "money supply." Friedman, who did have a great gift of making vulgar neoclassical marginalist economics appear plausible to the lay public, continued to be a useful icon of reaction even if his alleged "scientific discovery" was no longer taken seriously.

CHAPTER 33:
The 'Great Moderation' & Financialization

The "Great Moderation" brought with it only moderate economic growth. However, it was accompanied by a credit inflation that was anything but moderate. With the unprecedented growth of the credit system came a considerable increase in the role of interest-seeking loan capital.

Paul Sweezy [(1)] said in a 1987 interview:

> "I sometimes have the feeling that economics now is in need of a general theory, in the sense that physics seems to be in need of a general theory, i.e., that there are a lot of things that are going on that don't fit into the standard physical theories. And they are looking for a general field theory which would unify all of it. They don't have it yet.
>
> In economics, we need a theory which integrates finance and production, the circuits of capital of a financial and a real productive character much more effectively than our traditional theories do.
>
> I don't see that anyone is actually producing it. Some people are beginning to become aware of the need for it, but it's terribly complicated. And I'm sure that I'm too old to be able to think of those things. I can get snatches, insights here and there, but I can't put it together into a comprehensive theoretical framework. I think it will take somebody who starts differently and isn't so totally dominated by M–C–M', the industrial circuit, with the financial circuits always being treated as epiphenomenal, not part of the essential reality."
>
> – Monthly Review, July–August 2013
> (introduction by John Bellamy Foster)

1 Paul Sweezy was a product of the Great Depression and was so heavily influenced by Maynard Keynes and Michal Kalecki that he tended to pay insufficient attention to the production of surplus value. Under the influence of Keynes, Sweezy sometimes tacitly assumed that surplus value could arise in the sphere of circulation – profits upon alienation. The great problem of the Depression era was, after all, the question of realizing surplus value as opposed to producing it. As a result, in his final years, Sweezy exhibited genuine confusion about where the huge expansion of interest income was coming from.

Sweezy was fascinated by the growth of the circuit of loan capital M—M'. This, as opposed to the circuit of industrial capital, appears to contain no act of production. Instead, money appears to be breeding money.

The circuits of productive, merchant, and money-bearing capital

Actually, the industrial circuit of productive capital is M—C..P..C'—M'. Industrial capitalists start with a sum of money M. They purchase C, which includes both the elements of constant capital – buildings, machinery, raw and auxiliary materials – and variable capital – labor power – which actually produces surplus value. The value of C is assumed to be equal to the value of M.

The industrial capitalists then carry out the act of production in which both constant and variable capital are consumed. As variable capital is consumed, surplus value is produced. The capitalists then end up with a quantity of newly produced capital that has absorbed surplus value. Commodities that have absorbed surplus value are called commodity capital.

The commodity capital includes both value that is of equal magnitude to the starting M, plus an additional surplus value now embodied in C'. The capitalists then must find buyers for the C' on the market. If buyers are found – and this is most certainly not guaranteed, as any real-world businessperson will tell you – the capitalists appropriate M', a sum of money greater than the amount they started with. (M'—M) is the money form of surplus value, which is called profit.

The circuit of commercial capital

Commercial capitalists deal in commodity capital. They purchase commodities whose value includes a surplus value at a price below their value – direct price – and price of production, and then sell them at their value or direct price or, more strictly, on average, the price of production. [2]

The commercial capitalists cannot do this unless the commodities have been produced and already contain a surplus value. Therefore, the origin of commercial capitalists' profit in the sphere of production is clear. However, since no actual production takes place, only changes of ownership, the formula for merchants' capital is M—C—M'.

2 In analyzing the origins of interest, it is best to assume that the commodity sells at its value, or as Anwar Shaikh puts it, at its direct price. The advantage of saying "sells at its direct price" as opposed to the more traditional expression used by Marx, "selling at its value," is that it emphasizes the difference between value – a given quantity of abstract human labor, measured by some unit of time – and price – a given quantity of the use value of the money commodity measured in some appropriate unit such as weights of gold bullion. If the commodity sells at a price different from the direct price, which will almost always be the case in the real world, nothing of essence is changed.

The circuit of interest-bearing capital

In contrast to the circuit of industrial capital, the circuit of interest-bearing capital is simply M—M'. The money capitalists lend a sum of money M and receive the original M back after a period of time, plus an additional sum of money – the interest. It appears that money itself grows – as if gold somehow had the power to create additional gold. [(3)] Or, as the bank commercials put it: let us grow your money for you.

The mystery of interest-bearing capital

The period dubbed the "Great Moderation," between the Volcker shock and the "Great Recession" – 1983–2007 – was marked by a huge increase in the role of interest-seeking financial capital – capital whose circuit is M—M'. As we saw above, in the final period of his life, Paul Sweezy was both puzzled and fascinated by the phenomenon. But he also sensed that something big was missing from the analysis of his own Monthly Review school. Pleading old age, Sweezy left the solution to a younger generation.

However, before we begin exploring the question raised by Sweezy, we should first consult Marx.

Marx on class and forms of profit

Following Adam Smith, Marx defined three types of incomes earned by the classes of modern capitalist society – rent of land, which goes to the owners of land; wages of labor, which go to the sellers of labor power; and profits of capital, which go to the owners of capital.

The profit appropriated by the owners of industrial capital – both productive and commodity – is called by Marx the profit of enterprise. Marx called the portion of the profit that goes to the owners of money capital interest. In the real world, every industrial as well as commercial capitalist is also to an extent a money capitalist. To the extent the industrial capitalists – or

3 Scientists have long been puzzled about the exact origin of gold as an element. In 2013, it was proposed that gold as an element arises from collisions of neutron stars with one another. Neutron stars are very dense objects where the positively charged protons in the nucleus of atoms have merged with negatively charged electrons. The new theory proposes that such a collision sets off complex nuclear reactions that end up with the formation of, among other things, the element gold.

Of course, if the theory is correct, the gold created by colliding neutron stars was not money. Gold became money only when human beings on this planet developed commodity production and exchange. And if we allow our imaginations to run wild, perhaps gold is an ideal money commodity on a few other worlds for the same reason it is on this one. But the neutron star theory of the origin of gold shows how absurd the idea of money producing more money – additional gold – really is!

commercial capitalists – own the original M they start with, they get to appropriate both the interest and the profit of enterprise.

However, the more capitalism develops, the more the individual members of the capitalist class are transformed into pure money capitalists entitled only to interest. The roles of the industrial and commercial capitalists are increasingly transferred to collective entities known as corporations, which are considered to be legal persons under the law. Therefore, the corporations, their stockholders – when they realize the capital gains on rising stock market prices – and their officers get to appropriate the profit of enterprise.

Non-capitalist interest

So far, we have dealt only with interest as defined by Marx. Following the classical economists, Marx assumed that all production was capitalist and that there was no consumer credit. The role of state borrowing was also ignored. Under these assumptions, "interest" was seen as simply a fraction of the profit paid from the profits "earned" by industrial and commercial capitalists.

In the real world, in addition to the strictly capitalist interest as defined above, there is also interest on loans made to persons other than industrial or commercial capitalists, which the borrower may use to finance non-capitalist production – such as in the case of a working farmer or peasant – or for personal consumption.

In the days of Marx, various types of moneylenders – particularly pawnshops – preyed on workers who faced extraordinary expenses or periods of unemployment. This type of "consumer credit" is still with us today. Marx was well aware of what he called capital's secondary means of exploitation. Indeed, Marx, who was often hard-pressed for funds during the 1850s and 1860s, had considerable personal experience with this type of exploitation.

When forced to engage in this type of borrowing after producing the "normal" surplus value for their bosses, workers are forced to perform additional unpaid labor to produce the interest due to their moneylenders. Under today's "ultra-modern" capitalism, these types of moneylenders range from traditional pawnshops, "mob" loan sharking, check-cashing shops, and mortgages against residential property, as well as credit cards issued by mega-banks.

Another type of non-capitalist interest

Another type of non-capitalist interest, already important long before the time of Marx and still important today, is the interest paid on the national debt, as well as the debts of provincial, state, and local governments. In this

case, the workers who produce surplus value ultimately bear the burden of tax payments through the unpaid labor they are forced to perform for the state power and its creditors.

The critical point to grasp is that whether we are dealing with the purely capitalist interest that Marx described or "non-capitalist" interest, all interest income ultimately arises in the sphere of production, whether the production is capitalist production employing wage labor or some other mode of production.

The evolution of credit and interest

In pre-capitalist times, there was no interest in the capitalist sense. Instead, moneylenders exploited the producers either directly – for example, through usurious loans to peasants or small artisans – or indirectly, through loans to large landowners or even kings, who ultimately squeezed the interest out of their peasant tenants, serfs, or slaves.

With the development of the modern banking and credit system, the credit system was subordinated to the needs of the new capitalist mode of production. From the capitalist viewpoint, interest is merely a portion of the surplus value produced by the productive workers that goes to the owners of money capital.

If the industrial – or commercial – capitalists borrow money, the interest but not the profit of enterprise goes to the moneylenders. If, on the contrary, industrial or commercial capitalists work with their own capital, the entire interest plus profit of enterprise goes to them.

However, the rise of the strictly capitalist credit system did not mean that the old traditional "credit system" of usurious loans simply disappeared. Side by side with the huge corporate banks are the traditional pawnshops, check-cashing shops, and "mob" loan-sharking.

Nor in practice are these two credit systems entirely separate. Loans to the state have always been essential to the banking system, yet strictly speaking, the interest on state loans is paid out of tax revenues and does not necessarily arise from interest in the strict capitalist sense. Today, the giant corporate universal banks are increasingly moving into the business of granting usurious "consumer" loans that were once the province of the pawnshop or the "mob" loan shark.

Starting in the U.S. during the 1920s, consumer loans in the modern sense began to be extended to better-paid workers to encourage them to purchase automobiles and other newly invented consumer durables. The appearance of

this type of consumer credit raises interesting theoretical questions that we do not have the space to fully explore here, though we can say a few words.

To the extent that the better-paid workers in imperialist countries share in the surplus value produced by the workers of the Global South, the interest paid on consumer loans to better-paid workers can ultimately be traced back to the unpaid labor performed by the workers of the Global South.

However, under the capitalist mode of production, fluctuations in the purely capitalist rate of interest govern the movement of "non-capitalist" interest rates. Therefore, we have to examine the movements of capitalist interest if we are to understand the movement of interest rates as a whole.

The rate of interest, the rate of profit, and the industrial cycle

A classic recovery phase of the industrial cycle is characterized by a sharply rising rate of profit combined with a low rate of interest. As we have seen, the crisis/stagnation phase of the industrial cycle is marked by the contraction and stagnation of real capital – productive-plus-commodity capital – combined with the acceleration of the accumulation of money capital – increased production of gold bullion.

The result is that during the crisis/stagnation phase, the balance of forces on the money market shifts sharply in favor of the industrial and commercial capitalists relative to the money capitalists. If the rate of profit is given, then the profit of enterprise is the difference between the rate of profit minus the rate of interest. The higher the profit of enterprise, the stronger the incentive for capitalists – whether individual or corporate – to act as industrial capitalists and produce surplus value as opposed to acting as money capitalists.

If the profit of enterprise falls to zero or below zero, increasing numbers of industrial capitalists will transform themselves into money capitalists. This will cause the rate of interest to fall as increasing amounts of capital are diverted into the circuit M–M' as opposed to the circuit M–C..P..C'–M' or M–C–M'. The result is a flooding of the money market that progressively lowers the rate of interest.

This continues until a positive profit of enterprise is restored – and, in practice, some point beyond that. If it were impossible to restore a positive profit of enterprise, capitalism would end, since a positive profit of enterprise is an absolute necessity for the continuation of capitalist production in the long run.

Here we see an important function of crises: by periodically lowering the rate of interest, crises keep the profit of enterprise positive over time.

The rate of interest from the Depression to the Great Moderation

If we look at charts of the history of interest rates, we see a deep plunge in interest rates between the outbreak of the super-crisis in 1929–33 and the end of World War II, when interest rates had fallen to their lowest levels in the history of capitalism up to that time. We therefore see the classic movement of interest rates within the Depression-era industrial cycle, but on a "super-scale."

Interest rates, particularly long-term interest rates, were already at record lows in the wake of the super-crisis of 1929–33. In the United States, they fell further after the brief but severe "Roosevelt recession" of 1937–38.

During World War II, despite the huge wartime budget deficits and inflation, long-term interest rates remained near record-low levels or fell further by some measures. In 1946, rates hit 2.09%. According to a Chicago CFA handout by Bianco Research LLC, in that year long-term interest rates in the U.S. were lower than they had ever been since 1790 – that is, in the entire history of the United States.

If you were locked in a room and had access to interest rates alone starting from the end of the super-crisis of 1929–33 and continuing until 1946, you would not be aware that an inflationary war economy had replaced the Depression.

Therefore, when normal capitalist expanded reproduction resumed after World War II, it started with a combination of high profits and record-low interest rates. Looking at these figures, it is not hard to see why the Depression did not reappear after World War II, despite the expectations of many radical Keynesians and Marxists to the contrary.

A combination of soaring profits and extremely low rates of interest caused the profit of enterprise to soar, leading to a massive new wave of investments in the private sector. The result was the post-World War II era of capitalist prosperity.

Far from defying the "laws of motion" discovered by Marx, the post-World War II economic boom was fully in accord with them.

Choices facing capitalists

Every capitalist, individual or corporate, has three choices in what to do with that portion they do not spend on means of personal consumption – necessities and luxuries.

One, they can hoard the money. But in this case, they are not acting as capitalists but as misers, since the hoarded money yields no surplus value to its owner. Speculation, in which one capitalist attempts to relieve other

capitalists of some of their capital, is a zero-sum game, so it amounts to hoarding on a social scale.

Two, they can loan the money out at interest. In this case, they act as money capitalists, not industrial or commercial capitalists. As a result, they do not appropriate any of the profit of enterprise.

Finally, they can transform the profit into new productive capital or, in the case of commercial capitalists, into new commodity capital. This alone allows them to appropriate the profit of enterprise.

It is only when capitalists seek the profit of enterprise – leaving aside commercial capital – that they purchase the workers' labor power, intending to use the purchased labor power to produce surplus value. And the production of surplus value is the very heart of the capitalist system. Without the production of surplus value, there is neither rent, interest, nor profit of enterprise – nor capitalism itself.

Risk and the profit of enterprise

If the profit of enterprise – profit minus interest – is low, the risk of producing additional surplus value and failing to realize it fully on the market may well be judged by the capitalists as too high. But if the profit of enterprise is high, the capitalists will more likely decide that the prospect of a great reward outweighs the risk.

In addition, the greater the profit of enterprise, the greater the chance that small-money capitalists – and even adventurous individuals starting out with no capital of their own – will attempt to transform themselves into "entrepreneurs," creating new industrial capitalist enterprises, perhaps producing a new type of commodity, as opposed to trying to get rich by financial speculation, gambling, crime, or other similar get-rich-quick schemes.

This is why, in the wake of a crisis, the more or less extended period of stagnation that follows tends to be characterized by the kind of investment that generates economic growth and innovation, as opposed to various types of moneylending and speculation. It is the circuit of productive capital M—C..P..C'—M' and merchant capital M—C—M' that is encouraged, as opposed to the circuit M–M', the circuit of interest-bearing capital.

During the years of capitalist prosperity between 1948 and 1968, the ratio of debt to the real economy expanded from the low levels that immediately followed the Depression and war. But even as late as the 1970s, it remained well below the levels that prevailed in the years that immediately preceded the super-crisis of 1929–33. During the inflationary crisis of the

1970s, the ratio of debt to the real economy remained more or less stable.

But between the early 1980s and the end of the Great Moderation in 2007 – driven by the growth of private, but not government, debt – the ratio of debt to the real economy reached levels that rivaled those prevailing on the eve of the 1929–33 super-crisis. When it came to credit inflation and the subsequent growth of the circuit M—M', the Great Moderation was anything but moderate.

Debt, credit, and gold

As interesting as the ratio of debt to the real economy is, the ratio of total debt to gold bullion is more important. The nature of both money and credit and capital means that the expansion of the credit system is limited not so much by the ability of the real economy to produce use values, but rather by the quantity of gold bullion in existence and the possibilities of increasing it further. [4]

Unfortunately, while there are many estimates of the ratio of debt to the "real economy" and incomes, the ratio of debt to the credit system's metallic base is rarely, if ever, estimated.

There is little doubt, however, that the huge inflation of the credit system during the Great Moderation was, above all, an inflation of the total quantity of loans relative to the quantity of gold bullion.

The evolution of interest after World War II

During the 1950s and 1960s, long-term interest rates rose during booms and fell during recessions. But because recessions were "cut off" to a certain extent by Keynesian "anti-crisis" measures in those years, long-term interest rates rose more during the booms than they fell during recessions. This showed that the Keynesian measures could not forever avoid a major crisis. Sooner or later, the secular rising rate of interest would swallow up the entire profit of enterprise, thus destroying the incentive of the capitalists to produce surplus value.

The lesson is that Keynesian policies work temporarily – especially after a major crisis – but will inevitably fail once overproduction develops to a certain point. The general rule is that the more Keynesian anti-crisis measures are needed, the less well they will work.

The conditions of prosperity – especially after World War II – encouraged a fall in the *value rate of profit*, defined as the rate of profit if all value and surplus value were realized. High levels of employment and relatively low levels of unemployment, combined with the considerable expansion of the

4 Gold bullion refers to physical gold modified by human labor. The rest of the gold produced by colliding neutron stars – if this theory is true – does not count.

"welfare state," encouraged rising wages – both money and real – and made it much more difficult for capitalists to increase the rate of surplus value. [5]

The capitalists were obliged to react to the fall in the rate of surplus value by increasing their use of machinery – a process dubbed automation – which tended to increase the organic composition of capital. There is little doubt that the value rate of profit declined in this period.

But even if the value rate of profit remained unchanged, the secular rise in the long-term interest rate meant that the all-important profit of enterprise was in decline. Therefore, well before the end of postwar prosperity, it should have been empirically obvious to Marxists that Keynes's dream of a capitalism free of major economic crises was doomed.

As normal capitalist expanded reproduction resumed after the unprecedented interruptions of the Depression and war, the rate of interest began a long and gradual rise. As late as 1963, the rate of interest on long-term government bonds, though well above early postwar levels, was still below 4% at times. However, the cyclical boom that began in the mid-1960s drove long-term interest rates relentlessly upward.

By March 1968, the interest rate on government bonds approached 5.8%, a considerable rise from the 4% or less that government bonds returned as late as 1963. The progressive, if gradual, rise in long-term interest rates meant that it would be only a matter of time before those rising rates destroyed the incentive to produce surplus value. The only method capitalism has for dealing with such a situation is a major economic crisis that once again lowers the interest rate.

With the end of the Bretton Woods gold exchange standard, the U.S. dollar underwent a massive devaluation against gold. The dollar price of gold, which measures the amount of gold that each U.S. dollar represents in circulation, rose from $35 an ounce to $875 at one point in January 1980. Some economists, especially those of Keynesian bent, claimed that the high long-term interest rates were not dangerous because real interest rates in terms of commodities were often negative. In gold terms, they were even more negative.

The problem was that such a situation could not last. If the U.S. Federal Reserve System had kept interest rates negative in gold terms, the result would

5 This is why the capitalists are attempting to get rid of the "welfare state," or "socialism," by which they mean the "welfare state." It explains why the capitalist media are always doing all they can to transform the words "welfare state" or "socialism" (in the sense of welfare state) into dirty words. While the welfare state is certainly not the ultimate solution to the problems raised by capitalist exploitation, the workers' movement must do all it can to defend it as long as capitalism lasts.

have been runaway inflation and, finally, hyperinflation. The U.S. dollar at the center of the world monetary and credit system would have gone the way of the German mark, taking the entire global currency and credit system with it.

To prevent this, the Federal Reserve System was forced to launch the policies known as the "Volcker shock," the immediate result of which was a sharp rise in nominal interest rates. Since the rate of inflation in dollar terms dropped sharply, and the depreciation of the U.S. dollar against gold was not only halted but partially reversed, there was a dramatic swing from negative interest rates in terms of both real money – gold – and commodities to the highest rates of interest – both real and gold – in capitalist history.

Interest rates peak

When Paul Volcker took command of "the Fed" in August 1979, the interest rate on 10-year government bonds was still "only" around 9%. But as the money market tightened – and the dollar's devaluation against gold was finally halted – the nominal rate on the 10-year bond hit 15.60 % in November 1981.

The bigger problem was that at the end of the "Volcker shock" recession, at the beginning of 1983, the rate of interest on long-term U.S. government bonds was still over 10%. One condition for a new era of capitalist prosperity was now in place: a sharp rise in the value rate of profit reflecting a sharp rise in the rate of surplus value. But the other condition, a low rate of interest, was completely absent.

The result was that industrial and commercial corporations began to transform themselves into money capitalists on an unprecedented scale. This gradually brought down the rate of interest, but at the price of unprecedented inflation of credit that has been named "financialization." Huge amounts of money capital were being diverted from the circuits M—C..P..C'—M' and M—C—M' to the circuit M—M'.

The first period of financialization

The decades of the 1920s and the Great Moderation years of 1983 to 2007 had one thing in common: a completely abnormal expansion of the credit system. In the 1920s, the abnormal expansion of the credit system was rooted in two factors. One was that World War I broke out at the worst possible time for the world capitalist economy. The war came at the end of a period of exceptional capitalist prosperity that followed the gold discoveries of the 1880s and 1890s.

Factor two was the inflationary rise of prices in terms of gold – the actual fall of the purchasing power of gold, separate and apart from the depreciation of paper currencies against gold during and after the war. This was indeed a recipe for disaster.

The deflationary recession of 1920–21 only partially restored the purchasing power of gold. The reason was that there was little actual overproduction during World War I due to the war economy, which suppressed normal capitalist expanded reproduction. As a result, during the 1920–21 deflation, the industrial and commercial capitalists ran out of "inventory" before market prices fell back to or below the prices of production.

Because market prices remained too high relative to prices of production, gold production remained below the levels of the immediate prewar period, though global commodity production measured in terms of the use value of the various commodities produced, world trade defined in terms of the prices of the traded commodities in terms of gold, and commodity prices measured in terms of gold were all higher than before the war.

Therefore, once the reconstruction period after World War I was completed, economic growth could only be maintained by credit inflation that went far beyond what was normal by the standards of the pre-1914 industrial cycles. In the pre-1914 period, the Bank of England was central to the global credit system. And except for the fixed fiduciary issue, the banknotes of the Bank of England had to be covered 100% by the Bank of England's metallic reserve.

The Federal Reserve and the gold exchange standard

After World War I, the pivot of the world credit system shifted to the U.S. Federal Reserve System. The design of the Federal Reserve System was influenced by supporters of the banking school, who were the opponents of the currency school. The currency school had inspired the 1844 Bank Act, which governed the Bank of England.

Unlike the Bank of England before 1914, the Federal Reserve System had to maintain only 40 cents of gold for each dollar in banknotes that it issued. In addition, after World War I, the U.S. government reduced the amount of reserves that the U.S. commercial banks had to maintain behind the credit money – checkbook money – they created through their bank loans.

While before the war, the only major type of consumer credit was mortgages backed by residential real estate, by the 1920s, the new durable con-

sumer goods – automobiles and electric appliances – were being sold on credit in the U.S. For the first time, we saw the large-scale extension of credit to working-class consumers, even though this phenomenon was still largely confined to the United States.

On the international level, the gold exchange standard meant that in addition to gold, central banks backed up their banknotes with U.S. dollars and British pounds. The gold exchange standard was used far more broadly than it had been before 1914. The overall effect was to leverage the global quantity of credit money and credit in general on a relatively far smaller quantity of gold bullion.

The result was a growing financialization of the economy. Perhaps we should call the 1920s the first financialization. This first financialization ended with the super-crisis of 1929–33 and the ensuing Depression, followed by World War II. When the dust of the Depression and World War II finally settled, the capitalist economy had returned to a much more stable, cash-based economy where credit played a far smaller role.

The second financialization of the economy

The causes of the second round of economic financialization were quite different from the first. The second financialization was rooted in the Keynesian economic policies adopted after World War II to limit cyclical crises.

When the first big crisis after World War II began to develop at the end of the 1960s, the policymakers of the capitalist governments and central banks – especially the U.S. government and the U.S. Federal Reserve System – believed that it was their duty to prevent a deep downturn in the industrial cycle at almost any cost. As a result, they scrapped what was left of the gold exchange standard, giving themselves the power to issue paper money without having to be concerned with redeeming it in gold.

As a result, the gold value of the U.S. dollar, as measured by the dollar price of gold, fell by more than 95%. Inflation in dollar terms soared, and interest rates rose to unprecedented heights. As we saw above, the result was the second wave of financialization that began immediately after the end of the Volcker shock recession.

Volcker's managed currency and the role of gold

In 1979, Paul Volcker was determined to halt the run on the dollar. Indeed, he had no real choice since the alternative would have been the first global hyperinflation in the history of capitalism. But Volcker did not believe that a return to the gold – or gold exchange – standard was necessary,

and considering the political situation, possible.

Instead, he still believed in a Keynes-type "managed currency." As long as the inflation of commodity prices in terms of dollars and its satellite paper currencies was low – in the 1 to 3% range – Volcker, and with him the vast majority of bourgeois economists, believed everything would be fine.

Gold production rises

Gold production had fallen during the first half of the 1970s, indicating that the market price of commodities in terms of gold had risen above their prices of production. After the deep recession of 1973–75 and the fall of commodity prices in terms of gold, gold production stabilized but failed to recover.

Only after the run on the dollar in 1979–80 lowered the market prices of commodities in terms of gold considerably further did global gold production begin to rise again. This indicated that market prices were once again below their prices of production, setting the stage for a major economic recovery. At the same time, the Volcker shock had succeeded in ending the run on the dollar and other paper currencies.

In this sense, the "stagflation crisis" that ended with the Volcker shock recession of 1979–82 acted like a classic capitalist crisis. We saw contraction of real capital – graphically illustrated by the videos of the destruction by their capitalist owners of U.S. steel mills in the old centers of basic industry. The contraction of real capital was accompanied by an accelerated accumulation of money capital, represented by a rise in the production of gold bullion. After several years of deep recession during the Volcker shock, the stage was set for economic recovery beginning in 1983.

But there was a fly in the ointment. As economic recovery began from the 1979–82 Volcker shock recession, interest rates – both long-term and short-term – though off their 1981 peaks, remained much higher than they had been before the prolonged stagflationary crisis that began with the Gold Pool's collapse in March 1968.

In March 1968, as the stagflationary crisis began, the rate of interest on 10-year U.S. government bonds was around 5.75%. In contrast, when the Great Moderation began in January 1983, the rate of return on U.S. government bonds was around 10.35%! While in a normal economic crisis the interest rate falls, during the stagflationary crisis of 1968–1982, interest rates were higher at the end of the crisis than at the beginning. Long-term inter-

est rates, as measured by the rate of interest on U.S. long-term government bonds, did not return to the March 1968 level until 1993.

The Volcker shock ends too soon – for capitalism, that is

The real problem was that from the viewpoint of the capitalist system, the Volcker shock ended far too soon. Paul Volcker had taken things to the brink in 1982 but then blinked. The combination of the stabilization of prices in terms of the U.S. dollar and a threatening international debt crisis – especially the debt crisis in Latin America – meant that if the Volcker shock had continued, massive debt liquidation would have set in. Prices in dollars would have fallen, and interest rates would have plunged. The rapid fall in interest rates would then have put into place the conditions for a healthy recovery – a new "Great Boom" without financialization, much as occurred in the early pre-1968 era after World War II.

Of course, the results for the workers of the world, as well as the world's small farmers and peasants – not to speak of the nations of Latin America – would have been horrendous. No person or tendency in the international workers' movement advocated, or of course could or should have advocated, such policies. The point is that the objective interests of the capitalist system of exploitation are in much greater conflict with the needs of the workers and peasants, and even the middle classes, than the most cold-blooded leaders of U.S. imperialism, such as Paul Volcker, dare to admit, even to themselves.

As huge amounts of money capital were diverted from the normal circuits of M—C..P..C'—M' and M—C—M', interest rates gradually came down, but only at the price of an unprecedented explosion of credit. We also saw a curious reversal of the normal cycle of interest rates. Usually, during periods of relative prosperity, the trend is for interest rates – particularly long-term rates – to rise gradually. This is exactly what we saw between 1948 and 1968, with the relatively moderate expansion of credit. But during the Great Moderation, we saw the reverse – a gradual decline of long-term as well as short-term interest rates, accompanied by an explosive expansion of the credit system.

The huge flood of money flowing into the money market finally lowered long-term interest rates. The problem is that it created an inflation in debt that must be liquidated before a new "long cycle" of capitalist prosperity can begin.

The stage was set for a new era of greatly intensified economic crises that began with the Great Recession of 2007–09.

Conclusions

Since 1914, there has been no really "normal" development of the capitalist industrial cycle. The collapse of the 1930s led to the "Keynesian revolution," which aimed to boost economic growth, tame crises, and achieve more or less permanent capitalist prosperity interrupted by only "mild recessions," or perhaps no recessions at all.

But between 1948 and 2007, when the Great Moderation ended, there were in reality only 20 years of "healthy" capitalist prosperity – 1948–1968. And those 20 years of prosperity were made possible thanks only to the super-crisis of 1929–33 and the ensuing Depression. Far from eliminating or even reducing capitalist cyclical instability, Keynesian policies have made capitalism less stable than ever in the long run.

This is why the entire period between 1968 and 2007 appears to be part of, to use Ernest Mandel's terminology, a "long wave with an undertone of stagnation," when compared to the epochs of capitalist prosperity such as 1848–1873 and 1896–1913 that preceded World War I.

CHAPTER 34:
The Long Cycle – Summary and Conclusions

In the preceding chapters, we examined whether the capitalist economy experiences cycles considerably longer than the industrial cycles of approximately ten years. As we saw, it has been proposed by various economists – both bourgeois and Marxists – over the last 100 years that, in addition to the 10-year industrial cycles and shorter inventory cycles, there also exists a long cycle of approximately 50 years' duration.

As part of our exploration of the thesis of the existence of a long cycle, we have examined the concrete history of the cycles and crises that have occurred in the global capitalist economy from the crisis of 1847 to the crisis of 2007-09. Over these 161 years, we have seen decades when economic growth surged ahead and other periods dominated by prolonged depression or stagnation. Let's briefly review our findings.

Changing patterns of cycles and crises

While industrial cycles of approximately ten years have been a remarkably persistent feature of capitalism since 1825, there have been periods when these cycles have been suppressed by world wars and other periods when we have had only partial cycles.

For example, the two world wars of the 20th century suppressed, to a considerable degree, the entire process of expanded capitalist reproduction. Since industrial cycles can arise only within the broader process of expanded capitalist reproduction, wartime suppression of expanded capitalist reproduction suppresses the industrial cycle.

We also find that a war economy cannot be the solution to the industrial cycle because capitalism can only exist as the expanded reproduction of capital. In fact, the temporary suppression of industrial cycles by the war

economy demonstrates that the only way to end the industrial cycle of boom and bust is to end capitalist production.

Immediately after the super-crisis of 1929-33, itself part of the aftermath of the World War I war economy, there was no complete industrial cycle. The brutal deflationary policy of the Roosevelt administration in 1936-37 prevented the cyclical recovery of 1933-37 from developing into a real boom. Instead, the war economy of World War II replaced the recovery that followed the 1937-38 recession before it could develop into a boom. Therefore, we saw only partial industrial cycles from the super-crisis of 1929-33 until after World War II.

No full industrial cycle between 1968 and 1982

There was also no complete industrial cycle between 1968 and the beginning of the Volcker shock in 1979. During the 1970 and 1974-75 recessions, governments and central banks attempted to force recoveries through deficit spending and monetary expansion. Under the prevailing conditions, these repeated attempts to force a recovery simply led to panicky flights from the dollar and paper currencies in general into gold, causing the recoveries to abort. Full industrial cycles of a more or less 10-year duration reappeared only after the Volcker shock of 1979-82.

Material basis for 10-year industrial cycle

Marx, Keynes, and Schumpeter all agreed that periodic replacement of the elements of fixed capital, especially factory machinery, forms the material basis of the 10-year industrial cycle. About every ten years, there is a wave of renewal and expansion of fixed capital as new machines replace old machines in existing factories, and new factories filled with state-of-the-art machines are constructed. The resulting over-investment inevitably ends with the overproduction of commodities, leading to flooded markets.

Once the crisis breaks out, the formation of new fixed capital falls off rapidly. Even after the rundown of inventories leads to inventory restocking, there is still a large amount of idle, overproduced fixed capital left over from the last boom. However, about ten years after the last boom, the need to renew a significant amount of now aging factory machinery kicks off a new boom that soon leads to over-investment in fixed capital, general overproduction of commodities, and crisis.

Material basis for short cycle

The Kitchin inventory cycle, which is less pronounced, is also widely accepted among economists who study business cycles. Marx himself made

occasional references to this cycle. Joseph Schumpeter called these cycles Kitchin cycles in his 1939 book Business Cycles after the statistician and South African mine owner Joseph Kitchin (1861-1932), who described them.

Since Kitchin, these inventory cycles have been widely accepted among bourgeois business-cycle experts. About every three or four years, inventories are overproduced, leading to a minor recession or slowdown, what the business press calls an "inventory adjustment." A major recession occurs when a downturn in the Kitchin cycle coincides with a peak in the 10-year investment cycle of fixed capital.

These two cycles are called cycles rather than mere waves because each phase of these cycles necessarily leads to the next phase. While accidental factors certainly affect these cycles, and major wars can temporarily suppress them altogether, these cycles are not accidents but the necessary consequence of the capitalist mode of production.

Is there a 50-year cycle?

This takes us to the proposed 50-year cycle, often called the Kondratiev cycle after the Russian economist Nikolai Kondratiev, who described them in the 1920s. For it to be a true cycle, each stage of the 50-year cycle would necessarily lead to the next phase. Or do these cycles reflect accidental causes? If the latter is the case, they are not cycles at all. Assuming that long cycles exist, we have to explain the material basis of such a cycle.

One explanation proposed by Kondratiev was that the 50-year cycle reflects the lifetime of very long-lived elements of fixed capital. Not all elements of fixed capital are replaced every ten years. It is not hard to find machines that are considerably older than ten years and still used in factories. Buildings and bridges certainly last much longer than ten years. In this case, the material basis of the long cycle would be similar to that of the 10-year industrial cycle. This theory has, however, won very little support among any school of economists, whether Marxist or bourgeois.

In his *Business Cycles*, Joseph Schumpeter suggested that the 50-year cycle arises from a complex pattern of innovations. A wave of major innovations eventually peters out into a wave of minor innovations. The result is great waves of investment every 50 years that gradually taper off, leading to the depression phase of the Kondratiev cycle. Eventually, the depression in the cycle will prepare the way for a new phase of entrepreneurial innovations and a new upswing in the Kondratiev cycle. Schumpeter proposed in *Business Cycles* that the super-crisis of 1929-33 was caused, at least in part, by a trough in all three cycles that occurred in the early 1930s.

Among the economists who came to reject the long-cycle theory was the well-known U.S. Marxist – or Keynesian Marxist, as we can describe him – Paul Sweezy. During the Depression and Sweezy's formative years as an economist, many economists influenced by Keynes believed that a permanent tendency toward stagnation marked a "mature" capitalist economy.

Schumpeter, who rejected this view in favor of his view that the stagnation of the Depression was largely cyclical and therefore temporary, dubbed these economists stagnationists. Sweezy accepted this label and considered himself a stagnationist until the end of his days.

Sweezy – influenced by Marx, Keynes, and Schumpeter – was primarily interested in the question of stagnation and monopoly throughout his long life as an economist. Sweezy assumed that a strong tendency toward expansion had marked the freely competitive capitalism of the Smith, Ricardo, and Marx era. Twentieth-century capitalism, however, was dominated by monopoly and, therefore, obeyed quite different economic laws. Unlike freely competitive capitalism, which generates economic growth, monopoly capitalism generates stagnation.

Why no permanent Great Depression under monopoly capitalism?

But hadn't Sweezy explained too much? Sweezy believed that the Great Depression was the natural condition of monopoly capitalism when no offsetting factors were in operation. Since the Depression was, according to him, the normal state of monopoly capitalism, it did not need any particular explanation. If Sweezy's theory was correct, what needed explanation was, why didn't the Depression span the entire history of monopoly capitalism?

Sweezy concluded that innovations were one of the factors along with massive military expenditures and other unproductive expenditures, especially after World War II, that, for a considerable period, could override the stagnationist tendency of monopoly capitalism.

According to Sweezy, one great early 20th-century innovation that saved monopoly capitalism from stagnation was the automobile. Sweezy believed that the automobile had been decisive in saving U.S. monopoly capitalism from stagnation during the 1920s and had played a major role, along with government – primarily military – spending, in staving off stagnation after World War II.

The automobile not only meant that industrial capitalists like Henry Ford had to invest huge amounts of capital in auto production, but it also required the development of a vast infrastructure of highways and gasoline stations.

The rise of the automobile generated a soaring demand for gasoline, providing markets for newly drilled oil and refineries to distill and convert the crude oil into gasoline.

In addition, the automobile made modern suburbanization possible, where workers live a considerable distance from their workplaces, whether factories or offices. Suburbanization meant that a considerable amount of housing and infrastructure had to be built to serve the needs of the growing number of people living in the suburbs many miles (kilometers) from their workplaces.

The construction industry not only had to build homes in the suburbs, it also had to construct huge suburban shopping malls. This stimulated the building industry and reacted in turn on the concrete, steel, and many other industries. All this created a huge wave of investment that, according to Sweezy, powerfully counteracted the tendency toward stagnation both before and after the Depression.

Here, we see Schumpeter's influence on Sweezy. Where Sweezy differed from Schumpeter, however, was that Sweezy couldn't see anything cyclical about the rise of the automobile industry. It was, according to Sweezy, a historical accident. There might or might not be a similar new innovative industry on the scale of the automobile industry in the future. According to Sweezy, nothing in the laws of motion of monopoly capitalism makes the emergence of new industries on the scale of the automobile inevitable.

Trotsky versus long-cycle theory

A very different Marxist, Leon Trotsky, also rejected the theory of long cycles. In an article partially aimed at counteracting the influence of Kondratiev, written in 1923, entitled "The Long Curve of Capitalist Development," Trotsky agreed and indeed strongly emphasized that the concrete history of capitalism showed alternating periods of rapid economic growth and stagnation. But Trotsky denied there was anything cyclical in the succession of long periods of rapid economic growth under capitalism followed by periods of stagnation.

Instead, Trotsky suggested that the succession of rapid economic growth and stagnation epochs could only be explained by factors external to the capitalist system. For example, he mentioned the opening of new continents and natural resources, revolutions and counterrevolutions, and world wars as the factors responsible for the succeeding epochs of rapid capitalist growth and capitalist economic stagnation.

Ernest Mandel and long-cycle theory

Beginning in the 1960s, Trotsky's avowed follower Ernest Mandel was far more sympathetic to the concept of a long cycle. As the leader of perhaps the largest faction of avowed Trotskyists, as they called themselves, Mandel was embarrassed by Trotsky's rejection of the long-cycle theory, since this opened him to charges by members of rival Trotskyist groups that he was not a real Trotskyist.

Therefore, Mandel, retreating a bit, preferred the term long waves. But what factor would, according to Mandel, cause capitalist economic development – expanded capitalist reproduction – to be broken up into long waves lasting considerably longer than the 10-year industrial cycles?

Mandel saw the succession of periods of rapid capitalist economic growth and stagnation or semi-stagnation as reflecting long-term changes in the value rate of profit. By value rate of profit, as opposed to the market rate of profit, we mean what the rate of profit would be if all value and surplus value is realized and commodities sold at their value or direct price and the turnover of variable capital is as rapid as the technological conditions of production, including transportation, allow. What Mandel had to explain is the cause of the fluctuations in the value rate over periods considerably longer than the 10-year industrial cycles.

Like many Marxists, Mandel was fascinated by Marx's law of the tendency of the rate of profit to decline. In Volume III of *Capital*, Marx described this law as the most important law of political economy.

Marx's law of the tendency of the rate of profit to fall

Long before the time of Marx, political economists had assumed that the long-term tendency of the rate of profit was downward. This was assumed even by later schools of economics, including the original marginalists and Keynes. Only after World War II did it become popular among bourgeois economists to deny the historically downward tendency of the rate of profit. However, the reasons that Marx gave for the tendency of the rate of profit to fall were completely different than those given by bourgeois economists, whether before or after him.

Marx's explanation is an extension of his overall theory of value and surplus value. Suppose the level of labor productivity in all branches of production is unchanged. This will mean the value of commodities will be unchanged. If this is true, the value of such elements of capital as raw and auxiliary materials, machinery, and factory buildings is a mathematical constant. Marx called this kind of capital constant capital.

The other type of capital consists of the commodity labor power. Labor power alone not only produces value but a value greater than its own value. Workers not only produce a value that replaces the value of the capital they consume – the necessary labor – but a value above and beyond it, a surplus value, by performing unpaid surplus labor.

This was Marx's greatest single discovery in economics, though he made many others. Behind the appearance of the exchange of equal quantities of labor, there is the same old phenomenon of unpaid surplus labor that marked chattel slavery, feudalism, and other forms of exploitative class society.

Unlike the value contained in raw and auxiliary materials, machinery, factory buildings, and so on, whose value is preserved in the reproduction process, variable capital creates additional value. The value represented by purchased labor power – variable capital – expands and, in mathematical terms, is, therefore, a variable, not a constant.

While classical economists such as Adam Smith and David Ricardo considered the primary division within capital to be between fixed and circulating capital, Marx, in contrast, discovered that the primary division within capital is between constant capital, which does not produce surplus value, and variable capital, which alone produces surplus value. Therefore, before the transformation of values – or direct prices – into prices of production, the rate of profit on constant capital is zero. Only variable capital will have a rate of profit of more than zero.

Marx then observed that in the course of capitalist development the ratio between constant capital and variable capital shifts in favor of constant capital. This causes what Marx called the organic composition of capital, the ratio between constant and variable capital, to rise. The real cause of the tendency of the rate of profit to fall, however, is hidden from the capitalists engaged in everyday business, as well as the vulgar economists, by the transformation of values into prices of production – which gives rise to the illusion that both constant capital and variable capital produce surplus value.

All things remaining equal, the rate of profit will fall as the organic composition of capital rises, though various counter-factors tend to work in the other direction. Most important of these is the ratio of unpaid to paid labor, what Marx called the rate of surplus value, or the rate of exploitation. With the rise of the productivity of labor which lowers the value of commodities that enter into the value of labor power, the rate of profit on the variable capital rises, partially offsetting the growth of the constant part of capital that yields no profit.

Another important counter-tendency is the cheapening of the elements of constant capital, which slows its rate of growth in value terms. Marx, therefore, distinguished the technological composition of capital from the organic composition of capital. The technological composition of capital rises much more rapidly than the organic composition of capital.

In addition, anything that increases the rate of turnover of variable capital, such as the opening of new markets or improved transportation methods, also increases the rate of profit over a given period, such as a year.

Because there are counteracting factors, the falling rate of profit is only a tendency, according to Marx. Counter-tendencies can override the tendency of the rate of profit to fall for a more or less prolonged period. Therefore, Marx's law of the tendency of the rate of profit to fall does not rule out a rise in the rate of profit over considerable periods. Mandel built his theory of long waves on this foundation.

Mandel's theory of semi-cycles

Marx expected the rate of profit to fall only over considerable periods of time and not from year to year. Mandel, as we saw in an earlier chapter, ended up with a semi-cyclical theory. Essentially, he held that over some 20 years – about two ordinary 10-year industrial cycles – the rising organic composition of capital leads to a fall in the value rate of profit sufficient to cause a considerable slowdown in the rate of accumulation of capital or economic growth.

This slowdown is not accidental, according to Mandel; it is a necessary result of the most basic laws that govern the capitalist system. But why doesn't the stagnation or semi-stagnation simply last indefinitely or even gradually intensify as the organic composition continues to rise? Here, like Sweezy, Mandel turned to accidental factors that may or may not recur in the future.

According to Mandel, each expansionary long wave of capitalist development historically had a different cause. The only thing these causes had in common was that they all temporarily increased the rate of profit, overriding the long-term downward trend of the profit rate.

According to Mandel (and Marx and Engels), the gold discoveries in California and Australia led to an extremely rapid expansion of the capitalist market, in other words to a very rapid growth of monetarily effective demand. In the late 19th century, the rapid spread of colonialism caused the profit rate to increase. The fruit of this rise was the wave of accelerated capitalist economic growth that began in the 1890s and continued until 1913.

The last long wave of capitalist economic expansion, the one that occurred between 1948 and 1967, Mandel believed was rooted in a sharp rise in the rate of exploitation and profit caused by the huge defeats that the working class had suffered in the years that followed World War I. These included the rise of a series of fascist and military dictatorships, especially the fascist dictatorship of Adolf Hitler, which crushed the working class movement throughout continental Europe.

This led to a sharp rise in the rate of surplus value, the ratio of unpaid to paid labor. The sharp rise in the rate of profit on variable capital for several decades after World War II swamped the effect of the rise in the organic composition of capital that occurred during this period.

This explanation works better in explaining the postwar prosperity in West Germany, the rest of Western Europe, and Japan than in explaining the boom in the United States. The inter-war years – leaving aside the special case of the Russian Revolution – were a disaster for the European working classes and the Japanese working class, where a military dictatorship was imposed in the 1930s and 1940s.

But they were also years of great advance for the working class in the leading capitalist country of the epoch, the United States. The building of powerful industrial unions for the first time in basic industry, as well as winning unemployment insurance and social insurance, no matter how inadequate, by the U.S. working class under the New Deal certainly made it more difficult for the U.S. capitalists to raise the rate of profit by increasing the rate of surplus value within the United States. This is why the great majority of U.S. capitalists viewed Franklin Roosevelt with bitter hatred.

But it is true that after World War II economic growth was much faster in West Germany and the rest of Western Europe and Japan, except Britain, than it was in the United States. Therefore, we can concede that there is a strong element of truth in Mandel's explanation regarding Western Europe and Japan.

Perhaps Mandel's views were over-colored by the Western European experience. Mandel lived in Western Europe throughout his entire life. Economic growth during the first several decades after the war was indeed considerably slower in the United States and Britain, where the working class had not suffered under fascist or military dictatorship, than it was in the imperialist countries that had experienced such dictatorships after World War I.

After Mandel's death in 1995, the British Marxist Bill Jefferies, a Mandel follower, pointed out in his doctoral thesis that the overthrow of the planned economies of the Soviet Union and Eastern Europe and the new opening of China to world capital after 1978 worked as powerful counteracting factors against the long-term tendency of the rate of profit to fall. Following the 1970s, the amount of labor power available for capitalist exploitation skyrocketed. Jefferies was correct on these points.

From the other side of the class divide, Alan Greenspan, the former chief of the U.S. Federal Reserve System, has emphasized the role of a vast increase in the quantity of cheap labor in causing what Greenspan saw as the great capitalist prosperity that began in the early 1980s and that had not ended when he wrote his memoir, The Age of Turbulence.

These events not only increased the rate of surplus value on average on a world scale, but with so much cheap labor available, the capitalists have had a greatly reduced incentive to replace living labor – variable capital – with dead labor – constant capital. If the planned economies of the Soviet Union and Eastern Europe had not been dismantled, and if China and Vietnam had followed the Soviet pattern of economic development, the organic composition of capital would have been considerably higher, the average rate of surplus value and the rate of profit on the world market would have been lower around the turn of the 21st century than it was.

The new capitalist-run factories that have sprung up in China since 1978 and other cheap labor countries tend to be far less automated than the highly automated factories found in the United States, Western Europe, Japan, and other relatively high-wage areas. Generally, the factories not being shut down in the United States, Western Europe, and Japan are highly automated or, in Marxist terminology, have a very high organic composition of capital. All this over decades has worked against the long-run tendency toward a higher organic composition of capital and a lower rate of profit.

Jefferies, a disciple of Mandel, is much more consistent and willing to face unpleasant political realities than his master was in the final years of his life. He drew the logical conclusion that since the 1980s, the capitalist economy has once again been in a period of accelerated economic growth, or, in Mandel's terminology, in a "long wave with an undertone of expansion."

But doesn't the panic of 2007-09 refute Jefferies' view in practice? It didn't necessarily at first. True, Jefferies, going overboard, made the mistake of predicting that there would be no worldwide recession when the first signs of a developing crisis began to manifest themselves in global financial mar-

kets in the middle of 2007. However, other periods that economic historians consider "long waves" of economic prosperity have also seen sharp panics followed by worldwide, if brief, recessions.

For example, there is the case of the panic of 1857, which occurred in Marx's lifetime, and the panic of 1907, which occurred during the prosperous years – admittedly near their end – that preceded World War I. If the 2007-09 crisis had been followed by a dramatic rebound as occurred in 1858 and 1908, it would not have necessarily meant an end to a long period of capitalist prosperity that Jefferies believed was underway.

However, the recovery from the crisis of 2007-09 proved very slow, particularly in light of the sharpness of the crisis. Europe even slipped back into recession in 2011. However, the general pattern of sub-par growth stubbornly persisted in most countries right down to the COVID shutdowns of 2020.

In light of these developments, Jefferies' prediction that the crisis of 2007-09 would first not occur at all and then that it would turn out to be only a brief interruption in a period of rapid growth like the crisis of 1857-58 proved false.

Where did Jefferies go wrong?

What we may call the Mandel-Jefferies theory of long waves is based on problems that the capitalist class faces in producing a quantity of surplus value sufficient to maintain a value rate of profit high enough to sustain vigorous capitalist expanded reproduction. Mandel, who was a considerably more subtle economic thinker than Jefferies is, did note in his book Long Waves of Capitalist Development that the question of effective monetary demand – the realization of surplus value in the form of monetary profit – should also be worked into the theory of long waves. However, in his book Mandel concentrated only on the production of surplus value and the value rate of profit. And that was his mistake.

The evolution of the world capitalist economy between 2007 and 2020 indicates that a theory of either crises, stagnation, long cycles, or long waves that fail to treat the problem of markets as an independent variable is, at best, incomplete. It is not enough for the capitalists to produce the surplus value; they must also realize it on the market in the form of money.

Fluctuations in the production of gold

This brings us to what is perhaps the oldest explanation for long waves or long cycles: fluctuations in the production of money material – gold. Ac-

cording to Mandel, the Dutch Marxist J. van Gelderen – who Mandel credits along with Parvus as the founders of long-wave theory – noticed that rises in gold production preceded accelerated waves of growth of the capitalist system. Karl Kautsky, in his book *The High Cost of Living*, also noted the relationship between rising gold production and periods of accelerated waves of growth of the capitalist economy, as well as the relationship between prolonged depressions and depressed gold production.

More recent Marxists, however, have generally ignored the role of gold production when they discuss long-cycle or long-wave theories. Mandel played down the role of gold production in his book *Long Waves*, except for the 1848-1873 "expansionary wave."

Modern Marxist economists, with few exceptions, agreed with most bourgeois economists on this question, and wrongly assumed that with the end of the international gold standard, the level of gold production no longer significantly affects the rate of economic growth. This leads to the view that any shortage of demand can be dealt with through government deficit spending and, if there is a shortage of money, by simply having the central bank print more money, up to "full employment."

If crises occur anyway, they must arise either because a section of the capitalist class opposes Keynesian policies – usually assumed to be the financial or money capitalists, who fear the effects of otherwise beneficial "mild inflation" because it tends to erode their incomes in real terms – or because an insufficient amount of surplus value is being produced to sustain an adequate value rate of profit.

In reality, the concrete data on the history of gold production from the 1848-51 gold discoveries onward show that periods of extraordinary economic crisis-depression have been preceded by declining gold production, just as eras of rapid capitalist economic growth have been preceded or accompanied by rising gold production.

This is true for the years examined by such early 20th-century Marxists as van Gelderen and Kautsky but also for the following years and decades. For example, a major drop in gold production during and immediately after World War I preceded the super-crisis of 1929-33. The rate of increase of gold production also began to stagnate immediately before the stagflation of the 1970s. The inflationary economic crisis of 1974-75 was preceded by declining gold production, and gold production remained stagnant at a depressed level until the economic crisis of 1979-82, after which it recovered.

This pattern has been repeated in the 2007-09 Great Recession. Between the early 1980s and the turn of the century, the trend in gold production was strongly upward, and after the turn of the century, it began to decline. Within less than a decade the economic crisis of 2007-09 hit, though after that crisis, gold production resumed its rise and hit new highs.

Therefore, both our theoretical analysis and the concrete economic history since 1850 agree that the long-run rate of growth of the market is tied not to the rate of growth of commodity production, as Say's Law would have it, or to the fiscal and monetary policies followed by governments and central banks as Keynesians and Keynesian-Marxists believe, but to the rate of growth of the quantity of the money material – gold. This is true whether a gold standard in any form is in effect or a system of paper money prevails.

Contrary to the hopes and expectations of bourgeois economists, the end of the gold standard has not freed the growth of the market from its golden chains. This is shown by the economic "stagflationary" crisis of 1968-82 and was confirmed again by the 2007-09 world crisis. The level of gold production provides the missing piece in Mandel's analysis of long waves: the role of the growth or lack of growth of monetarily effective demand – the market.

Mandel, unlike most modern Marxists who either claim that gold has lost its monetary role with the end of the international gold standard or simply ignore the question altogether, specifically affirmed that gold continues to retain its monetary role and continues to function as the universal equivalent or measure of the value of commodities. But except for the 1848-1873 long wave of expansion that occurred when the gold standard was in effect in the most important capitalist country, Britain, as well as the United States, Mandel played down the importance of the level of gold production on the rate of economic growth. The price he paid left a large hole in his theory of long waves that he himself acknowledged, the role of monetarily effective demand.

Is gold production cyclical?

The level of gold production also provides a potential cyclical element. Remember, the lack of any perceived cyclical mechanism caused both Trotsky and Sweezy to reject the existence of long cycles in capitalist production.

Suppose we have a situation where the general price level is below the labor values of commodities – or, more strictly, market prices are below the prices of production of commodities – such as is generally the case after a major economic crisis or prolonged deep depression. This will mean that

the rate of profit in the gold mining and refining industry will be above the average rate of profit that prevails in capitalist industry as a whole.

Capital, which is always in search of super-profits above and beyond the average rate of profit, will then flow into gold production as long as this situation exists. Gold production will be stimulated, and considerable amounts of idle money capital will accumulate in the banks for years. These growing hoards of idle money capital will have the effect of driving down the rate of interest and increasing the profit of enterprise which alone provides the motive to actually produce surplus value.

The industrial capitalists will have to increase their investments sooner or later because if they don't, more and more of their capital will consist of idle money capital, and the rate of profit will steadily decline on their total capital, including money capital. As the industrial capitalists step up their investments, more and more workers will be exploited, and the production of surplus value rises and the possibilities of actually realizing the surplus value in money form expand as previously idle hoards of money capital are drawn into circulation. The market then experiences one of its sudden expansions that mark the concrete history of capitalist production.

The "boom phase" of this "long cycle" will come to dominate perhaps several 10-year industrial cycles. During these "expansionary" economic cycles, the boom phase lasts much longer than the combined crisis-depression phase. During booms, demand exceeds the supply of commodities at current market prices. Prices, therefore, drift upward as the market equalizes supply and demand.

Eventually, prices rise above their underlying labor values and the prices of production that are determined with some modifications by labor values. This will mean the rate of profit in the gold mining industry will fall below the average rate of profit in industry as a whole as well as absolutely. Capital will begin to flow out of gold mining and refining into other more profitable industries. The rate of increase in gold production will at first decline, and eventually, the level of gold production will begin to fall absolutely.

Declining gold production, whatever monetary system is in effect, whether a gold standard, gold-exchange standard, or a "paper money" system, means that as long as the rate of economic growth remains unchanged, the rate of interest will rise relative to the total profit, causing a drop in the profit of enterprise.

Money will become tight sooner or later, and eventually, a major or series of economic crises will break out. Prices in terms of gold will decline. At some point, prices will again fall below the prices of production, causing the

rate of profit in gold mining and refining to once again exceed the average rate of profit in other industries as well as increase absolutely. Capital will again flow into gold mining and refining, and the cycle will repeat. Here we have a true cyclical mechanism where one phase of the cycle leads to the next phase of the cycle.

This cyclical mechanism is rooted in the most basic law that regulates the capitalist economy, the law of value of commodities. Long cycles, if the hypothesis that we are exploring here is correct, function as the mechanism by which the level of market prices is kept in the long run more or less in line with production prices – themselves determined by the underlying labor values – in the long run.

The long cycle would then be a necessary consequence of capitalist production. Our hypothesis also provides a material basis for the long cycle. Just like the 10-year industrial cycle involves the decennial renewal of fixed capital, and the short Kitchin cycle involves the three-year cycle of commodity capital, the long cycle would involve the cyclical movement of the production of and accumulation of money capital. Unlike Mandel's theory, both the upper and lower turning points of the cycle are explained. Instead of a semi-cycle, we have a full cycle.

This hypothesis depends on the assumption that the level of gold production is governed by a cycle with at least a 20-year up phase. But the above suggestion depends on the cyclical nature of gold production, and how cyclical is gold production? The historical data show that the level of gold production is determined only partially by cyclical forces. Many non-cyclical factors play an important role.

For example, the discovery of gold in California and Australia in 1848-51 was not cyclical. Therefore, insofar as the rise in world gold production caused the mid-Victorian boom of 1848-1873 – and even Mandel agrees that it was – to that extent, the "boom" wasn't cyclical either.

Similarly, the development of the cyanide process that made it possible to extract minute quantities of gold from very poor ores was not strictly cyclical either – though here the case could be made that high profits in gold production encouraged high levels of investment and therefore innovation in gold production. The cyanide process's widespread application in gold mining and refining starting in the 1890s may have indirectly, therefore, had a cyclical element. However, just as the California and Australian gold discoveries were not cyclical, neither were the gold discoveries in the mid-1890s in the Klondike.

As explained in earlier chapters, the sharp and prolonged decline in the level of gold production during and immediately after World War I was linked to the inflation of prices, not just in terms of depreciated paper money but in gold money as well, and was therefore not cyclical either. It was the result of the World War I war economy.

However, the rate of increase in gold production had already slowed to a crawl before the war began, so perhaps World War I only aggravated a crisis in gold production that was already developing. The growing stagnation of gold production in the years immediately preceding World War I, following sharp increases in commodity prices, contained a strong cyclical element though the depletion of the Klondike gold mines was not itself cyclical and neither was the depletion of the South African gold mines at the turn of the 21st century, which preceded the crisis of 2007-09.

To reach the gold deposits, the gold mining companies were forced to drill ever deeper, straining the limits of late 20th- and early 21st-century technology in this regard – not to mention forcing the mineworkers to labor in increasingly hot conditions, straining the limits of human physiology. The depletion of the South African gold mines and the deteriorating natural conditions of production that played no small role in the coming of the Great Recession were not cyclical factors.

Because non-cyclical factors so strongly influence gold production – the discoveries of new mines, the exhaustion of old mines, inflations caused by wars, not only World Wars I and II but smaller wars such as Vietnam, as well as the progress in mining and refining technology – we would not expect to see regular long cycles in the capitalist economy.

The rate of growth of the capitalist economy responds to changes in the level of gold production, whether cyclical or non-cyclical. Therefore, changes in the rate of growth of the capitalist economy tend to have an irregular character and will be far more difficult to predict than the 10-year industrial or three-year inventory cycles of capitalism. The underlying cyclical forces that tend to produce the long cycles that do exist will be greatly distorted or even swamped by non-cyclical forces sometimes working to reinforce and sometimes crossing and sometimes negating them.

For example, would the Great Depression of the 1930s have occurred if there had been discoveries of new, very rich gold deposits on the relative scale of 1848 and the following years during the 1920s? Not likely, in our opinion. Perhaps in that counter-historical case, there would have been the usual cyclical recession around 1929-30 or a little later, with rapid economic

growth resuming within a year as happened in 1858. The fact that nothing like this happened is to a certain extent a historical "accident."

More regular "long cycles" in the 19th century?

During the 19th century, there were 50-year-long swings in prices that did seem to be somewhat regular. This, perhaps, is what inspired Kondratiev to propose his 50-year cycle in the first place. For example, prices trended downward from 1815, the end of the world war that followed the French Revolution, to about 1843. This would represent a declining phase of about 28 years.

Between 1843 and 1873, prices generally rose, with the uptrend greatly strengthened by the 1848-1851 gold discoveries in California and Australia. This would represent an upward trend of 30 years. Including the upward and downward phases, this comes to a 58-year cycle.

Between the price peak of 1873 and the trough of 1896, there were 23 years. The next price peak came in 1920, though World War I greatly influenced this price peak. Subtracting 1896 from 1920 gives us 24 years. Adding 23 and 24 together, we get a 47-year cycle – close to 50 years.

After this, the cycles become less regular. Between 1920 and 1933-34, the trend of prices was strongly downward. However, we get only 13 years of declining dollar prices and 14 years if we use prices measured in gold instead. Between 1933 and 2013, prices in terms of U.S. dollars and other paper currencies rose continuously with only brief and limited interruptions in 1937-38, 1948-49, and 2008-09. Prices have not been cyclical at all in terms of dollar prices and other paper money. Any long cycle or even long wave that existed before 1933 would seem to be no longer visible if we look only at prices in terms of paper dollars.

But if we look at prices measured in terms of gold, we see a different picture. Taking the end of Roosevelt's 1933-34 devaluation of the dollar as the price trough, we have an up phase, from 1933 to 1970, of 36 years. Adding the down and up phases together gives us exactly 50 years – 1920 to 1970 – for the entire cycle. The down phase of the cycle was compressed by the extreme violence of the super-crisis of 1929-33.

Between 1970 and 1980, prices in terms of gold dropped sharply. Again, the decline in the prices of commodities measured in terms of gold as opposed to paper currencies was very short but also very violent. They recovered after 1980 until 2001. After 2001, as the dollar resumed its depreciation, prices in terms of gold began a downward trend. We get, therefore, a 10-year down phase (1970 to 1980) and a 21-year up phase (1980 to 2001), adding

up to a total of 31 years for the latest full cycle, well short of a full 50-year Kondratiev cycle.

If the 50-year cycle were in operation, and taking 1970 as a peak year and the up and down phases of the cycle were of equal lengths, we would expect a price trough in terms of gold around 1995 and the next peak around 2020. Instead, we get a price trough in terms of gold around 1980, 15 years early, and a new, if considerably lower, price peak in 2001.

Therefore, since 1920, instead of regular cycles with more or less equal up and down phases, we seem to have a cycle of 20- to 25-year up phases followed by violent collapses of prices in terms of gold that last about a decade.

Perhaps the apparent regularity of the long cycle in the 19th- and early 20th-century price data was largely accidental. Or it might have reflected the greater stability of capitalism under the international gold standard in an era without world wars.

The price peaks of 1815 and 1920 seem to have been influenced by world wars and therefore were not completely cyclical. The mid-Victorian boom was tied to the cheapening of gold in the wake of discoveries of the rich mines in California and Australia, an event that was also non-cyclical.

Even the stagnation of gold production after the mid-1960s is related to the price inflation of the late 1960s, partly caused by the Vietnam War. Here, however, it seems that the Vietnam War only accelerated a cyclical decline in gold production that was coming anyway, just as apartheid, also a non-cyclical factor, postponed both the peak of gold production until 1970 as well as the collapse of commodity prices measured in terms of gold that quickly followed.

There appears to be an underlying cyclical pattern here, but clearly non-cyclical factors are playing an important role, at least regarding gold production.

Are the theories of long-term changes in the rate of growth of the capitalist economy caused by changes in gold production, on the one hand, and the changes in the long-term rate of capitalist economic growth tied to the rise in the organic composition of capital and fluctuations in the rate of surplus value, on the other, mutually exclusive? Or can they be combined?

It is easy to document changes in gold production, with fairly reliable figures on global gold production available from the 1850s onward. It is much harder to document changes in the organic composition of capital, rate of surplus value and that part of the turnover time that is determined by the technological state of production and transportation – as opposed to the state of business and changes in prices. This makes it hard to document

changes in the value rate of profit and, therefore, empirically explore how changes in the value rate of profit exert an independent effect on the long-term evolution of the rate of capitalist economic growth and markets.

Various Marxists have attempted to measure changes in the rate of profit over certain periods. However, this data lacks the reliability or completeness of the statistical data available for world gold production. Charting world gold production trends, compared to the factors behind the value rate of profit, is, after all, simple. However, as we see, changes in gold production are a pretty good indicator of changes in business conditions and prices – in terms of gold – over periods that exceed the 10-year industrial cycle.

A combined theory

Despite the problem of inadequate data on the organic composition of capital, the rate of surplus value, and the technology-determined rate of turnover of variable capital – the value rate of profit – we believe the theory that links long waves to long-term fluctuations in the value rate of profit and the theory that links them to long-term fluctuations in the level of gold production, and thus in the rate of growth of the market, can be combined.

Marx pointed out that the optimum conditions for producing surplus value and realizing surplus value only sometimes coincide. If surplus value is not produced, there is no profit. If the surplus value produced is insufficient to generate high enough profits, there will be economic stagnation.

On the other hand, if the surplus value is produced in quantities more than adequate to support rapid capitalist economic growth, there is no guarantee that the surplus value will be realized in terms of money. And if it is not realized in terms of money, there will be no profit, or if partially realized, perhaps a rate of profit that is too low to support rapid economic growth. Indeed, the conditions that favor the realization of surplus value tend, over the long run, to undermine the production of surplus value.

As a thought experiment, let's assume the problem of realizing surplus value could be permanently solved under the capitalist mode of production. The market would no longer limit the scale of capitalist production. Production could increase as rapidly as allowed by the value rate of profit. Crises of general overproduction would no longer get in the way.

Would this solve the contradictions of capitalism? The problem of the realization of the value and surplus value of commodities in our Say's Law world would by definition be solved. But what about the problem of producing surplus value?

The demand for labor power, no longer periodically checked by crises of overproduction, would rise without interruption. With the demand for labor power high and growing, it would only be a matter of time before the balance of forces on the world labor market would shift in favor of the sellers of the commodity labor power. Wages would rise, which, of course, would be very good for the working class.

How would the industrial capitalists react to such a deteriorating situation for them? They would introduce machinery at an accelerated rate to hold down wages. But, introducing machinery at an accelerated rate would mean a sharp rise in the organic composition of capital. The rate of profit would come under great pressure. The combination of a falling rate of surplus value and a rising organic composition of capital would squeeze the rate of profit at two ends at once.

Overcoming the problem of realizing the surplus value would progressively undermine the conditions of producing it. The end result would be a crisis caused by what Marx called an absolute overproduction of capital and not a relative overproduction of commodities – which, also of necessity, means a relative overproduction of capital. Therefore, even if the problem of "demand" – the market – could be solved, we would still not have a crisis-free capitalism.

Now, as a thought experiment, assume the opposite situation that could arise in the real world. Suppose due to exhaustion of gold mines, the problem of the realization of surplus value is greatly intensified. The demand for labor power would now grow very slowly. On the labor market, the balance of forces would strongly favor the buyers of labor power – the capitalists – over the sellers – the working class. Wages would fall more and more over time. The rate of surplus value would skyrocket. It would become vastly easier to produce surplus value.

With labor so cheap, the capitalists would increasingly favor labor-intensive methods of production over capital-intensive methods, as the bourgeois economists say. The organic composition would rise very little if it didn't fall.

In summary, easing the difficulties of realizing surplus value intensifies the problem of producing it. On the other hand, intensifying the problem of realizing surplus value eases the problem of producing it.

Now assume that we have alternating periods of rising gold production, which makes the realization of surplus value relatively easy but the production of surplus value increasingly difficult, and periods of declining gold production, which makes the realization of surplus value much more difficult but makes the production of surplus value easier.

Constructing an ideal long cycle

Let's begin with the up phase of the cycle. Gold production is expanding, and monetarily effective demand is rising rapidly. The demand for the commodity labor power rises sharply. At first, there is plenty of unemployment and surplus labor. For a while, the production of surplus value has been quite easy for industrial capitalists. The rate of profit will be high, and business will boom. Production of commodities occasionally outraces gold production, but a brief recession quickly corrects the situation, and the economy recovers rapidly.

As the boom continues, however, labor shortages begin to appear, first among skilled workers but later among even unskilled workers. Wages rise, and more importantly, the rate of surplus value falls. As the production of surplus value becomes increasingly difficult, the industrial capitalists react by replacing living labor with machinery.

This temporarily increases the rate of profit for individual capitalists before prices adjust to new lower labor values or prices of production. But in the long run, the pressure on the rate of profit gets even more intense as the organic composition of capital rises. More and more of the total capital consists of constant capital, which produces no surplus value no matter how productive it is in physical terms. Less and less of the total capital consists of variable capital, which alone produces surplus value.

Under our assumptions, the remaining variable capital per worker unit of purchased labor power produces less surplus value. The total mass of surplus value is increasing at a lesser rate than the total value produced by the working class. With the quantity of unemployed labor power increasingly scarce, it is much harder to increase industrial production rapidly. Installing more powerful machines or constructing extremely capital-intensive factories takes time, especially if construction labor is scarce.

With demand exceeding supply at existing prices, prices start rising rapidly relative to their labor value-determined production prices. The rate of profit falls faster in the gold mining and refining industries than it falls in capitalist industry as a whole. The production of gold levels out and starts to decline.

The capitalist system will face increased difficulty in the production of surplus value at the very moment it is becoming more difficult to realize surplus value. Soon, a major economic crisis or series of economic crises will develop.

The demand for labor power will decline dramatically. As unemployment again grows, wages are slashed. It has now become more profitable for industrial capitalists to favor the use of labor-intensive over capital-intensive production methods. The rise in the organic composition of capital is greatly reduced if it isn't reversed.

The devaluation of the commodities that make up the elements of constant capital also works in the direction of lowering the organic composition of capital. Eventually, protracted depression conditions, or perhaps a shorter period of acute crisis, lowers the prices of commodities in terms of gold below the values of commodities once again.

This raises the rate of profit in the gold production industry once again above the average rate of profit in industry as a whole. At the bottom of the long cycle, a combination of the growing ease of producing surplus value coincides once again with the increased ease of realizing surplus value. In addition, the abundance of money capital means a lower rate of interest relative to the total profit and a sharply rising profit of enterprise. Economic growth speeds up once again, and the cycle or wave is repeated.

So we see here a mechanism for a cyclical or quasi-cyclical process operating through a series of 10-year industrial cycles. If we abstract external shocks, perhaps we will have two 10-year industrial cycles dominated by boom conditions, followed by two industrial cycles dominated by crisis and depression conditions. In the real world, this cycle will be partially broken up by such inevitable accidents as wars, revolutions, counterrevolutions, new gold discoveries, inventions in gold mining and refining, and the exhaustion of gold mines.

In addition, changes in the natural conditions of production involved in the production of the elements of constant capital, such as copper mines, nickel mines, coal mines, oil wells, and so on, also will have an important effect on the organic composition of capital and the rate of profit.

The same is true in agricultural production. Indeed, changes in agricultural production can affect both the organic composition of capital and the rate of surplus value. These are among the accidental factors that can either reinforce or cross the long cycle described above.

Sometimes, these accidental processes will reinforce and intensify the underlying cyclical trend. At other times, such accidents will cross the underlying cyclical trend and weaken or override it. This seems to coincide fairly well with what we see in the economic history of the last 170 years.

With the complexities of real-world cycles, how long can capitalism go on?

Could capitalism, in the absence of a working-class revolution, last indefinitely? If that is the case, then socialism is not an economic necessity but merely a moral imperative.

Or are there certain economic or historical limits to the process that must eventually end capitalist production? And if this is true, exactly what are the factors that must bring capitalism to an end?

Strictly speaking, this takes us beyond crisis theory, the subject of this work. The section of Marxist theory that examines the questions of the historical and economic limits to capitalist production is sometimes called "breakdown theory," though there are many interpretations of what "breakdown" means in this context.

But, the question of capitalism's ultimate economic limitations is so intertwined with crisis theory that it cannot be avoided. Crisis theory, therefore, "blends" into "breakdown theory." Or what comes to the same thing, crisis theory blends into the question of the fate of modern society.

We will explore this question in the final section of this work.

Breakdown Theories

In the preface to his "*Contribution to a Critique of Political Economy*," the only major economic work of his mature period other than Volume I of "*Capital*" that Marx published during his lifetime, Marx explained that the underlying cause of the replacement of one mode of production by another is to be found in the changes in the forces of production.

Marx wrote: "In the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure and to which correspond definite forms of social consciousness. The mode of production of material life conditions the general process of social, political and intellectual life. It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness. At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production or – this merely expresses the same thing in legal terms – with the property relations within the framework of which they have operated hitherto. From forms of development of the productive forces, these relations turn into their fetters. Then begins an era of social revolution. The changes in the economic foundation lead sooner or later to the transformation of the whole immense superstructure.

"In studying such transformations it is always necessary to distinguish between the material transformation of the economic conditions of production, which can be determined with the precision of natural science, and the legal, political, religious, artistic or philosophic – in short, ideological forms in which men become conscious of this conflict and fight it out. Just as one does not judge an individual by what he thinks about himself, so one cannot judge such a period of transformation by its consciousness, but, on the contrary, this consciousness must be explained from the contradictions of material life, from the conflict existing between the social forces of production and the relations of production. No social order is ever destroyed before all the productive forces for which it is sufficient have been developed, and new superior relations of production never replace older ones before the material conditions for their existence have matured within the framework of the old society."

The 'breakdown' controversy

If capitalism can continue to develop the forces of production without limit, then by Marx's criteria, it should last indefinitely. Didn't Marx explain that "[no] social order is ever destroyed before all the productive forces for which it is sufficient have been developed"? In direct contradiction to Marx, many socialists have argued over the decades that capitalism will be replaced by socialism because socialism is a better or more moral system, not because it is an economic necessity.

If Marx was right, socialism, if it is to come, will arrive not simply because a "better world is possible," but because a better world is necessary. But what are the limits beyond which capitalism cannot develop the productive forces? The study of the historical limits of capitalist production is sometimes called "breakdown theory." Various breakdown theories have been proposed. Let's examine the history of this discussion and some popular breakdown theories.

CHAPTER 35:
The Struggle Against Revisionism in the German Social Democracy

At the time of the death of Engels in August 1895, the German Social Democratic Party (SPD) represented the highest expression of the class-conscious working class organized as a political party achieved up to that time. Not only did the SPD enjoy the support of a large and growing sector of the German working class, it was a party avowedly based on Marxist ideas. As a result, it was the leading party of the Socialist International, also known as the Second International.

Shortly after Engels' death, Eduard Bernstein – considered (with Karl Kautsky) the SPD's leading expert in Marxist theory in the post-Engels era – launched a major attack on Marxist theory. Bernstein saw no limit to capitalism's ability to adapt itself to the needs of the productive forces.

Therefore, according to Bernstein and his supporters within the SPD, an epoch of social revolution did not lie ahead but rather a prolonged period of gradual reform of capitalism. Instead of "revolutionary socialism," Bernstein and his revisionists advocated "evolutionary socialism." The revisionists' perspective was an indefinite struggle to improve the conditions of the working class within the framework of the existing society. The era of revolutions, the revisionists concluded, was gone for good.

As evidence for their "revised" non-Marxist views, the revisionist movement pointed to the fact that a deep economic crisis had not occurred in Germany since 1873. The revisionists held that the absence of a major economic crisis for more than 20 years meant that capitalism was developing "means of adaptation," making major economic crises increasingly unlikely.

Events were to show that Bernstein's conclusions about crises were a little premature, to say the least! The revisionists' view that crises were fading away – which, by the way, was exactly the doctrine that the bourgeois economists of the time were teaching – was advanced well before the rise of modern bourgeois macroeconomics, expressed in the work of John Maynard Keynes and Milton Friedman. Both Keynes and Friedman claimed that if only the correct policies were followed – they differed on exactly what these policies should be – capitalist economic crises could be avoided without abolishing capitalism.

It seems that such claims – always duly echoed by certain forces in the workers' and left movements beginning with Bernstein's original revisionists – are themselves cyclical. All you need is a period of capitalist prosperity and announcements that the problem of crises has been solved for good, pop up like mushrooms after a warm spring rain. The late 1890s, when Bernstein first advanced his theories, was indeed a period of unusual capitalist prosperity, especially for rapidly industrializing Germany.

While Bernstein and like-minded forces in the old Social Democracy held that capitalist crises were fading away, revolutionists like Rosa Luxemburg, who opposed Bernstein's revisionism, put great emphasis on the inevitability of severe capitalist economic crises. To the revolutionary wing of the Social Democracy, recurring capitalist economic crises pointed to an approaching "breakdown" of capitalism, the very breakdown that the revisionists denied.

Or, as Bernstein put it, the movement is everything, and the final goal is nothing. From the revisionist perspective, a major future capitalist economic crisis would only get in the way of the struggle for reforms. The different views among the German Social Democrats on capitalist crises and their outcomes reflected the divisions between the revolutionists on the left, the revisionists on the right, and the centrists in the middle, who wavered between the two.

In the years that followed, down to our day, the attitude toward crises and the tendency toward an economic breakdown of capitalism has continued to divide the left and right wings of the workers' movement.

In her "*Reform or Revolution*," Luxemburg could not ignore Bernstein's claim that crises were disappearing. Luxemburg not only had to explain the fallacies of Bernstein's theories, but she also put forward some of her own ideas on crises. These ideas shed light on the breakdown theory that Luxemburg developed later in the "*Accumulation of Capital*" and her "A*nti-Critique*."

After brilliantly debunking Bernstein's claim that capitalism was avoiding crises through cartels – capitalist monopolies – and the credit system, Luxemburg had to explain why Germany had not experienced a major economic crisis since the crash of 1873, more than 20 years earlier:

"But if the credit system, cartels, and the rest do not suppress the anarchy of capitalism, why have we not had a major commercial crisis for two decades, since 1873? Is this not a sign that, contrary to Marx's analysis, the capitalist mode of production has adapted itself – at least, in a general way – to the needs of society?" (Chapter II, "*Reform or Revolution*")

She continued: "The crisis of 1825 was, in effect, the result of extensive investment of capital in the construction of roads, canals, gas works, which took place during the preceding decade, particularly in England, where the crisis broke out. The following crisis of 1836-1839 was similarly the result of heavy investments in the construction of means of transportation. The crisis of 1847 was provoked by the feverish building of railroads in England (from 1844 to 1847, in three years, the British Parliament gave railway concessions to the value of $15 billion). In each of the three mentioned cases, a crisis came after new bases for capitalist development were established. In 1857, the same result was brought by the abrupt opening of new markets for European industry in America and Australia, after the discovery of the gold mines, and the extensive construction of railway lines, especially in France, where the example of England was then closely imitated. (From 1852 to 1856, new railway lines to the value of 1,250 million francs were built in France alone.) And finally we have the great crisis of 1873 – a direct consequence of the first boom of large industry in Germany and Austria, which followed the political events of 1866 and 1871."

Here, Luxemburg explains that the concrete history of crises up to when she was writing "*Reform or Revolution*," around 1898, had invariably been preceded by a major wave of investment in fixed capital and a major expansion of capitalist production. None of the capitalist crises up to that time had been preceded by a stagnation of capitalist production, but always by its vigorous expansion.

"So that up to now," Luxemburg wrote, "the sudden extension of the domain of capitalist economy, and not its shrinking, was each time the cause of the commercial crisis. That the international crises repeated themselves precisely every ten years was a purely exterior fact, a matter of chance."

While accidental factors certainly play a role in the exact timing of crises, Marx did not see the fact that crises came at about 10-year intervals as

simply a matter of chance. He saw the need of the industrial capitalists to renew obsolete or worn-out machinery about every ten years as providing a material basis for the industrial cycle of a length – give or take a few years – of about ten years.

Notice that while Luxemburg agreed as a matter of empirical fact that upsurges of capitalist investment preceded crises, she qualified this with the phrase up to now. Luxemburg was implying that this was only a temporary feature of crises that would not necessarily hold in the future.

Luxemburg on cartels

"Generally speaking," Luxemburg wrote, "combines treated as a manifestation of the capitalist mode of production, can only be considered a definite phase of capitalist development." She continued: "Cartels are fundamentally nothing else than a means resorted to by the capitalist mode of production for the purpose of holding back the fatal fall of the rate of profit in certain branches of production. What method do cartels employ for this end? That of keeping inactive a part of the accumulated capital. That is, they use the same method which in another form is employed in crises. The remedy and the illness resemble each other like two drops of water."

This is a brilliant pioneering analysis of the then-new phenomenon of capitalist monopoly. But notice, Luxemburg, writing in the late 1890s when monopoly capitalism was just emerging, saw cartels as a feature of "a definite phase of capitalist development."

By this, Luxemburg did not mean that cartels appear once capitalism reaches its highest stage of development – such as Lenin did in his 1916 pamphlet "*Imperialism*," written about 18 years after Luxemburg wrote "*Reform or Revolution*." Luxemburg, in contrast, back in 1898, saw the increasingly widespread cartelization of capitalist industry as a temporary phase of capitalism that would disappear when the real decline of capitalism set in.

"When the outlets of disposal begin to shrink," she explained, "and the world market has been extended to its limit and has become exhausted through the competition of the capitalist countries – and sooner or later that is bound to come – then the forced partial idleness of capital will reach such dimensions that the remedy will become transformed into a malady, and capital, already pretty much 'socialized' through regulation, will tend to revert again to the form of individual capital."

Luxemburg foresaw not just the temporary flooding of the market, such as we see in a cyclical crisis of overproduction, but a permanent exhaustion of the world market. But what would cause such a permanent glut of

the market? In "*Reform or Revolution*," she assumed that the permanent exhaustion of the world market that would define the decline of capitalism would result from the "competition of the capitalist countries."

This is a weak argument from a Marxist point of view. It is reminiscent of Adam Smith's theory that the rate of profit tends to fall because of increasing competition among the capitalists. Marx, in contrast, always looked for the forces that were operating below the surface phenomena of competition. For example, unlike Smith, Marx didn't attribute the tendency of the rate of profit to fall to growing competition but instead explained the tendency as arising from the rising organic composition of capital.

In her later works, Luxemburg holds to her youthful view that the exhaustion of the world market was approaching, but was not satisfied by the explanation she gave in "*Reform or Revolution*" – a growing competition among the various capitalist countries. Growing competition among the capitalist countries, or individual capitalists within a country, for that matter, is a sign of the increasing exhaustion – at least temporarily – of the market but never its cause.

In her mature works, "*The Accumulation of Capital*" and "*Anti-Critique*," Luxemburg attempted to explain the basic cause behind increasing competition of what she saw as the inevitable permanent exhaustion of the world market.

Earlier, in the late 1890s, Luxemburg foresaw a coming stage of capitalism where the world market would be more or less permanently glutted, and competition would be much fiercer among both the individual capitalists and the capitalist countries than it was before the epoch of the permanent exhaustion of the world market set in.

However, when Luxemburg was writing "*Reform or Revolution*," the world market, far from being exhausted, was in a stage of vigorous expansion. The revisionists saw this expansion and consequent capitalist prosperity as permanent and adopted their perspectives accordingly. Luxemburg, in contrast, saw the vigorous expansion of the world market then occurring as temporary, but she wasn't quite able to explain why this was so.

A century later, relatively few Marxists would defend Luxemburg's views that the world market is heading toward permanent exhaustion, and even fewer would hold that capitalist monopoly is merely a passing phase. These ideas – especially the latter – seem strange for generations of Marxists brought up on Lenin's "*Imperialism, the Highest Stage of Capitalism*" or Baran and Sweezy's "*Monopoly Capital*."

Indeed, most present-day Marxists – largely because of the wide acceptance of the view that commodity money has been abolished with the end of the international gold standard – feel uncomfortable with the view of Marx and Engels that even the cyclical capitalist crises are crises of overproduction relative to the market. With the passing of the gold standard, can't the "monetary authorities" create as much money as they wish up to "full employment," and can't the state, if necessary, spend this money, generating as much monetarily effective demand as is necessary to ensure "full employment," if only they desire it?

From the viewpoint of most of our present-day Marxists, if crises occur anyway, they must involve a fall in the rate of profit rather than a general overproduction of commodities. Or they represent a lack of effective monetary demand consciously brought on by government policies aimed at helping out the capitalists in their struggle against the workers through the deliberate creation of unemployment. To these modern Marxists, the idea of a permanent exhaustion of the market seems fantastic. We have come a long way since the days of Rosa Luxemburg.

Around the turn of the 20th century, the left-wing German Social Democrats and Karl Kautsky – then considered the world's leading living Marxist theoretician, who, like Rosa Luxemburg, opposed the revisionists – saw the cause of the continued growth of the market as the progressive expansion of capitalism into pre-capitalist agrarian regions. This wasn't simply due to some whim but reflected what happened over the preceding decades.

During the last part of the 19th century, the leading capitalist powers – with Britain and France in the lead and Germany and the United States following – were busy dividing up the agrarian regions – what we might call today the "Third World," or the "Global South" – among themselves.

Certainly, it was true that Britain and France – losing ground in the world market to the new and far more efficient capitalist competition from the United States and Germany – were seizing colonies in agrarian regions at least partly to guarantee these markets for their own industrial capitalists. Wasn't the penetration of capital into the pre-capitalist agrarian markets the key to the continued growth of the world market?

But what would happen once capitalist production ran out of the remaining agrarian pre-capitalist regions? Wouldn't the world market then reach a stage of permanent exhaustion?

At that time, it seems that few Western Social Democrats had any awareness of Marx's mathematical demonstration of expanded capitalist repro-

duction. Marx's demonstration of capitalist expanded reproduction using clumsy arithmetical values is indeed among the most difficult parts of "*Capital*." It is not surprising that even the most erudite Marxists generally avoided this material.

Only the Russian Marxists showed much interest in Marx's diagrams on capitalist reproduction, both simple and expanded. These Marxists used them to demonstrate that, contrary to the views of their populist opponents, the development of capitalism in Russia was both possible and historically progressive. But in Germany, Marxists did not have to deal with opponents who questioned the very possibility of capitalism there. In Germany, the question was how much longer capitalism could last, not whether it was possible.

When Luxemburg did become aware of Marx's diagrams of expanded reproduction, about a decade after she wrote "*Reform or Revolution*," she became alarmed. The diagrams seemed to pull the rug from under the basic economic arguments that had served the left wing so well in the struggle against the revisionists. We have already explored Marx's diagrams of simple and expanded reproduction in dealing with the theory that the cyclical crises of capitalism arise due to disproportions among the various branches of production. But we will briefly review them here.

The basic assumptions of Marx in his diagrams of expanded reproduction

First, in dealing with simple and expanded reproduction, Marx assumed a "pure capitalist society." The entire population is divided into industrial capitalists on one side and wage workers who produce surplus value for the industrial capitalists on the other.

Second, Marx abstracted technological progress and any change in the organic composition of capital. There is no falling tendency of the rate of profit in Volume II of "*Capital*." There are also no prices of production. Just as in the much more widely read Volume I of "*Capital*," all commodities are sold at prices corresponding directly to their values.

Therefore, the breakdown theory that is most popular among today's Marxists, who support a breakdown theory – based on the tendency of the rate of profit to fall – plays no role in Marx's diagrams of either simple or expanded reproduction.

Marx's expanded reproduction schemes – especially his second perfected scheme – proceed smoothly from year to year. In Marx's diagrams of expanded reproduction, there is no reason for capitalist expanded reproduction to

break down, nor is there a "business cycle" – industrial cycle – of any kind. The capitalism of Marx's expanded reproduction diagrams knows neither historical limits nor cyclical crises. It simply expands forever without crises.

Luxemburg's mature views on her 'breakdown' theory

To rescue the breakdown theory that had formed the foundation of the anti-revisionist struggle, Rosa Luxemburg tried, in the "*Accumulation of Capital*" and "*Anti-Critique*," to prove that Marx's diagram of expanded reproduction contained a fatal flaw.

In dealing with reproduction, Marx developed the equation – IIc = Iv + Is – as the equation for simple reproduction. The industrial capitalists engaged in the production of commodities that serve as items of personal consumption must exchange a certain portion of their output, IIc, for means of production, Iv + Is.

If simple reproduction is to proceed without a hitch, not only must Department II provide all the means of personal consumption needed by capitalists and workers of Department I in terms of use values, but Department I must provide all the means of production that Department II physically requires to maintain – but not expand – its level of production.

It is worth pointing out here that in his reproduction diagrams, Marx is only interested in exchanges between the two departments of production, not within them.

Since we are dealing with capitalist (re)production – a form of commodity production – and Marx assumed that all commodities sell at their values, there is another important condition. IIc must represent the same quantity of abstract human labor measured in terms of time that Iv + Is represents.

In developing his mathematical demonstration of capitalist reproduction, Marx began with simple reproduction since simple reproduction must always be contained within expanded reproduction. Understanding the conditions of simple reproduction is, therefore, the necessary starting point for understanding expanded reproduction.

In simple reproduction, it is assumed that the capitalists of both departments consume the entire surplus value in the form of items for personal consumption. But, in expanded reproduction, it is assumed that capitalists consume only part of the surplus value in the form of items of personal consumption. The rest must be "capitalized" – transformed into new capital.

Any increase in IIc must be matched by a similar expansion of Iv – the wages paid by the industrial capitalists of Department I, plus the portion of

Is – the surplus value appropriated by the capitalists of Department I – that is used for their personal consumption.

Luxemburg said that in expanded reproduction, the capitalists will consume only part of the surplus value. This is true as far as their personal consumption is concerned. But in truth, the capitalists of Department I can still consume their entire surplus value, but some of the surplus value must be consumed in productivity, not personally. If expanded reproduction is to occur – an absolute necessity if we are to have a capitalist economy – a portion of the surplus value of Department I must be converted into new capital, both constant and variable.

The capitalists of Department I productively consume a portion of the surplus value that is converted into new constant capital by expanding their scale of production through the purchase of additional machinery beyond the machines that have worn out and need replacement, plus raw and auxiliary materials beyond that necessary to maintain the existing scale of production. This, however, involves exchanges that are strictly internal to Department I.

Yet another portion of the surplus value must be transformed into additional variable capital. How do the capitalists of Department I productively consume this portion of the surplus value? They must consume this portion through the purchase of additional labor power, whether by increasing the hours worked or by hiring additional workers beyond those who simply replace the workers who have retired or died.

How is expanded reproduction financed?

Unlike the case with simple reproduction, the capitalists of Department I need increasing amounts of money to finance their increasing personal consumption and purchase additional labor power. Where does this extra money come from?

"The exchange of commodities on the market," Luxemburg writes, "is an internal or family matter between capitalists. The required money for this process, of course, comes out of the capitalists' pockets – as every employer must lay out the money capital in advance – and returns into the pockets of the capitalist class after the exchange on the market has taken place." (Chapter 1, "*Anti-Critique*")

Assuming that there are preexisting hoards of surplus money – the normal condition under capitalism – these hoards can be run down as expanded reproduction advances. Money that was previously "burning holes in the

collective pockets" of the capitalists must be thrown into circulation as expanded reproduction proceeds.

But if expanded reproduction is to continue, these hoards will eventually be exhausted. If money comes "from the pockets of the capitalists," won't the whole process of expanded reproduction come to a halt at this point once all the hoards of idle money are drawn into circulation? This would indeed be the case if there were not a special industry that produces additional money material.

Marx pointed out that before gold – or whatever commodity functions as money material – can be money, it must first be a commodity. And like all commodities, money material must be produced by human labor. Many popularizations of Marx's theory of simple and expanded capitalist reproduction simply leave out the money problem altogether. Simple and expanded reproduction can proceed if only the correct proportions are maintained between Department I and Department II.

However, when this vulgarization of Marx's reproduction models is made, we build Say's Law right into our models of reproduction, whether simple or expanded. This is an error that many Marxists have come to grief over when it comes to the problem of reproduction.

If you exclude money from reproduction, you end up with commodities purchasing commodities. The more commodities produced – as long as they are produced in the correct proportions – the more demand will rise. Crises of generalized overproduction of commodities are rendered impossible.

At most, you might have a partial overproduction of commodities – as allowed by Say – perhaps too many means of production in Department I backed by an underproduction of means of personal consumption in Department II, or vice versa. Many crisis theories – especially those based on disproportionate production – developed by Marxists in the years after the death of Engels stumbled exactly on this point.

Marx did not make this mistake. He built the production of money material into his models so that monetarily effective demand is accounted for. Money, of course, has certain peculiarities compared to other commodities. For example, a gold coin can be used to purchase many commodities in the course of a year. It eventually becomes lighter in circulation, so it cannot be used indefinitely.

However, if we replace the gold coins with monetary tokens – such as paper money – the gold can be withdrawn from circulation and used to "back" the circulating tokens. In that case, the gold can last indefinitely.

The money commodity – gold – becomes "immortal." All that needs to be replaced are the worn-out tokens that represent gold in circulation, and this can be done at a nominal cost in terms of human labor.

Let X represent the total value of commodities that need to be sold in the course of a year. We need only a small fraction of X in the form of bullion backing the token currency to support the circulation of the commodities. But it is still true that as expanded reproduction proceeds, more gold that functions as money material must be produced sooner or later. If it is not, expanded reproduction will grind to a halt as soon as the hoards of idle money are fully drawn into circulation, and credit, which Marx didn't deal with in his reproduction diagrams, is expanded to its maximum limit.

In developing his diagrams of expanded reproduction, Marx had to decide where to put the gold-producing industry – mining and refining. Strictly speaking, gold, insomuch as it functions as money, is neither a means of consumption nor a means of production. To stick to his two-department diagram, Marx decided to put the gold-producing industry in Department I – the department that produces the means of production.

He did this because when gold does not function as money, it functions as a raw material, and the production of raw materials belongs in Department I. Marx was able to take full account of money and stick to his mathematically elegant two-department scheme at the price of introducing a slight inconsistency into the diagrams. The monetary gold that Marx had Department I produce is not a means of production and indeed plays no role at all in the physical reproduction process, whether simple or expanded.

Sticking with Marx's two-department scheme, a certain number of capitalists in Department I use their newly produced gold to purchase additional labor power and additional elements of constant capital – which circulates only in Department I – and the additional means of consumption that a growing economy – expanded reproduction – makes possible for their personal delights.

This new money comes not from their pockets but from their newly produced commodity capital. The newly produced commodity capital of the industrial capitalists engaged in gold production has the peculiar quality of being in its natural form, money material. Therefore, a fraction of the capitalists of Department I – the gold producers – can buy without having first sold. This is what allows the market to expand.

The exact form of the monetary system doesn't matter here. If we imagine that gold coins are used as currency – which was the case in early capitalism

– the industrial capitalists who produce the gold simply have to bring their newly mined gold to the mint to use it as currency.

If a gold standard is in effect, the producers can exchange their gold for banknotes. Under today's paper money system, they exchange their newly mined gold for commercial bank-created credit (checkbook) money. The increasing level of gold production enables the monetary authorities to create additional token money that swells bank reserves without the newly created token money depreciating against gold. The swelling mass of token money made possible by the growing mass of metallic money forms the basis for creating additional credit money through the "fractional reserve" commercial banking system.

So, regardless of the exact monetary system in effect, thanks to the gold mining and refining industry – assuming gold is produced in adequate quantities – there will always be enough money to finance the ever-growing scale of capitalist expanded reproduction.

Luxemburg's ultimate argument

Coming to a blank wall in her search for a fatal flaw in Marx's diagrams of expanded reproduction, Luxemburg reached her ultimate argument.

"In our assumed total stock of commodities in capitalist society," Luxemburg wrote, "we must accordingly find a third portion, which is destined neither for the renewal of used means of production nor for the maintenance of workers and capitalists. It will be a portion of commodities which contains that invaluable part of the surplus value that forms capital's real purpose of existence: the profit destined for capitalization and accumulation. What sort of commodities are they, and who in society needs them?"

In simple reproduction, Rosa Luxemburg explained, once all commodity exchanges have taken place – that is, all commodities are in the hands of their ultimate consumers – all the commodities that represent surplus value will be in the possession of the capitalist class either in the form of consumer necessaries or luxury items that only the capitalists get to consume.

When the commodities that represent surplus value are subtracted from the total mass of commodities produced in a year, that fraction of the remaining commodities whose material use values function as consumer necessaries that keep the workers alive and producing the next generation of workers is purchased with the money that the workers obtain in exchange for the labor power they sell to the capitalists. The mass of commodities representing surplus value is strictly off-bounds to the workers.

But what about the case of expanded reproduction? The capitalists "must tighten their belts" and "save," as the bourgeois economists say, a certain portion of their profits – surplus value realized in money form – to expand the scale of their production. That is, they must transform a certain portion of their realized surplus value – profits – into new constant and variable capital.

As the capitalists of Department I transform some of their surplus value into new constant capital, they must carry out exchanges with other capitalists within their own department. Such inner-department exchanges play no role in Marx's diagrams of expanded reproduction and are of no concern to us here.

But what about the portion of the surplus value that the capitalists of Department 1 transform into new variable capital? To do this, they must indirectly engage in an exchange with Department II with the help of their newly hired workers. They use this newly created surplus value – which has already been converted into profit that exists in money form – to hire additional workers. For their part, the capitalists of Department II engaged in their own expanded reproduction have to produce more items of personal consumption for these newly hired Department I workers to consume.

"Here we have come to the nucleus of the problem of accumulation," Luxemburg wrote, "and we must investigate all attempts at solution. Could it really be the workers who consume the latter portion of the social stock of commodities? But the workers have no means beyond the wages covering bare necessities which they receive from their employers."

The capitalists of Department I cannot themselves consume in the form of consumer commodities that portion of the surplus value they transform into new variable capital. And according to Luxemburg, the workers cannot, under capitalist conditions of production, ever consume an atom of surplus value. Therefore, Luxemburg argues that if capitalist production conditions are to prevail, the portion of the additional commodities that Department II produces to fulfill the needs of the expanded reproduction of Department I will not find buyers within a closed capitalist system.

The capitalists of Department I must give some of their surplus value to the newly hired workers if the extra means of personal consumption produced by Department II – necessary if expanded reproduction is to proceed in a physical sense – are to find buyers. But this will mean, Luxemburg argued, that newly hired workers of Department I will be consuming surplus value. And that can never happen under capitalist production, according to Luxemburg.

Therefore, the extra commodities produced by Department II to support the expanded production of Department I will not find buyers in a purely capitalist economy. If these commodities cannot find buyers, expanded reproduction cannot physically proceed. The whole process of expanded reproduction will grind to a halt unless buyers from outside the capitalist system – simple commodity producers – can be found in sufficient quantity.

Luxemburg had proved to her satisfaction that in a "pure" capitalist society with no simple commodity producers – capitalist expanded reproduction – and thus capitalism itself – is impossible. At the point that capitalism has conquered all spheres of production on a global scale, it has become impossible – it must break down. In Luxemburg's mind, her belief that the world market was headed for exhaustion sooner or later, which in "*Reform or Revolution*" she had attributed unscientifically to increasing competition among the various capitalist countries, now had a solid scientific basis.

Or did it?

Let's return to the Department I capitalists as they undertake expanded reproduction. These capitalists set aside a certain portion of their realized surplus value – profit – to expand their workforces and hire additional workers. Doesn't this mean that the workers are consuming surplus value, which they are strictly prohibited from doing?

But before the newly hired workers of Department I are "allowed to consume a portion of the surplus value," this surplus value has been converted into variable capital – in the form of the sold labor power of the newly hired workers. Indeed, assuming that the workers cannot "save" their wages but must use them entirely for personal consumption and also assuming that there are no simple commodity producers, doesn't all the variable capital – and constant capital, as well – represent past surplus value that has been transformed into capital by the capitalists? Therefore, the newly hired workers have not violated any of the laws of capitalism when they sell their labor power in return for money wages to the capitalists of Department I.

The newly hired workers, who have not, we can assume, mastered Rosa Luxemburg, will proudly spend their first paychecks on the necessary commodities to reproduce their labor power. In doing so, they provide the answer to Luxemburg's riddle: by spending their wages, they realize the surplus value for the capitalists of Department II.

The money capital that Department I advanced as wages flows into the cash registers of Department II, clearing the market of the very commodi-

ties that Rosa Luxemburg claimed could never find buyers. As these workers spend their first paychecks, they do not know they are carrying out what, according to Luxemburg, is an economically "illegal" operation. And capitalist expanded reproduction will roll happily onward.

The Russian Marxist N.I. Bukharin, in 1924, wrote a polemic against the then-dead Luxemburg entitled "*Imperialism and the Accumulation of Capital*." He pointed out that Luxemburg built her entire argument by applying the conditions that apply to simple reproduction to expanded reproduction. Of course, if we assume in advance the conditions of simple reproduction, we can "prove" that expanded reproduction is impossible.

In the hands of the Russian Bukharin – who came from the tradition of Russian Marxism that was well-versed in the diagrams of expanded reproduction thanks to its struggle against the Russian populists – the economic theory that had formed the basis of the struggle of the entire left wing of the German Social Democracy against revisionism collapsed.

Between the time Luxemburg penned the "*Anti-Critique*" and Bukharin wrote "*Imperialism and the Accumulation of Capital*," the Russian Revolution and the following revolutionary wave swept across Europe. For a while, it seemed that Soviet power, the power of the working class massively organized through councils – soviets in Russian – which had seized state power, would sweep across Europe and then the whole world. Under these conditions, the whole question of the "breakdown theory" seemed extremely academic.

When she was released from prison by the German revolution of November 1918, Luxemburg herself didn't attempt to develop her breakdown theory further – she was too busy organizing the Spartacist League and then the German Communist Party. In 1919, she was murdered along with Karl Liebknecht by Freikorps thugs – forerunners of the Nazis – who were in a bloc with the ex-Marxist Social Democratic Party. The Social Democrats were upholding bourgeois parliamentary democracy against the "threat" of a "Communist Soviet dictatorship" – or what comes to the same thing, the political rule of the working class and socialist revolution.

But by 1924, the initial revolutionary wave that had followed the seizure of power by the Russian working class was ebbing. It had become clear that capitalism was still around and would be for some time.

Henryk Grossman in 1929 – the year by coincidence that the super-crisis of 1929-33 began, an event that was completely unexpected by Bukharin,

who by then had become the leader of the right wing of the ruling Soviet Communist Party – asked an interesting question. [1]

Exactly what breakdown theory did Bukharin propose to replace Luxemburg's failed attempt? Grossman initially answered that Bukharin ends up with nebulous phrasemongering about 'contradictions.' But if there is no economic limit to capitalism, if capitalism can expand forever as it does in Marx's diagram of expanded reproduction in Volume II of "*Capital*," doesn't socialism cease to be a necessity and become once again a utopia?

The starting point of Grossman's critique of Luxemburg was the diagram of expanded reproduction developed by Austrian Marxist Otto Bauer in reply to Luxemburg's "*Accumulation of Capital*." [2] Bauer's work was the most important contribution made by those German and Austrian Social Democrats opposed to Luxemburg's breakdown theory as developed in her "*Accumulation of Capital*."

In developing his answer to Luxemburg, Bauer had improved on Marx's diagram of expanded capitalist reproduction by taking into account the rise in the organic composition of capital and the consequent fall in the rate of profit.

Remember, Marx had left out the entire question of the rise in the organic composition of capital and the falling tendency of the rate of profit in his diagrams of expanded reproduction. As Marx would say, "these things don't exist for us" when he wrote Volume II of "*Capital*." This was characteristic of Marx's method; Marx dealt with these questions only in Volume III.

It, therefore, fell to Otto Bauer to integrate Marx's theory of expanded reproduction found in Volume II of "*Capital*" with Marx's theory of the rising organic composition of capital and falling rate of profit developed in Volume III. Like Marx, Bauer took his enhanced diagram of expanded reproduction four years forward and showed that capitalist reproduction could proceed smoothly over the four years. But could Bauer's model of expanded capitalist reproduction, with its assumptions of a rising organic composition of capital and a falling rate of profit, continue forever? Henryk Grossman did the math, and as a result, the whole breakdown debate entered a new stage.

1 *Law of the Accumulation and Breakdown*, Henryk Grossman, 1929. https://www.marxists.org/archive/grossman/1929/breakdown/ch01.htm

2 *The Accumulation of Capital*, Otto Bauer, 1913, in History of Political Economy, Vol. 18, Issue 1, Spring 1986, translated by J.E. King. https://doi.org/10.1215/00182702-18-1-87

CHAPTER 36:

Otto Bauer's Critique of Rosa Luxemburg's *'Accumulation of Capital'*

Of all the Social Democrats who criticized Rosa Luxemburg's "*Accumulation of Capital*," the most important contribution was Otto Bauer's. Bauer was a leader of the Austrian Social Democratic Party and became the party's top leader in 1918.

To refute the breakdown theory that Rosa Luxemburg presented in her "*Accumulation of Capital*," Bauer developed a diagram of expanded capitalist reproduction that, unlike Marx's, included a rising organic composition of capital, an unchanged rate of surplusvalue, and, consequently, a falling rate of profit.

Bauer set himself the task of proving that even in the face of a falling rate of profit, expanded reproduction could not only proceed smoothly, but it could do so at an accelerating pace. Given Bauer's assumptions, an accelerating rate of accumulation – a rising rate of economic growth – is necessary if full employment is to be maintained in the face of the rising organic composition of capital assumed in Bauer's diagram.

Since Bauer assumed growth in the working population of 5% a year and assumed wages remained unchanged in value terms, variable capital also had to grow at 5%. Therefore, Bauer assumed that the rate of growth of the social capital as a whole – constant plus variable capital – had to accelerate steadily.

Bauer's diagram of expanded reproduction did illustrate some of the fundamental laws of motion of the capitalist system that Marx's diagram did not. Unlike Marx's diagram, Bauer's diagram included the rising organic composition of capital, a falling rate of profit, and the faster development of Department I – which produces the means of production – relative to Department II – which produces the means of personal consumption.

Bauer's diagram, therefore, illustrated the basic laws of motion of the capitalist system that Marx developed only in Volume III of "*Capital*" and, therefore, according to Marx's method of presentation, was not taken up in Volume II. Bauer's diagram of expanded capitalist reproduction illustrates the quantitative growth of the productive forces and their qualitative growth.

Bauer's economic harmonies

To construct his model of harmonious growth, Bauer established a specific set of baseline assumptions intended to mirror the conditions of a developing capitalist economy:

- Constant Capital Accumulation: Grows at a rate of 10% per year.
- Variable Capital Accumulation: Grows at a rate of 5% per year.
- Population Growth: The working population grows at 5% per year.
- Rate of Surplus Value: Remains unchanged at 100%.

Because Bauer assumed the working population grows at 5% annually, a corresponding 5% accumulation rate for variable capital was strictly necessary to maintain full employment.

As Henryk Grossman explained in "T*he Law of Accumulation and Breakdown of the Capitalist System*," his 1929 critique of Bauer: "We can see that after ten years the original capital expands from a value of 300,000 to 681,243, or by 227%, despite a continuous fall in the rate ofprofit."

He continued: "In the second decade, the rate of expansion of capital amounts to 236%, although the rate of profit falls even further from 24.7 to 16.4%. Finally in the third decade the accumulation of capital proceeds still faster, with a decennial increase of 243%, when the rate of profit is even lower. So Bauer's scheme is a case of a declining rate ofprofit coupled with accelerated accumulation."

Grossman explained that Bauer assumed "a productive mechanism in which constant capital amounts to 200,000 and variable capital to 100,000."

He continued: "The other assumptions are that: 120,000 of this constant capital is apportioned to Department I (means of production) and 80,000 to Department II (means of consumption); that the variable capital is equally divided between both spheres; that the constant capital expands by 10% a year and the variable capital by 5% that the rate of surplus value is 100% and that in any given year the rate of accumulation is equal in the two departments."

But how can the rate of capitalist expanded reproduction – capital accumulation – be maintained and indeed increased sufficiently to maintain full

employment in the face of growing "automation," while the rate of profit is progressively declining? Shouldn't the rate of accumulation fall with the rate of profit? And if it does, won't the rate of the accumulation of variable capital fall below the rate of growth of the working population? And won't this lead to rising unemployment – not full employment?

Like Marx, Bauer brought his diagrams forward only four years. During those four years, Bauer's calculations show that if the capitalists consume a smaller percentage of the total surplus value unproductively – spending relatively less on items of personal consumption, they cannot only maintain a rate of accumulation sufficient to maintain full employment but they get to consume as a class – not necessarily as individuals, that will depend on the growth of the population of capitalists – more items of personal consumption in terms of value. Since labor productivity is rising rapidly, this will translate into a still greater quantity of use values consumed by the capitalists.

As for the workers' standard of living, the rate of surplus value is held at 100% throughout the four years that Bauer extends his diagram. In terms of **value**, the wages of the workers remain constant. But in terms of **use values**, a steady rise in real wages is implied. In other words, the workers get to consume an unchanging amount of **value** every year, but with a higher productivity of labor, the same amount of **value** means a rise in the real wages of the workers. In Bauer's diagram, just like the capitalist economic journalists and economists like to explain, the workers' real wages rise as labor productivity rises. The faster the productivity of labor grows, the faster the growth in real wages will be.

So, despite the fall in the rate of profit, the standards of living of both the capitalists and the workers keep rising. The only difference implied between the growth of the living standards of the two classes is that while the living standard of the workers increases in proportion to labor productivity, the living standard of the individual capitalist will grow at a somewhat slower rate, assuming the population of the capitalists grows at the same rate as the workers. The difference between the living standards of the workers and those of the capitalists will, therefore, gradually narrow over time.

Therefore, Bauer's model implies that class antagonisms should gradually soften as capitalism develops. This is the same conclusion that the bourgeois marginalist economists, including Keynes, arrived at. The difference is that Bauer drew these conclusions on the basis not of marginalism but Marx's critique of classical political economy!

Henryk Grossman described Bauer as a "neo-harmonist," since both capitalists and workers benefit from capitalist development, with the workers benefiting even more than the capitalists in terms of the growth in the standard of living.

Rosa Luxemburg's reaction to Bauer's diagram

"If capitalist production can act limitlessly as its own consumer, i.e. production and market are identical," Luxemburg explained in her "*Anti-Critique*," "it becomes totally impossible to explain the periodic appearance of crises."

She continued: "This would mean rejecting Marx and finally ending up with the man whom Marx ridiculed so thoroughly – the 'wretched man' Say, who in 1803 propounded the dogma: It is absurd to say that too much of all commodities can be produced, there can only be partial crises, but no general ones: if for this reason a country has too much of one kind of product, that only proves that it has produced too little of some other kind."

Luxemburg is right here. The spirit of Say's Law does indeed completely saturate Bauer's diagram. Of course, Bauer might have claimed that his diagram abstracts crises and that the whole problem of crises must be examined at a lower level of abstraction. This is no doubt what Marx would have said about his own diagram of expanded reproduction, which, unlike Bauer's abstracts, shows both the rising organic composition of capital and the falling rate of profit.

However, Bauer implicitly accepted Say's Law in a much more fundamental way. By constructing a model where accumulation adjusts seamlessly to population growth, Bauer assumes that supply creates its own demand, ignoring the realization problem entirely.

"Capitalist accumulation" in Bauer's diagram, Rosa Luxemburg claimed, "becomes objectively limitless once capitalist production has built a sufficient market for itself. As production will still grow, i.e. the productive forces *will develop without limit* [emphasis added -SW], even when all mankind is divided into capitalists and proletarians, as there is no end to the economic development of capitalism, the one specifically Marxist foundation crumbles."

Luxemburg continued, "According to Marx, the rebellion of the workers, the class struggle, is only the ideological reflection of the objective historical necessity of socialism, resulting from *the objective impossibility of capitalism* at a certain economic stage [emphasis added -SW]."

Luxemburg appealed here to basic principles of historical materialism against Bauer. If capitalism in no way limits the development of the forces of production – and this is indeed what Bauer's diagram of expanded reproduction appears to demonstrate – then the capitalist mode of production is, in Marxist terms, an absolute mode of production. It will last as long as human society lasts. If we accept these conclusions, any idea of a society beyond capitalism, any idea of socialism, is a utopia.

Remember, in Bauer, there is neither an absolute nor a relative impoverishment of the workers. If Bauer's diagram presents an accurate picture of real-life capitalism – and we assume that the basic principles of historical materialism of Marx and Engels are also true – we can expect an endless and fruitful struggle for reforms as capitalist development proceeds, but hardly a socialist revolution. As Bernstein put it, the movement is everything and the goal nothing. [1]

Or as Samuel Gompers, the founder of the American Federation of Labor, put it even more crudely, the slogan of the workers' movement is reduced to "More!" – ever higher real wages that buy ever more use values. [2]

The only task left to the organized workers' movement – both party and labor union – will be to ensure the surplus value rate does not rise above 100%. And considering capitalism's powerful tendency toward "full employment" that Bauer's diagrams seem to demonstrate, this task should be well within the power of the labor unions.

Bauer's diagrams seemed to present a picture of complete capitalist harmony – both between the classes as well as between the growing forces of production and the capitalist relations of production – that rivaled the harmonies of bourgeois marginalism. This is why Henryk Grossman described Bauer's model as "neo-harmonist."

Bauer on cyclical crises

But even Bauer could not deny that cyclical crises occur. What was Bauer's theory of cyclical crises? His theory fit right in with his overall picture of capitalist harmony. According to Bauer, the accumulation rate adjusts itself to population growth through the movements of the industrial cycle.

Therefore, the tendency towards full employment in Bauer is built right into his model, just like it is built into the foundations of the marginalist

1 *Evolutionary Socialism*, Eduard Bernstein, 1899. https://www.marxists.org/reference/archive/bernstein/works/1899/evsoc/ch04-conc.htm

2 At the 1893 World's Columbian Exposition, Samuel Gompers declared, "We want 'more.'"

model, though the model allows cyclical deviations from full employment.

Bauer wrote in his *Accumulation of Capital*:

"Like underaccumulation, overaccumulation is also generated again and again by the mechanism of the capitalist mode of production itself. There exists in the capitalist mode of production a tendency for the adjustment of capital accumulation to the growth of population. This adjustment has occurred as soon as variable capital grows at the same rate as the work force, but constant capital grows faster, to an extent required by the development of productivity. In a socialist society, the social organs responsible for the control of production would ensure, consciously and according to a plan, that the growth of population is provided for. This adjustment must also occur in capitalist society, but here it can take place only by means of great crises, with unemployment, wage reductions, and increasing exploitation on the one hand, and unemployment of capital, destruction of values, and a declining rate of profit on the other.

"The tendency for accumulation to adjust to population growth also dominates international relations. Each year, countries with continuous overaccumulation invest a large and growing part of their accumulated surplus value overseas. Examples: France and England. Countries with continuous underaccumulation attract capital from abroad and send labour overseas. Examples: the agrarian countries of Eastern Europe. The expansion of productive capital within a country itself is always restricted by the available workforce. In the long run, variable capital can grow no faster than the population, while constant capital always grows faster than variable to a degree determined by the stage of development of the forces of production. Thus, one can appreciate the anxiety of the capitalists over the declining birth rate: decelerating population growth narrows the limits to the growth of their capital.

"Viewing the capitalist world economy as a whole, the tendency for accumulation to adjust to population growth is apparent in the industrial cycle. Prosperity is overaccumulation, which destroys itself in the crisis. The ensuing depression is a time of underaccumulation which also brings itself to an end, inasmuch as the depression itself produces the conditions for renewed prosperity. The periodic alternation of prosperity, crisis, and depression is the empirical expression of the fact that the mechanism of the capitalist mode of production automatically generates overaccumulation and underaccumulation, with the accumulation of capital adjusting again and again to the growth of population."

If Bauer is correct, cyclical crises don't break out because the market is glutted – commodities cannot find buyers – but rather because the capitalist system periodically demands more of the commodity labor power – the commodity that alone produces surplus value – than is available on the labor market. This and not the need to sell the commodities – find markets for them – at a profit, as Engels put it in "*Socialism: Utopian and Scientific*" – is the barrier that capitalism periodically runs into.

According to Bauer's theory, during the boom, the process of expanded reproduction develops with a vigor greater than can be sustained in the long run by the given rate of growth of the working population. Every industrial cycle ends with what Marx called in Volume III of "*Capital*" an absolute overproduction of capital, not a relative overproduction of commodities.

During the cyclical crisis, reproduction falls below the level that the growth in population will allow over the long run. This "compensates" for the boom when expanded reproduction proceeds temporarily faster than the population growth will allow over the long run. Averaging out the faster-than-sustainable growth of the "boom" – determined by the rate of growth of the working population – with the slower-than-sustainable growth of the depression, you get exactly the rate of economic growth that the growth of the population will allow over each industrial cycle.

If the rate of growth of the working population accelerates, capitalist economic growth will duly accommodate it, and enough extra jobs will always be created to maintain full employment in the long run. If the rate of growth of the working population slows down, so will the rate of economic growth. But in all cases, the rate of economic growth under capitalism will always be – leaving aside short-term cyclical deviations – adequate to maintain "full employment." Milton Friedman himself couldn't have provided a prettier picture of capitalist harmony.

The difference between absolute and relative overproduction

What did Marx mean when he referred to the relative overproduction of commodities in cyclical crises, as opposed to absolute overproduction in a hypothetical situation he examined in volume III of "*Capital*"? In a relative overproduction, the production of commodities does not exceed the need for material use values of the total population. On the contrary, Marx emphasized, in terms of the needs of the great mass of the population, that there is always underproduction under capitalism, never overproduction. The result is mass poverty as basic human needs go unmet.

If, during a crisis of overproduction, capitalism were overthrown and replaced by socialist production, it would immediately become apparent that there is a shortage of material use values, not an overproduction of them. Indeed, the planned economies of the Soviet Union and its allies were plagued not by crises of overproduction but by a chronic "goods famine," a shortage of material use values.

But, according to Bauer, in contrast to Marx and Engels, a cyclical crisis develops not because there is a relative overproduction of commodities but when the demand for the commodity labor power exceeds the supply. In plain language, a cyclical crisis erupts because of a labor shortage. The industrial capitalists cannot find additional labor power to increase production further.

Let's imagine an economy plagued by just such a labor shortage – which is, therefore, on the eve of a cyclical crisis if we follow Bauer's theory. Let's assume, as a thought experiment, that a socialist revolution occurs and capitalist production is replaced by socialist production. Would the labor shortage disappear? Assuming the forces of production remain unchanged – which would have to be the case in the "short run," as Keynes would say – the answer will be no. In Marx, during a cyclical crisis, capitalism runs into a barrier peculiar to the capitalist mode of production but not production in general: the relative overproduction of commodities.

In Bauer, in contrast, during a cyclical crisis, capitalism runs into a barrier that would be a barrier to any economy, especially a socialist economy that aims to satisfy the material needs of all members of society.

In contrast to Bauer, Rosa Luxemburg understood correctly that capitalism has a built-in tendency toward the relative – not absolute – overproduction of commodities and, therefore, toward the relative overproduction – not absolute overproduction– of (real) capital. Luxemburg's mistake was that she couldn't explain why a relative overproduction must appear periodically once capitalism has developed to a certain point. She was led down the wrong path when she tried to explain capitalism's tendency toward relative overproduction of both (real) capital and commodities by an inherent inability to fully realize the entire surplus value in a pure capitalist economy consisting only of capitalists and workers.

Grossman on the contradictions of Bauer's diagram

In the following paragraphs, I only examine Grossman's theories in his 1929 work "*Law of the Accumulation and Breakdown*" and not in any of his other works. In his diagram of expanded capitalist reproduction, Marx only

extended his model for four years. In reality, Marx only needed to extend his diagram to the second year. Marx's model runs forever, quantitatively increasing while remaining qualitatively unchanging. This is a basic mathematical attribute of Marx's diagrams of expanded capitalist reproduction that arises from Marx's basic assumptions and abstractions when he designed his diagrams.

But is this the case with Bauer's diagram? Not at all. Bauer perhaps thought it was since he brought his model forward for only four years, like Marx. But four years aren't forever. How long could Bauer's model run if we used the assumptions Bauer used when he designed the model? It fell to Henryk Grossman to do the math. He demonstrated that by the 36th year, Bauer's model breaks down mathematically! This is true even if, with Bauer, we tactically accept Say's Law – as Grossman indeed did.

Because of his basic assumptions, Bauer's model has very different mathematical attributes than Marx's model of expanded capitalist reproduction. Bauer had the rate of profit decline steadily, though the absolute mass of profit rose. The capitalists, therefore, have to invest more and more of their profits productively to maintain the accumulation rate necessary to maintain full employment. In other words, they must consume relatively an ever lower percentage of the surplus value in the form of items of personal consumption.

The core problem Grossman exposed is this: The cost of the new machines required to employ the growing population eventually exceeds the total profit produced by that population.

The capitalists can never invest – consume productively – more than 100% of the total surplus value. If the rate of profit is 30%, the rate of accumulation cannot be higher than 30%, even if the capitalists "live on air" and capitalize their entire surplus value.

If the rate of profit falls to 20%, the maximum accumulation rate can be at most 20%. If the rate of profit falls to 10%, then the maximum possible rate of accumulation falls to 10% – assuming the capitalists direct none of the surplus value to personal consumption. In reality – even thrifty capitalists have to eat now and then, after all – the consumption rate must be less than 10%.

Therefore, the rate of investment and, thus, full employment can be maintained in the face of a fall in the overall rate of profit only for a limited time. Eventually, the fall in the rate of profit must lead to a fall in the rate of investment and, assuming an unchanged rate of population growth, the appearance of unemployment. The harmonies of Bauer's diagram come to an end or, to use Grossman's favored expression, result in a "breakdown."

Using Bauer's assumptions, Grossman showed that by the 36th year, the rate of profit fell to 8.7%. There is simply not enough total surplus value – profit – even if the personal consumption of the capitalists has fallen to below zero – if that were possible – to maintain full employment without increasing the rate of surplus value.

Indeed, in terms of **value** – hours of abstract human labor – capitalist consumption cannot increase after the 20th year. It might continue to increase in terms of **use values** for some time beyond that due to the rise in labor productivity. But eventually, to maintain full employment, it must drop to zero in terms of hours of abstract human labor.

And no matter how much the productivity of labor increases – unless the productive forces grow to such an extent that no labor is needed at all (but then how are we going to produce surplus value, which is the only aim of the system?) zero hours of abstract human labor translate into zero material use values. By year 35, the capitalists must learn how to live on air to maintain Bauer's harmonies. After that, even if the capitalists have learned how to live on air, it will be impossible to maintain full employment and keep the rate of surplus value at "only" 100%.

Either unemployment keeps growing progressively, or the rate of surplus value must rise. This will be all the more so if we assume that the capitalists must spend some of their profits on personal consumption if they are to live!

Some common objections to Grossman's demonstration

Naturally, Grossman's model of capitalist "breakdown" – actually Bauer's model extended to the year 36 – brought a wave of objections, just like Luxemburg's earlier work had. One objection was that Grossman made completely unrealistic assumptions about the rise in the organiccomposition of capital. For example, Grossman has the constant capital grow twice as fast as the variable capital to have the model "break down" as early as year 36. But in the real world, constant capital doesn't grow at anywhere near that rate. But the figures are Bauer's, not Grossman's. This criticism should be addressed to Bauer, not Grossman.

Another objection is that Grossman has the capitalists starve to death beginning in the 35th year! The absolute impoverishment of the capitalist class – not the working class – causes capitalism to collapse. Logically, then, it should be the capitalist class that rises in revolution against capitalism, not the working class, which is doing quite well up to this point.

But again, the fault for this lies with Bauer, not Grossman – he is only following the logic of Bauer's diagram. Grossman has simply carried out Bauer's assumption that the difference in consumption levels between capitalists and workers narrows as capitalism develops to its logical mathematical limit. In the end, if we follow Bauer's assumptions, the workers get to consume all the items of personal consumption produced, and the capitalists get to consume none.

What Grossman demonstrated was that in Bauer's "neo-harmonist" model, it is the capitalists who will suffer absolute impoverishment and eventually will face starvation and death. Presumably, then, it will be the capitalists who will turn against the capitalist system, who end up consuming none of the means of personal consumption that are produced. The natural political conclusion is that it will be the capitalists who will support a transition toward socialism.

If Bauer's model reflected even remotely capitalist reality, the way to socialism lies not through class struggle but through class collaboration. The actual class-collaborationist practice of Bauer's Austrian Social Democratic Party was indeed in accord with his economic model. Unfortunately for Bauer and his Social Democrats, the Austrian capitalist class failed to grasp the conclusions that flow from Bauer's "neo-harmonist" model.

In the real world, the capitalist class will never allow itself to starve to death. Long before the capitalists starve, they will reduce the level of accumulation and use the resulting unemployment to raise the rate of surplus value far above 100%. Unlike Bauer, Marx believed that the rate of surplus value would rise over time and that no action of the trade unions could prevent it.

This was one law of motion discovered by Marx that Bauer did not build into his model. The result was the absurdities that Grossman unearthed simply by extending Bauer's model to the 36th year.

Nor is there any need to assume "full employment" in analyzing the laws of the capitalist system unless we are trying to picture capitalism as a system of harmony in the manner of the vulgar bourgeois economists. Bauer and the bourgeois economists notwithstanding, under capitalism, unemployment is an absolute necessity, even if the extent of unemployment fluctuates with the successive phases of the industrial cycle.

What Grossman proved was that, unwittingly, Bauer built a model that is not harmonious at all. Economists and "vulgar socialists" like Otto Bauer may lie – or perhaps deceive themselves – but mathematics does not. Once

Grossman brought out its real implications, Bauer's model is powerful enough that even though its creator designed it to show harmony, it proved the exact opposite.

Did Grossman prove that capitalism must collapse at a certain point?

But does Grossman demonstrate that capitalism will become economically impossible at a certain point? Did Grossman – or more properly Bauer – build a mathematical model of the final breakdown of capitalist production beyond which its continued existence becomes mathematically impossible? Didn't Grossman simply demonstrate the absurdities of Bauer's "neo-harmonist" claims? After all, didn't Grossman show that even accepting Bauer's claims, capitalism tends not toward full employment but towards a rise in the unemployed and must, in the long run, increase the rate of surplus value if it is to survive?

But is this a final breakdown of capitalism? Doesn't unemployment – the reserve industrial army – and a rising rate of surplus value – with some fluctuations – mark the entire history of capitalism?

Before we examine this question, I want to mention some genuine weaknesses in Grossman's 1929 "*Law of the Accumulation and Breakdown*."

Grossman's mistakes in method

While Rosa Luxemburg made the mistake of claiming it would be impossible, even in theory, to fully realize the surplus value needed for expanded reproduction in a pure capitalist economy, Grossman made the bigger mistake of not seeing the realization of surplus value and value in general as any problem at all for capitalist production as long as a sufficient mass of surplus value is produced.

In his analysis of cyclical crises, Grossman assumed that commodities sell at their values. Grossman said that this was Marx's method in analyzing the production of surplus value and simple and expanded reproduction in volume II of "*Capital*." Though he greatly emphasizes Marx's method, Grossman makes grave methodical errors. He doesn't seem to have understood Marx's method.

Marx showed that to explain surplus value – the most important task in all of economic science – it was necessary to strip capitalism naked by assuming that all commodities sell at their values. The transformation of values into prices of production completely obscures this. Once the transformation of values into prices of production occurs, the fact that surplus value

is created by the living labor of the workers alone is completely obscured. It appears that both constant and variable capital produce surplus value equally. This was the starting point of the reaction against Ricardo's theory of labor value and the vulgar economics that followed.

Bringing in market prices that fluctuate around production prices would only further obscure the real origins of surplus value. To analyze market prices, it is necessary to analyze supply and demand as well as competition. None of this does anything to clarify the origins or the nature of surplus value; it only further obscures it. In analyzing the origins of surplus value, it is necessary to assume that supply and demand – the competition between the capitalists and between the capitalists and workers, and the competition between the workers themselves – cancel themselves out. The only way to proceed is to assume that all prices are direct prices.

Reproduction, both simple and expanded, can also best be analyzed by sticking to the assumption that prices equal values or direct prices. Bringing in production prices, let alone market prices, only confuses the essence of reproduction, whether simple or expanded. Again, it is better to examine capitalism without its "clothes" of market prices fluctuating around prices of production.

That is why Marx put his analysis of simple and expanded reproduction in volume II of "*Capital*," where he maintained his assumption that prices equal direct prices, and not in volume III, where he analyzed the rise in the organic composition of capital, the tendency of the rate of profit to fall, and the transformation of values – or direct prices – into prices of production.

But things are different with crises of the generalized overproduction of commodities. These periodic capitalist crises are characterized precisely by the fact that supply exceeds demand for the vast majority of commodities at the same time. How does such a situation arise, and why is the periodic recurrence not only possible but inevitable? Any realistic and complete crisis theory must deal with and explain these things. If we abstract supply and demand – the competition between buyers and sellers of commodities – we would abstract the subject of our study. This is an improper use of the method of abstraction – what Marx called a violent abstraction.

Grossman's wrong theory of cyclical crises

Grossman's theory of cyclical crises was derived from his – or rather Bauer's – diagram of expanded reproduction. As the organic composition of capital rises and the rate of profit declines, the point must be reached where

not enough surplus value is produced to prevent a substantial rise in unemployment. Long before the capitalists were forced to live on air, investment declined because insufficient surplus value was being produced.

As capitalist investment declines, the demand for the commodities Department I produces drops. This causes the appearance of overproduction in Department I, which then reacts on Department II as the personal consumption of both the capitalists and workers in Department I is cut back. In Grossman, a crisis of the insufficient production of surplus value is the cause of overproduction, not the relative overproduction of commodities.

According to Grossman, because the production of surplus value is too low to maintain expanded capitalist reproduction, the capitalists are forced to attack the workers' living standards. The way out of the crisis is either the overthrow of the capitalist system, which has "broken down," relative to its Bauerian harmonies, by the workers – and of course, this is what Grossman himself desired – or the capitalists succeed in increasing the rate of surplus value sufficiently and capitalist expanded reproduction starts up again.

According to Grossman's theory of crisis, once the rate of surplus value is increased sufficiently, the crisis ends, though a new crisis and "breakdown" – again relative to Bauerian harmonies – is inevitable as the rise in the organic composition of capital and the fall in the rate of profit resume.

The periodic relative overproduction of commodities, which to Marx and Engels was the cause of the periodic capitalist crises, is not the cause of the crisis in Grossman any more than it was the cause for Bauer. Rather, for Grossman, it is the inevitable breakdown of the "Bauerian equilibrium" rooted in the rising organic composition of capital that is the cause of the periodic cyclical crises of capitalism.

Political dangers in Grossman's theory

If Grossman's theory of cyclical crises is correct, it would mean that capitalist crises can be shortened or even avoided if only the workers are willing to put up with a greater degree of exploitation. Since cyclical crises, according to Grossman, are caused only by an insufficient production of surplus value, the solution of the crisis – assuming capitalism is to be retained – is for the workers to practice "wage restraint," which allows profits to rise once again, leading to economic recovery. This is exactly the conclusion that the marginalists draw.

If Grossman's theory were to be widely accepted in the workers' movement, this would play into the hands of the bosses and their hired-gun econ-

omists, who, on the occasion of every crisis, tell the workers they have to accept massive wage cuts if the crisis is to be overcome and "full employment" restored. In the name of restoring "full employment," the bourgeois economists explain to the workers – but never to the bosses – that they must tighten their belts and sacrifice. But this is nonsense if the essence of cyclical capitalist crises is the relative generalized overproduction of commodities. No "sacrifice" on the part of the workers can avoid or even shorten these inevitable periodic capitalist crises.

No matter how successful the capitalists are in increasing the rate of surplus value, the overproduced commodities – both in the form of commodity capital (inventories) but also in the form of fixed capital – must be either sold off at prices that are more or less below their values, or, in the case of fixed capital, written down or destroyed altogether. This is the process that must occur, as Engels points out in "*Socialism: Utopian and Scientific*," before recovery can begin.

Grossman's real breakdown theory

Now I will return to whether there is a real breakdown theory at all in Grossman. Or is there simply a theory – a largely incorrect one at that – of periodic capitalist crises? Did Grossman believe that capitalism, even with its periodic crises caused by the rising organic composition of capital and falling rate of profit, could continue forever, or at least until the "sun burns out," as Luxemburg put it?

The answer is no. Or rather, it is yes only if we assume that the population can increase without limit forever. This assumption is incompatible with materialism or the laws of physics, not to speak of the laws of biology.

In volume III of "*Capital*," Marx gives an illustration of a hypothetical economic crisis based on the absolute overproduction of capital. Here, many Marxists, including Grossman, have made what I believe is the mistake of assuming that Marx was illustrating a more or less typical cyclical crisis. I don't believe that this was Marx's intention.

For one thing, the examination of cyclical crises according to Marx's plan lay beyond "*Capital*" in a book – which Marx unfortunately never got to write – that would deal with competition, the world market, and world trade and crises.

In Marx's hypothetical crisis in Volume III, the cause of the crisis is an absolute overproduction of capital, not a relative overproduction of commodities. Marx's capitalists have gotten into quite a jam because they have

temporarily run out of labor power. As a result, no investment increase can increase surplus value production. Indeed, the competition among the capitalists for the existing labor power only reduces the rate of surplus value and, therefore, actually reduces the production of surplus value further.

The absolute contraction of profits – not only the fall in the rate of profit – causes production to collapse and unemployment to soar! We have the paradoxical situation of mass unemployment caused by a labor shortage. Without an increase in population, any attempt by the capitalists to resume expanded capitalist reproduction will simply cause the crisis to erupt anew.

The only way Marx's capitalists get out of the jam they find themselves in is through the continued population growth that Marx, in Volume III of "*Capital*," is kind enough to provide.

But what would happen if the total population and the "proletarianization" of the population reached the maximum extent possible? If we make these assumptions, our capitalists will have no way out.

Once the maximum number of workers that can be employed is employed, a further rise in surplus value is only possible through the rise in the rate of exploitation – the rate of surplus value. But wouldn't the economic crisis caused by the absolute overproduction of capital enable the capitalists to increase the rate of surplus value and squeeze more surplus value out of the existing workers?

For the sake of argument, let's assume this is true. But now, there will be an absolute mathematical limit beyond which the mass of surplus value can never rise.

The workday cannot be extended beyond 24 hours, nor can the amount of surplus value produced by each worker in a 24-hour day ever exceed 24 hours. Even if the workers lived on air and worked 24/7, the amount of surplus value will reach an absolute mathematical limit beyond which it cannot be increased.

The real limits of surplus value production will be considerably less because the human organism needs some rest first. About 17 or 18 hours per day seems to be the physiological limit for the expansion of the workday, and of course, wages cannot be reduced to zero. Just as Grossman's – or rather Bauer's – capitalists cannot live on air, neither can the workers. And here – completely unrealistically – I am leaving out any resistance of the workers to the capitalists' attempts to increase the exploitation rate to the absolute mathematical limit.

So, at some point, in light of the limits that the material world places on the growth of the human population and consequently on the production of surplus value, capitalist production must break down – not just temporarily but for good. It is a historically limited process that had a beginning and must sooner or later come to an end.

A capitalist limit to production

It is important to realize that we, or rather Marx in Volume III of "*Capital*," described a capitalist limit, not an absolute limit to production. A socialist economy might well be able to continue to increase production beyond the point where the total number of workers has stopped growing by introducing more machines and taking other measures to increase labor productivity.

But this would not do the capitalists any good. The growing mass of material use values in capitalist production is only a by-product. The real purpose of capitalist production is to increase the mass of surplus value – unpaid labor.

Capitalist production aims to reduce to a minimum the paid labor that is necessary to produce a commodity, but increase as much as possible the unpaid labor – the surplus value – that the commodities labor produces contain. Under socialist production, the aim is to reduce to a minimum the amount of the total labor that is used to produce the product.

Therefore, once it is no longer possible to increase the mass of surplus value any further – which is inevitable at some point thanks to the restraints of the material world we live in – capitalism must come to an end. This is no temporary cyclical crisis; capitalism breaks down for good.

Grossman's breakdown theory – which is fully valid despite his mistakes in his theory of cyclical crises – is, therefore, quite enough to establish the historically limited nature of the capitalist mode of production. It can only exist during the period – which extends over a certain number of centuries – when it is possible to increase the mass of surplus value rapidly. A necessary, if not sufficient, condition for this is a rapidly increasing population.

Once the population is – for whatever reason – no longer growing, the days of capitalism are numbered.

Grossman wrote in 1929, "Today bourgeois writers, in both France and Germany are concerned about whether the future accumulation of capital will find adequate reserves of labour power at its disposal. The modern bourgeois economist is characterized by his dread of underpopulation."

Grossman correctly sees that "underpopulation" – relative to the need of capitalism to expand the total mass of surplus value to the point of infinity – must, in our material world, lead to the permanent breakdown of capitalism sooner or later.

But – remember, Grossman was writing in 1929 – was capitalism anywhere near this limit beyond which capitalism does indeed become simply impossible?

Grossman tried to argue in 1929 that capitalism was approaching the limit of its ability to increase the mass of the surplus value that it was wringing out of the workers, beyond which it became impossible. But here, his arguments sound more than a little forced.

Grossman wrote, "It might be argued, that the threat [of "underpopulation" -SW] is not too serious because there are still hundreds of millions of people in the enormous continents of Asia and Africa who could satisfy capital's insatiable appetite for labour."

Clearly, Grossman feels uneasy here. The breakdown of capitalism is inevitable, but perhaps not for quite some time. "But the point," Grossman goes on, "is not whether there are large masses of people in this or that part of the world, but whether they are available where capitalism needs them."

But even if they weren't, capital is quite capable of going where the workers are. By the end of the 20th century, capital was indeed penetrating deep into the heart of the Asian continent, where the great mass of the remaining actual and potential producers of surplus value is to be found.

Since Grossman wrote, the population of Asia has grown enormously, and Grossman's plea that the potential workers are not "where capitalism needs them" is quite unconvincing. If the workers that capital needs to produce more surplus value "are not where capital needs them," capital will either bring them to where it needs them – immigration – or it will go to them.

In practice, the limits of capitalism in Grossman might not be that much different than the absolute limit of capitalism that Rosa Luxemburg unsuccessfully sought to establish in her own work. Capitalism will be at the point of becoming economically impossible around the time that capital has fully conquered all of the world's production and has consequently drawn the entire global working population into capitalist production.

A secondary criticism that was made of Luxemburg can, therefore, be made of Grossman as well. Considering the great number of peasants in the world's population – more so in Luxemburg's and Grossman's time than is the case in the early 21st century when this is being written – who have not

yet been drawn into capitalist production, the end of capitalism is still some distance into the future – even from an early 21st-century perspective.

Historically, proletarians have always been recruited primarily from the peasantry, who are used to a low standard of living and well adapted to hard physical labor. Once the mass of peasants or small farmers has been exhausted, it becomes much more difficult to increase the size of the surplus value-producing working class.

Even in the early 21st century, there are still more than a billion peasants who are potential surplus value producers in China and India, and there are considerable possibilities for increasing the number of surplus value producers on the African continent. But what will happen when these peasants have been fully separated from their means of production – assuming, of course, that capitalist production continues to expand in these two countries and in Africa, where the process is still in an early stage?

Rosa Luxemburg pointed out in the "*Anti-Critique*" some 100 years ago, that once a country has become largely capitalist as opposed to pre-capitalist peasant, the rate of population growth always slows down. Women are less and less inclined to function as the baby-creating machines they are obliged to be in peasant societies. This is especially true in this age of birth control. Indeed, a strong case can be made that the ancient slave economy of the Roman Empire ultimately came to an end because it was impossible to keep increasing the quantity of slaves. Could capitalism share a similar fate?

We can see that a breakdown theory based on the impossibility of an endless growth in population need not rely on the population theories of Malthus. According to Malthus, any increase in the means of subsistence will mean a corresponding increase in the human population since people could hardly expect to restrain their sexual instincts. Two thousand years of Christian preaching against "sexual immorality" had scant results in this regard! Today, this argument seems quaint when the seeking of sexual pleasure has been almost entirely separated from human reproduction.

Indeed, the population of virtually all the imperialist countries except for the United States is declining. The only reason the population is still increasing in the United States is the high level of immigration. If we discount the growth due to immigration, the population is declining in the United States as well. It may well be that the size of the human population will be limited by quite different factors than the maximum human population that Earth – and the rest of the solar system – can physically maintain.

Nowadays, the force pushing in the direction of turning our beautiful planet into an overpopulated nightmare is not sexual desire but capitalism itself. If capitalism eventually comes to an end because it proves unable to increase the number of its wage slaves beyond a certain limit – thereby setting an ultimate limit to the amount of surplus value that can be produced – it would not be the first mode of production to perish because of its inability to increase the size of its working class.

As I explained above, Grossman saw some of the contradictions of capitalist production – such as the problems of producing surplus value – while he denied others – such as the problem of realizing value and surplus value. Therefore, Grossman saw only half the picture. Despite that, he did demonstrate that capitalism cannot last forever.

But what happens if we analyze the prospects of a capitalist "breakdown" – the material basis for a socialist revolution – in light of all and not simply some of the capitalist contradictions? If we have to wait until capitalism has finally reached the limit pointed to by Grossman – the maximum mass of surplus value beyond which any further increase is impossible – perhaps about a century from now – the chances of a socialist revolution in the lifetime of even the young people of the early 21st century would be slim.

And if capitalism does succeed in turning the earth into the overpopulated hell of dystopian science fiction stories, the environment of the earth might be so damaged that it would be impossible to establish a socialist society. In that case, the modern class struggle between the capitalists and the wage workers would end in the "mutual ruin of both contending classes." Modern society would be ruined, and our species might face extinction.

The greatest political danger in Grossman's 'breakdown' theory

This is perhaps the greatest political danger of Grossman's breakdown theory, based entirely on the problems of producing surplus value. Grossman's "breakdown" theory might lead to "putting off" the socialist revolution to a relatively distant future when there might be both the necessity and, thus, the possibility of a socialist revolution much sooner.

CHAPTER 37:
Can the World Market Ever Become Exhausted?

Around the turn of the 20th century, the belief that the world market was headed for eventual exhaustion was widely accepted among the left wing of the Social Democracy, especially in the German-speaking world. But the refutations of Rosa Luxemburg's "*Accumulation of Capital*" and her "*Anti-Critique*," based on Marx's Volume II models of capitalist reproduction, pretty much discredited the idea that the world market could ever face a situation of permanent exhaustion.

Cyclical crises were viewed by the "orthodox" Social Democratic theorists as being caused by temporary disproportions among the various branches of production or between the growth in the demand for labor power and the growth of the working population, that is, the supply of labor power. In the long run, the limits of the market were seen as identical to the limits of production.

Yet no less a Marxist than Frederick Engels himself shared the idea that the world market would become exhausted. Engels believed this not only in the days of his youth but at the very end of his life. In Chapter 31, Volume III of "*Capital*," Marx used British export data to demonstrate that each successive peak in the industrial cycle exceeded its predecessor.

Engels included in brackets this interesting note, which I will quote in full:

"Of course, this holds true of England only in the time of its actual industrial monopoly; but it applies in general to the whole complex of countries with modern large-scale industries, as long as the world market is still *expanding* [emphasis added -SW]."

So in 1894 – the year before he died – Engels could still imagine a time when the world market would no longer be expanding. Significantly, Engels's remarks above appear in Volume III of "*Capital*," nine years after Engels

brought out Volume II, which includes Marx's famous models of simple and expanded reproduction.

Therefore, Engels, who was thoroughly versed in Marx's theories and mathematical models of simple and expanded reproduction, apparently didn't draw the conclusion that so many other Marxists drew from them. That conclusion was that as long as the correct proportions were maintained between the various branches of production and the growth in the working-class population was adequate to meet the demands of the labor market for more and more labor power, the market would only be limited by the ability of capitalist industries to produce still more commodities.

Do the limits of surplus-value production determine the limits of the market?

Gold functions not as the ultimate constraint on the expansion of monetarily effective demand within capitalist expanded reproduction.

As we saw in the previous chapter, Henryk Grossman saw no limit to the ability of the market to expand *as long as enough surplus value was produced*. According to Grossman and his follower Paul Mattick, the problem of realizing the value of commodities – including the surplus value they contain – is not a problem as long as a sufficient amount of surplus value can be squeezed out of the working class. Only when the limits of surplus value production are reached – both within each industrial cycle and the final historical limit, set by the maximum size the surplus value-producing working class can ultimately reach – the market will become permanently "overstocked."

If, according to this view, the surplus value production is not adequate, businesses will cut back on their own spending. Instead of throwing money that passes through their pockets back into circulation, the capitalists will hoard – accumulate – the money. At that point, commodities will start to pile up unsold in warehouses, but this will be a secondary reaction to the real problem, an insufficient production of surplus value. As long as the rate of surplus value is increased sufficiently, the problem of finding markets for all the commodities that are being produced will take care of itself.

But couldn't the ever-growing exploitation – cyclical fluctuations aside – of the working class that is necessary for capitalism's survival – as Grossman so brilliantly demonstrated by extending Bauer's diagram to the 36th year – so limit the ability of the working class to consume that the market would become exhausted? This idea goes back to the Swiss economist

Sismondi (see Chapter 1), the contemporary of Ricardo, who can be considered the father of crisis theory. The idea that crises are caused by the inability of the workers to buy back the commodities they produce is called underconsumption.

The problem with the idea of "underconsumption," whether as a theory of cyclical crises or as forming the ultimate limit to capitalist production, is that besides playing down the "unproductive consumption" of the capitalists and their hangers-on including the state and its dependents, it ignores the productive consumption that the capitalists are obliged to undertake on an increasing scale as capitalism develops. Capitalist production is not production for human needs. It is production for profit.

Indeed, we saw in the previous chapter Bauer's diagram of expanded reproduction, where he abstracted the rising rate of surplus value, that the entire consumption of the capitalists ends up as productive consumption by the 35th year. The capitalists consume so many means of production and so much labor power – which they use to produce still more surplus value – that they and any of their hangers-on, including the state, have no surplus value left over for personal consumption. The only people who can still engage in personal consumption are the productive (of surplus value) workers. This is truly a situation of getting a job – one where you produce surplus value – or starve.

Since a situation where the personal consumption of the ruling capitalist class has fallen to zero is nonsense, in the real world, the capitalists must increase the rate of surplus value in the course of capitalist development precisely because they must increase their productive consumption of surplus value while leaving something–quite a lot in reality –for their own and their hangers-on's personal consumption.

Inevitable cyclical crises

So, whether we are dealing with Marxists of the Bauer type or the followers of Grossman and Mattick, we are sliding into Say's Law. Bauer, Grossman, and Mattick all forget that commodities must be purchased or paid for not with (non-money) commodities but with money. They assume that because the value is created in production, the money to realize it automatically exists.

In examining cyclical crises, we saw how not only can there be a shortage of monetarily effective demand – this becomes theoretically possible as soon as a separate money commodity emerges – but there must be shortages

of monetarily effective demand periodically once the process of capitalist expanded reproduction has developed to a certain point.

Capitalist cyclical crises began to appear once the productive forces had developed to the point that periodic, sudden, rapid increases in production became possible. Such sudden increases in production mean that the capitalists are forced by the pressure of competition to throw their previously idle hoards of money onto the market. This leads to a speedy rise in monetarily effective demand after a more or less extended period of relative stagnation. There is a sudden market expansion as previously hoarded money is thrown into circulation by the capitalists. Demand then rises even faster than production can be increased, causing prices measured in terms of money material to rise above the actual values, and the prices of production of commodities.

Once the prices of commodities have risen above the values of commodities, the production of money material becomes relatively and absolutely less profitable. The longer this situation continues, the more the production of money material will decline as capital is withdrawn from the industry that produces money material and flows into more profitable branches of production.

A crisis does not break out at this point. Idle hoards of money are drawn into circulation, increasing the velocity of circulation. Banks create more and more loans – and more bank-created credit money – on a narrower and narrower cash reserve. Clearing agreements – especially among banks – mean that cash is only necessary to make the payments that don't offset one another.

The development of the credit system, clearing agreements, and so on makes it possible to expand the market far beyond what would be possible on a cash basis alone. However, the expansion of credit inevitably reaches a limit. At the end of the day, one piece of money cannot pay two debts at the same time.

Interest rates rise well before this ultimate limit is reached, the profit of enterprise, the sole factor motivating continued capitalist production, declines as more and more of the profit takes the form of interest. The credit system cannot free itself from its cash basis. And cash bases ultimately come down to a gold basis. As the credit system expands relative to its cash and ultimately gold bases, the point will be reached where it cannot be stretched any further. Once this point in the industrial cycle is reached, a crisis of the generalized overproduction of commodities breaks out.

What determines the level of production of money material?

Therefore, the growth in the market is governed in the final analysis by the level of production of money material. No development of the credit system can change this fact. If, by chance, the production of money material grew faster than the level of commodity production, this would sooner or later lead to a powerful economic boom. This boom would inevitably raise the prices of commodities. Higher commodity prices result in a rise in the quantity of money needed to circulate them. At some point, the prices of commodities will rise above the values of commodities, rendering the production of money material increasingly unprofitable. The production of money material will then begin to lag behind the production of commodities.

It will then be only a matter of time before the inflation of the credit system reaches the maximum extent possible and, with it, the whole system of "over-trading" that conceals the overproduction of commodities relative to money material. At that point, credit will vanish, and overproduction will come out into the open as unsold commodities piling up in warehouses.

As Marx put it in *Capital*, the crisis does not break out until the artificial system of settling payments has "fully developed." [1]

This is why, though the essence of crises is the generalized relative overproduction of commodities, each crisis appears to begin in the sphere of credit – or sometimes before that in the sphere of currency exchange rates, either with other currencies or with gold.

Since the crisis appears to begin in the sphere of currency or credit, bourgeois economists always attempt to find the "cure" for crises through reforms in the currency and credit systems. This continues today, though the bourgeois economists, after more than 170 years of such reforms, are beginning to run out of ideas!

Overproduction is temporary

However, the generalized overproduction of commodities – the exhaustion of the market – in a cyclical crisis is only temporary. Indeed, a cyclical crisis is nothing but a sudden and forcible halt of the (relative) overproduction – boom – and its replacement by a period of underproduction– depression.

With the outbreak of the crisis, prices measured in terms of money material fall, and the purchasing power of the existing mass of money material expands. In addition, the lower prices of commodities, assuming that the

1 *Capital*, Volume 1, Chapter Three: Money, Or the Circulation of Commodities. https://www.marxists.org/archive/marx/works/1867-c1/ch03.htm

values of both money and commodities remain unchanged, make the production of money material both relatively and absolutely increasingly profitable. The production of money material starts to rise once again.

At first, this increasing production of money piles up in the form of idle bank reserves. The banks are awash in cash, interest rates are low, while stagnation in trade and production reigns. It looks as though stagnation will last forever. But in reality, the material basis for the next "sudden expansion of the market" that will initiate a new vigorous cycle of capitalist expanded reproduction is being laid. This potential sudden expansion of the market becomes an actual sudden expansion once the overproduced commodities and the vast surplus means of producing commodities are either sold off, written down, or physically destroyed by their capitalist owners.

Therefore, the growing mass of money material – gold – forms the material basis of the expansion of the market that Marx indicated was a necessary condition if capitalist production is to continue.

Concrete economic history indicates that money material must be produced in ever greater quantities if the market is to expand at a rate sufficient to prevent a long-term rise in unemployment. At least since 1850, when annual statistical estimates of gold production began, whenever the production of money material – gold – has entered into a period of protracted decline, the capitalist economy has invariably fallen into a period of serious crisis of mass unemployment.

We saw this during the late 19th-century Long Depression and up to the time of this writing, most strongly in the years preceding the super-crisis of 1929-33. It happened again during the decline in gold production in the 1970s, followed by the double-digit unemployment of the early 1980s. And we saw it yet again in the years preceding the Great Recession of 2007-09.

On the "supply side," capitalism must increase the production of the mass of surplus value embodied in an ever-growing – temporary crises of overproduction excepted – mass of commodities. On the "demand side," it must increase the much smaller but ever-growing mountain of money material – which also must contain surplus value – that serves as money.

It is often said that capitalism's thirst for surplus value is unquenchable, which is true, but with this qualification: It is capitalism's thirst for profit – surplus value realized in money form – that is unquenchable. Capitalism has no interest whatsoever in producing surplusvalue that cannot be realized in money form – profit. Therefore, the "mountains" of commodities and

money – though the money mountain is much lower than the (non-money) commodity mountain – must both grow without limit if capitalist production is to continue.

The two main functions of cyclical crises

In the capitalist system, the cyclical crises of overproduction have not one but two basic functions. The first is to periodically replenish the industrial reserve army of the unemployed and underemployed and the broader surplus population. If the reserve industrial army is too small, the industrial capitalists will not be able to achieve the rising rate of surplus value that is necessary for the survival of the system. If there were no crises, the balance of forces would favor the sellers over the buyers of the surplus value-producing commodity labor power – the workers. Grossman and Mattick well understood this aspect of cyclical crises.

The other major purpose of cyclical crises under capitalist production is to periodically depress the prices of commodities below the values of commodities so that the production of money material is, in the long run, sufficient to ensure that the value and surplus value contained in the growing mass of commodities that capitalism must produce can be realized in the form of money.

The need to realize, not simply produce, surplus value was stressed correctly by Rosa Luxemburg. Where Luxemburg went wrong was that she didn't understand how surplus value is realized under capitalist production. Luxemburg was led down the wrong path of assuming that the commodities produced by non-capitalist third persons were necessary to realize the ever-growing mass of surplus value in the form of monetary profit.

But the mistake made by Henryk Grossman and Paul Mattick was more basic than Luxemburg's. They completely overlooked the problem of realizing surplus alue, assuming wrongly that if the problem of producing surplus value was solved, the problem of realizing surplus value would automatically be solved as well.

It is important to emphasize that the periodic crises of overproduction became inevitable once capitalism developed its ability to increase production suddenly. It was not because the world was/is running out of gold. Even if we assumed that the quantity of gold in the Earth's crust is infinite – an obvious material impossibility – periodic capitalist crises of the generalized overproduction of commodities would still be inevitable.

Gold production in the early 21st century

The bourgeois publication National Geographic features an article, "The Real Price of Gold," by Brook Larmer. Larmer refers to "the Spanish, whose lust for gold ... spurred the conquest of the New World." That was, of course, the period Marx called, with his devastating irony, "the rosy dawn of the era of capitalist production."

That was in the 16th century. But what about the role of gold production in the ultra-modern capitalism of the 21st century? "Gold is not vital to human existence; it has, in fact, relatively few practical uses," Larmer writes. Except, of course, for its function as money material – a very "practical use" for vampire-like capitalism, which uses dead labor for the sole purpose of extracting an ever-greater mass of unpaid living labor that must then be realized in money – gold – form.

"Humankind's feverish attachment to gold," Larmer complains, "shouldn't have survived the modern world." Larmer is, of course, correct here. But he does not explain why "humankind's feverish attachment to gold" has survived. This is what we have to understand.

The survival of the lust for gold is an inevitable result of the survival of the capitalist mode of production, where highly socialized global labor must be treated as a collection of private individual labors because the product of today's globalized, socialized labor is appropriated privately by a class of capitalist exploiters.

While our modern bourgeois economists, as well as well-meaning observers like Larmer, can deplore the "irrational" lust for gold, only Marxist economic science can explain it, as well as prescribe the medicine that can cure the gold lust disease, the medicine being a world socialist revolution.

"Every country in the world ... has done away with the gold standard," Larmer observes, "which John Maynard Keynes famously derided as a 'barbarous relic.'

"But," Larmer laments, "gold's luster not only endures ... it grows stronger."

Larmer documents that the modern gold industry is an environmental disaster as well as a devourer of human lives, including the lives of children. Not much has changed since the 16th century in this regard.

"For all its allure, gold's human and environmental toll has never been so steep," Larmer reports. "Gold mining ... generates more waste per ounce than any other metal," he explains. "These gashes in the Earth, are so massive they can be seen from space."

The gold mining industry, Larmer shows, is one of the worst abusers of child labor in the world. Like the god Moloch of ancient times, the gold industry is destroying both the natural environment and the lives of children.

Larmer's observations about gold's environmental and human costs captured one dimension of the problem. But an even more fundamental constraint has emerged – a geological one.

But how long can capitalism keep on squeezing ever more of the stuff out of the earth to make sure that the capitalists can continue to realize in the form of profit the increasing mass of surplus value that it must squeeze out of the workers of the world? Even Mother Earth has its limits.

These figures do not by themselves establish the arrival of "peak gold," but they are consistent with a long-term tendency toward rising difficulty in expanding the production of money material.

In 2025, even with gold prices reaching a record $4,500 per ounce, major mining houses reported that production was falling. Mark Bristow, CEO of Barrick, reported a near 16% year-over-year output drop, attributing it to the geological necessity of processing lower-grade ore. Newmont similarly reported a 15% decline, confirming that the industry has hit a "geological wall" where even historic financial incentives cannot conjure a new supply, with the earth being pushed beyond its limits.

This supply constraint is rooted in a collapse of discovery. S&P Global Market Intelligence analysis revealed that zero major new gold deposits were discovered in the 2023–2024 period, continuing a decade-long drought. As the industry is forced to rely on depleting reserves from decades-old finds, analysts note that "the elephants–the massive, high-grade deposits that drove past cycles–are gone," leaving miners to squeeze the last, harder-to-reach ounces from existing pits.

Peak gold?

We have all heard of peak oil. Peak gold would imply a situation where no changes in prices – that is, no fall in commodity prices measured in terms of gold – would be able to increase the production of gold. One of the ways that capitalism has, up to now, been able to pull itself out of successive crises – gold production – would break down. Falling commodity prices in terms of gold have, in the past, led to increased gold production – paving the way for sometimes decades-long periods of declining unemployment. After peak gold, this mechanism would no longer operate.

The period that followed the first severe cyclical economic crisis of the new century was not yet peak gold. Gold production peaked in 1912 at 705 metric tons, in 1940 at 1,310, in 1970 at 1,480, in 2001 at 2,600, and finally reached a plateau of roughly 3,650 metric tons in 2018–a level it has failed to exceed through 2025. But what would happen if peak gold arrives one day?

Like oil, gold is a non-renewable resource. The dust and rocks that consolidated to form Earth 4.6 billion years ago contained only so much gold. Most of the gold, like other "heavy metals," sank to Earth's core, where no foreseeable technology can reach it. Convective forces gradually cycle gold from Earth's interior regions to the crust, but this process is prolonged, working over geological eons, much like oil is gradually produced from dead plants over tens of millions of years.

But why should gold be exhausted before other natural resources? There is one factor tied to gold's role as money material that does work in this direction. Leaving aside money material, primary commodities function as either raw materials or auxiliary materials. In this role, they almost always have substitutes. As a given primary commodity grows scarcer, its value will rise since the same quantity of labor will produce a smaller quantity of that commodity.

This forced the industrial capitalists to shift to other commodities that could be produced with smaller quantities of labor – in plain language, produced more cheaply. However, gold as money material has no substitutes. Its growing scarcity tends to increase its value relative to other commodities, if not indeed absolutely. But unlike the case of commodities that function primarily as raw or auxiliary materials, this only increases its desirability as a means of accumulation – hoarding.

Capitalists look to outer space for profit

The Monthly Review school and many other observers – some Marxist and some not – have increasingly stressed the "planetary limits" of production. They argue that the exhaustion of Earth's resources imposes an absolute barrier to capitalist accumulation.

However, just as in the 15th century, when stressing the limits to economic growth set by the continents then known to Europeans would have been too narrow given the development of ocean-going ships, the concept of "planetary limits" may prove too narrow in the face of space exploration.

Perhaps the further development of space exploration will also make the concept of "planetary limits" too narrow as well.

Nowadays, the claim is often made that, because of the "planetary limits" to production, a society of abundance – described by Marx and Lenin as the higher stage of communism, where people work according to their abilities and receive according to their needs – is impossible. But perhaps we are thinking too small. The wealth and energy available in the solar system should eventually be at the disposal of our descendants, who may find the idea of planetary limits rather quaint.

However, the current drive into space is not motivated by such lofty goals. It is driven by the laws of capital accumulation. As the quality of ore on Earth declines, the organic composition of capital in the extractive industries rises, putting downward pressure on the rate of profit. Capital is therefore compelled to seek new sources of cheap raw materials to counteract this fall.

The opening years of the 21st century have seen the first attempts by ambitious capitalists to exploit space for profit. For example, the U.S. National Aeronautics and Space Administration, an agency of the federal government, is farming out the task of launching satellites into space to private for-profit companies. More ambitious capitalists are forming companies to mine asteroids that are believed to be rich in raw materials, particularly precious metals, including gold.

The theory is that since asteroids have limited mass and thus gravity, heavy metals do not sink to their centers as they do in larger bodies such as Earth or large planetary satellites such as Earth's moon.

During the 15th century, the European world suffered an acute shortage of money material – silver and gold – as the old mines that had supplied Europe were exhausted. Governments and private entrepreneurs sponsored expeditions to search for new gold and silver mines. They found them in the – previously unknown to Europeans – continents dubbed by the Europeans the "New World."

Could the history of the 15th century repeat itself? Could the discovery of gold mines located in asteroids make possible a vast new expansion of the quantity of money material, thus making possible the growth of markets for centuries to come?

Here, we are interested only in the question of money material. However, as we saw above from the viewpoint of the ultimate fate of humanity and its communist future, the question of non-money material is of far greater importance. Indeed, under socialist production, neither gold nor any other product will function as money material. But our current interest is with the far narrower problem of how long specifically capitalist production lasts.

It remains to be seen exactly how much gold is available in asteroids. But the big problem is, of course, transportation costs. The cost of transportation counts as part of the value of a commodity. For the foreseeable future, this means that unless the gold in Earth's crust becomes almost totally depleted, the individual value of gold mined from asteroids, once the transportation costs are taken into account, will be much greater than the individual value of the gold mined from the traditional source.

While it is always risky to make predictions about the evolution of science and technology, it is a pretty good bet that the profitable mining of asteroids for gold is decades in the future – if it ever becomes possible at all during what is left of the lifetime of the capitalist mode of production.

Asteroid mining, even if it were to become technically feasible, would function only as a long-term counter-tendency, not as a realistic means of resolving capitalism's growing realization problems.

So what would be the effects of "peak gold," assuming it one day arrives? We have seen what has happened when gold production has experienced temporary declines. Declining gold production has been accompanied or followed by "long waves" of capitalist economic stagnation – severely impaired expanded reproduction, or in the case of the 1930s Great Depression, the complete suspension of expanded capitalist reproduction for some 15 years – first by the Depression and then by World War II, whose coming was certainly accelerated by the Depression.

For example, Hitler almost certainly would not have come to power in the absence of the super-crisis of 1929-32, which hit Germany with such devastating force. In every case up to now, capitalism has not gotten out of such periods of retarded expanded reproduction and soaring unemployment without a very considerable rise in gold production.

After peak gold, gold production would decline, no matter how much commodity prices measured in terms of gold declined. At most, declining commodity prices measured in terms of gold could only periodically slow the decline in gold production. Just like after "peak oil," no increase in oil prices could increase oil production.

Peak gold would not mean that there would be a permanent crisis of overproduction. After peak gold, the prices of commodities in terms of gold would fall to a much greater extent than before peak gold. This would increase the purchasing power of the existing global gold hoard. And even with declining gold production, the total supply of gold on the world market would continue

to increase, though at a slowing rate. The world market would still be able to expand, but at a much slower rate than before peak gold.

Capitalism, therefore, would not "break down" completely. But we would expect the industrial cycles following "peak gold" to be quite different from those we have experienced. For one thing, we know from economic history that periods of temporarily declining gold production have seen a strong rise in unemployment. After peak gold, the tendency for unemployment to rise would also be permanent. It would only be a matter of time before the unemployment situation would become intolerable.

Even if peak gold never arrives, a situation where the value of gold is rising long-term relative to most other commodities is sufficient to imply worsening crises and a permanent tendency toward higher unemployment. Periods of falling commodity prices measured in gold associated with periods of crises and stagnation would lengthen relative to periods of rising commodity prices (in terms of gold), associated with periods of prosperity.

Deeper and deeper crises with ever greater falls in the prices (in terms of gold) of commodities would be necessary before gold production would rise to record levels again. So, even without peak gold, there would be an increasing gap between the ability of the industrial capitalists to produce and their ability to sell commodities at prices that realize the surplus value contained in their commodities.

The consequences would be much the same, though in the latter case, the outcome would unfold over a somewhat longer period than in an actual "peak gold" scenario.

We have already seen that the ability of capitalism to increase production faster than it can expand the world market inevitably leads to the increasing centralization of capital. It is the centralization of capital – the falling of the mass of social capital into ever fewer hands – that, more than any other purely economic factor, works toward the transition to a higher mode of production – socialism. Therefore, any factor that increases the gap between the ability to produce and the ability to sell will tend to hasten the inevitable demise of capitalist production.

Could gold be replaced as a money commodity?

But aren't we overlooking something? Can't any commodity, in principle, serve as the universal equivalent? Why wouldn't capitalism simply find a new universal equivalent – money commodity –that would allow the expansion of the market to resume?

Things aren't so simple. Gold didn't become the money commodity because some international monetary conference – like the one held in Bretton Woods, N.H., in 1944 – decided that gold would make a nice money commodity. Gold emerged as the money commodity through a process of "natural selection" over thousands of years. But aren't there many commodities that have been used as money commodities that are no longer used as money material? Why couldn't the same thing happen to gold? In theory, there is nothing to prevent gold from sharing the same fate.

Commodities that have served as money commodities and later lost that role have done so because of a dramatic decline in their value, not a dramatic rise. This destroyed their function as a means of accumulation or hoarding because of their rapid devaluation. The most recent example is silver, which functioned as a money commodity alongside gold for thousands of years. If "peak gold" should occur sometime in the future – gold's value would not decline. Instead, it would start to rise dramatically, and there would be no way to lower its value – or prevent it from continuing to rise.

The same would be true, though to a lesser extent, if deteriorating natural conditions of production caused the value of gold to rise relative to most other commodities, even if total gold production continues to rise.

As a means of hoarding, gold's function would not be impaired after "peak gold." Quite the contrary. The higher its value rose – whether absolutely or relative to most other commodities – the less a drop in its value in the future would seem likely – the greater its use value as a means of hoarding exchange value – a means of accumulation - would become. The capitalists – just as would happen if they ran out of labor power in a "Grossman-type" of breakdown – would increasingly act like the misers of old, seeking to maximize their accumulation of gold rather than like capitalists proper who carry out the circuit M—C…P...C'—M'.

The tendency for at least a relative exhaustion of gold exists because, as the money commodity – though not in respect to its other use values – gold has no substitutes if it becomes relatively more expensive. But there are also counter tendencies that range from the invention of new mining and refining technologies to the eventual development of asteroid mining. Thus, possible technological advances and new sources make its future supply uncertain.

If gold depletion drives up the absolute or at least the relative (to other commodities) value of gold, the decline of capitalism will accelerate. Crises will worsen more rapidly than otherwise would be the case, unemployment

will rise, the inequality of the distribution of income will grow at a faster rate, and the labor union struggle, as long as it remains on a reformist basis, will become more difficult, and the growth in the centralization of capital will accelerate. If gold exhaustion does not occur, capitalism will still be doomed, as we will see in the next chapter, but its demise could – depending on the course of the class struggle between the capitalists and the workers – unfold over a somewhat longer period. Or maybe it wouldn't.

Gold is actually a chemical element on the periodic table. It is possible to produce gold from mercury by bombarding it with neutrons. This leads to a nuclear reaction that transforms some of the mercury into gold. So far, the costs of producing gold this way far exceed the cost of producing gold from mining and refining it. To put things into more precise language, the individual value of a certain weight of gold bullion produced by transforming mercury into gold greatly exceeds the individual value of the same weight of gold produced through mining it and refining it. With today's technology, it would be completely impossible to produce gold profitability in this way.

However, in theory, if the gold mines of the solar system were to become sufficiently depleted at some point, the future production of gold from mercury would become profitable. It seems unlikely that capitalism will survive into this distant future. Theoretically, if capitalism survived to the point that the large-scale production of gold bullion from mercury became profitable, the rise in the total quantity of gold bullion available to serve as money capital in the world, measured in terms of some unit of weight, would rise in annual percentage terms very slowly compared with the rate of growth of gold today. In theory, the growth of the market would continue, but at a very slow rate. It seems dubious that capitalism could continue under those conditions because it would support only a very slow rate of growth of the market.

It might seem that another commodity replaces gold as the money commodity. That would happen if gold dropped drastically in value, that is, if it became possible to produce a given quantity of gold with drastically less human labor. If gold began to drop sharply in value relative to other commodities, it could no longer serve as a means of the accumulation of human labor.

However, if gold rose sharply in value relative to other commodities, it would make a better and better means of accumulating wealth. Before the rise of the capitalist mode of production, there were many examples of commerce declining whenever there was a local exhaustion of gold and silver mines. Nowhere did we see gold and silver simply replaced by another commodity.

To sum up, the complete exhaustion of the ability of the market to grow will never occur in practice under capitalism. There seems, however, to be good reasons to believe that the ability of the capitalists to increase production relative to the ability of the market to grow will continue to widen over time.

The problem of overproduction, including the growth of idle real capital –overproduction of the means of production – will continue to become more acute. It will take increasingly devastating crises and long periods of lingering depression and stagnation, accompanied by mass unemployment, to keep the overproduction in check. Historians of the future may well conclude that this was the root cause of the working-class revolutions that finally ended capitalism.

But there is even a more fundamental factor that is working to end the rule of capital over production. That will be the subject of the last chapter.

CHAPTER 38:
From Surplus Value Producers to Associated Producers of the World

Many books on Marxist economic theory end with the author describing what a future socialist - or communist - society will look like. Inevitably, these portraits of the future society reflect the author's personal views and often contain bourgeois prejudices. We are all, Marxists included, products of the society we were born in and live in. This means that our ability to transcend the bourgeois society we were born and raised in, and our imagination, is not unlimited. The present author does not claim to be an exception.

Therefore, the temptation to offer any descriptions of a future society will be resisted. Instead, we will review the basic laws of historical materialism and then look at what the author has learned during his research for this book.

This research has lasted decades and has been carried out in libraries – and, more recently, surfing the Internet – and at least as importantly in work situations, street demonstrations, and picket lines.

We will provide a final review of the basic economic laws progressively undermining capitalism, with a special emphasis on the periodic crises of overproduction – the main subject of this book – and the role they are playing in preparing the way for the inevitable transformation of capitalist society into communist society.

Historical materialism holds that changes in the basic organization of human society – from the communism of the clan-tribal societies of pre-history; the early class societies of Sumeria, Egypt, India, and China, the societies of the Incas, Aztecs, and Mayans of the pre-Columbian "New World;" the ancient slave societies of classical Greece and Rome; the feudal serf-based economies of medieval Europe; and finally the capitalist societies of our day – are ultimately determined by the nature and degree of development of

the forces of production. All these societies represent definite stages in the history of production.

In the course of development, both quantitative and qualitative, of the productive forces, a point is reached that brings them into conflict with the prevailing organization of society. An era of social and political crises leading to revolutions ensues. Ultimately, the old relations of production – property forms in legal language – and the political organization that goes with them prove incompatible with the new forces of production that developed within the old society.

Once the era of social and political revolution begins, it brings the relations of production, or property forms, into alignment with the new productive forces. A whole new political, cultural, and ideological superstructure develops on the basis of new productive forces.

In its time, each successive socioeconomic organization of society sees itself as eternal. The way things are is viewed as the only way things can ever be. Today, bourgeois historians never fail to express amazement that none of the great minds and moral leaders of the ancient Mediterranean world – not Plato or Aristotle, not St. Paul, or any other Old or New Testament author, for that matter – ever denounced slavery as an institution.

How could people of antiquity have been so blind as not to see the great moral evil that was slavery? And how superior the often shallow bourgeois writers and moralists of the present day feel themselves to be compared to their predecessors of ancient times. Unlike the political, ideological, and moral leaders of antiquity, they have the vision and courage to denounce the evils of chattel slavery!

In reality, on an individual basis, none of our modern-day moralists is in the slightest way either personally or morally superior to the philosophers and moralists of the old slave societies, whether of the ancient Mediterranean or the far more recent slave society of the southern United States. If they had been born into one of those societies instead of modern bourgeois society, they too would have supported slavery – unless they had been born a slave. And perhaps even to the enslaved people themselves, slavery as an institution was seen as inevitable, even if individual enslaved people hoped to personally escape their servile condition.

What the political, ideological, and moral leaders of the present capitalist society stubbornly refuse to see is that this society, based on wage slavery, is simply a modified version of a slave society. As in the classical slave

society of the ancient world – and the slavery of the pre-Civil War U.S. South based on kidnapped Africans – some work for others who themselves do not have to work.

The thinkers of the ancient world did not make a great distinction between slave labor and wage labor, since both were correctly seen as situations where one person worked for another person. The leaders of the modern slave society of the U.S. South, as they were approaching their downfall, developed a critique of wage labor that sounded almost socialist. Through the Democratic Party, they posed as champions of the white workers of the U.S. North. The disastrous consequences of this situation still disfigure U.S. politics in the 21st century.

Today, chattel slavery is illegal in virtually all countries of the world. True, there are cases where undocumented people are captured and forced to work for others. And there is the notorious international sex trade, which is a form of chattel slavery. But unlike in the past, these "relations of production" have no legal sanction – that is, they are not recognized as a "property right." Indeed, from time to time, we read in the press about how people are caught holding other people illegally as prisoners and forcing the prisoners to perform labor. The slaves are then liberated by the police, while the "slave owners" are arrested and punished, even if not severely as they should be.

The only form of outright bondage that is legally recognized by states and their legal systems today applies to people convicted of crimes and sentenced to prison, where they are often forced to perform labor for the state or private capitalists. But even in these cases, the prisoners are not legally the private property of other persons and cannot be bought and sold as private property. In addition, unless they are sentenced to life in prison or face the death penalty, their period of bondage eventually ends.

In contrast, under a chattel slave society, whether that of the classical world or the pre-Civil War South, the workers themselves were the private property of the slaveowners. Like other privately owned means of production, the enslaved people were commodities and recognized as such under the law. They could be bought and sold and lent out at interest to other persons. But in today's society, there is no legal recognition of private property in human beings.

The leaders and ideologists of present-day society are proud of the fact that, unlike slaves or serfs of old, today's wage workers voluntarily sell their ability to work, or labor power, to other persons that we call capitalists.

No person not convicted of a crime is forced to work for another person. However, people are strongly "encouraged" to voluntarily work for others in exchange for a sum of money called wages. Because this labor is "voluntary", ideologists claim that present-day society has nothing in common with slavery – or serfdom – of past societies.

The catch is that only some people have to sell their labor power to other people under the threat of starvation or at least extreme poverty. Other people escape the need for work by obtaining ownership not of workers themselves but of capital. Capital is obtained by guile, luck (such as winning the lottery), or, far more often, through the right of inheritance.

Many, though not all, owners of capital do choose to work. But in the case of the owners of capital, their work is voluntary. They only perform the kind of work they desire to perform. The owners of enslaved people and serfs in feudal times enjoyed the same privilege.

Capital appears to be a thing or a collection of things – the means of production and stocks of commodities – and is so described by economists. But in reality, capital is a social relationship of production. And if you own capital, in the final analysis, people who do not own capital have no realistic alternative but to work for you. This is the essence of present-day society.

Marxists believe that the current system of wage-labor – like chattel slavery of antiquity, the African slavery of the old U.S. South, which lasted until 1865, or the serfdom of the European Middle Ages, which as a legally recognized form of property lasted down to 1861 in the Russian Empire – is simply a passing phase in the history of production. In the future, people will wonder why so many men and women of great culture and intelligence of our time failed to see that wage labor is simply a modified form of slavery and failed to condemn it. Why was it only condemned by an often persecuted minority called variously "Marxists," "Socialists," "Reds," or "Communists."

The leaders and defenders of capitalism, like the leaders of societies based on chattel slavery and serfdom before them, insist that society cannot be organized in any other way except the way it is now. A whole "science" called political economy or economics – especially the branch of economics based on the marginalist theory of value – has grown up that proves that no society can be organized in any way but capitalism, proven "scientifically."

These alleged truths are "proven" using the tools of higher mathematics, just like the theories of the natural sciences are. These "scientists" find that only through free markets can a distribution of the means of production

– labor, capital, land (nature), and their products – be achieved that corresponds to the actual needs of the people and the demands of morality.

And it so happens that there cannot be free markets without private ownership of the means of production. The private ownership of the means of production includes the private ownership of the worker's ability to work, which the workers are then free to sell to other persons.

We have seen, however, that neoclassical marginalism is based on false assumptions, and even its alleged mathematical elegance breaks down under close examination. There is, however, another tradition of economic science – developed originally and then abandoned by the bourgeoisie itself – called classical economics.

Unlike their marginalist successors, the founders of the classical tradition realized that the exchange of commodities involves the exchange of the products of human labor, the "labor theory of value." This tradition was further developed, though this time as a critique of the original science from the viewpoint not of the bourgeoisie but of the working class, by the 19th-century German revolutionary Karl Marx and his followers.

We have used the tools of this economic science not simply to repeat Marx's findings but to focus on the nature of the periodic crises of overproduction. We have found that these crises provide empirical proof that Marx was right not only about crises but also about the nature of value, money and surplus value. Therefore, every successive and post-crisis period of stagnation provides an empirical refutation of marginalism – whether of the neoclassical or Austrian variety.

In the 20th century, another school of economics arose based on marginalism but was willing to depart from it when necessary. Its most famous proponent was the British economist John Maynard Keynes. But some of this school's adherents on the left would consider the far less well-known Polish-born economist Michal Kalecki, who developed ideas similar to Keynes but independently of him, as its more profound thinker.

Therefore, in addition to classical political economy, marginalism, neoclassical, Austrian, and Marxist, what we might call the Keynes-Kalecki school exists. In politics, Keynes advocated reform of capitalist society – liberal in the New Deal sense of the term – while Kalecki was a moderate socialist.

The politics of both Keynes and Kalecki were in accord with their economic ideas.

Both men saw what they called the "rentier" – money capitalist – as the enemy of "full employment" policies. The reason, according to Keynes

and Kalecki, that money capitalists are naturally reactionary is that "full employment" policies imply inflation, which erodes fixed-interest income.

Kalecki, politically more radical than Keynes, hoped to build an alliance of industrial capitalists, working-class parties, and progressive sections of the middle class that would overcome the opposition to full-employment policies of the "rentiers." Kalecki, however, noted the opposition of the industrial capitalists – not just "rentiers" – to full employment policies but couldn't explain it on economic grounds. He was forced to resort to non-economic explanations in his "Theory of Economic Dynamics" that are not very convincing in the present author's opinion.

Today, in university economics departments, students are taught traditional marginalism under the "microeconomics" rubric and a version of the Keynes-Kalecki school called "macroeconomics." Unlike classical marginalism, the school of Keynes and Kalecki acknowledges the possibility of generalized crises of overproduction – though they tend to avoid that term. But unlike Marx, the Keynes-Kalecki school treats crises as a technical problem that can be remedied by the correct governmental and central bank policies, at least in principle.

Some Marxists, especially the Monthly Review school, believe that the Keynes-Kalecki school – especially Kalecki – is compatible with Marxism. We believe this is not the case.

In class terms, the various schools of marginalism represent the interests of the capitalist class as a whole – not just "rentiers" or money capitalists – and Marxism represents the interests of the working class. The Keynes-Kalecki school represents the interests of the middle class – or petty bourgeoisie – who waver between the two main classes of modern society. This middle-class school of economics attempts to reconcile the irreconcilable by creating governments committed to "full employment" policies within capitalist society.

Our position, in contrast to the followers of Keynes and Kalecki, is that crises are not mere technical maladjustments or even the result of the political ill will of the capitalist class, as Kalecki held. Rather, they result from deep-seated fundamental economic contradictions that cannot be overcome within capitalism. These contradictions doom the current system to be only a passing phase in the history of production.

Under capitalism, which of necessity is a global system, labor becomes ever more socialized, but appropriation remains private. This ever-growing contradiction has doomed all attempts of 20th- and 21st-century macroeconomics to abolish crises while retaining capitalism.

The contradictions of capitalist production also explain why the efforts of well-meaning supporters of the Keynes-Kalecki school to convince capitalist governments to follow "full employment" policies have gone nowhere. Periods of greatly reduced unemployment under capitalism are either associated with a war economy, which by nature cannot be permanent, or geographical discoveries of major gold deposits, which temporarily reduced unemployment in the middle and again at the end of the 19th century and the beginning of the 20th century.

After World War II, unemployment was reduced for a few decades due to the natural cyclical rebound from the Great Depression. In every case, these reductions in unemployment were temporary and could be sustained for at most a few decades.

Let's review the economic forces that work to undermine the capitalist relations of production as the productive forces continue to develop. First, there is the famous tendency of the rate of profit to fall. Many Marxists see this tendency as the crucial factor that dooms the capitalist system to perish in the long run.

Capitalism is, above all, a system of production for profit and only profit. But Marx showed that with the growth of labor productivity – is expressed under capitalism by a tendency of the organic composition of capital to rise. As a result, the rate of profit tends to fall.

A major contradiction of capitalism is that although it is a system of production for profit, its very development tends to undermine the rate of profit – the driving force of the entire system. Under capitalism, where there is no profit, there is no production – at least not for very long. And where there is no production, there is no human society. Today, we are seeing a new technical revolution, which is raising the question of how much longer capitalism can last.

Artificial intelligence

The term artificial intelligence was coined in the mid-1950s and was first used at the 1956 Dartmouth Conference.

In 1950, British mathematician and computer pioneer Alan Turing proposed a test to show whether or not a computer system was intelligent. Assume that we have a computer and a person in a room. In another room, we have another person who engages in a discussion with both the computer and the person in the first room. According to Turing, if our second person is unable to distinguish between the computer and the human being,

we'd say the computer system is intelligent. He believed this would happen by the end of the 20th century.

The most famous early version of a computer program that could carry on a conversation was written by computer scientist Joseph Weizenbaum (1923-2008). In 1966, he published a comparatively simple program called ELIZA, which could chat with the user. ELIZA did not truly pass the Turing test, although it did fool some users who wanted to be fooled. The program applied pattern-matching rules to the user's statements to generate its replies. Programs like ELIZA are now called chatbots.

Today, in the 2020s, advanced chatbots such as ChatGPT and newer systems developed in China, like DeepSeek, can, in some settings and for some users, appear to pass informal versions of the Turing test by sustaining conversations that many people find indistinguishable from those with a human. These systems can simulate a conversation with a human across a wide range of topics.

Today's chatbots use large language models, or LLMs – computer systems trained on vast amounts of text. Although their responses can seem human, these systems do not actually understand what they produce. They work by identifying statistical patterns in language and predicting the most likely next word in a sequence. How meaningful these advances are, and where their limits lie, are subjects of ongoing debate as this is written in early 2026.

Some people see today's chatbots as closer to polished search engines than anything truly intelligent. They can be useful, but they sometimes come up with completely false answers. Or, as it is said by computer scientists, they "hallucinate." For serious research, it's still important to use search engines and databases that point you to original sources, so you can see where information comes from and judge for yourself its reliability. Chatbots can help along the way, but they shouldn't be treated as authorities or used on their own. While these tools may improve over time, their capacity to produce false information and their lack of sourcing means they can't yet be trusted as final sources of information.

Others argue that perhaps as early as the coming decade, machines built on ever-more-powerful neural networks could surpass human intelligence, develop their own goals, and make their own decisions about what to learn and do. Some claim these systems could become effectively conscious and might decide to displace or even exterminate humans. This is leading them to call for slowing or pausing work on the most powerful AI systems. These authorities warn that if profit-driven capitalist corporations ignore such

dangers, they will be creating technological "Frankenstein" monsters that turn on their creators.

Some scientists called post-humanists claim that it is an almost inevitable stage of "progress" that once intelligent life arises on a planet, it will eventually create machine intelligences that supersede and replace biological intelligence. In this view, intelligent biological life is only a transitional phase between purely biological evolution and a fully developed, non-biological intelligence that has shed the limits of organic bodies and become embodied in machines.

Post-humanist writers extend this logic to extraterrestrial life, arguing that if intelligent civilizations exist beyond Earth, they are more likely to be machine intelligences originally created by a now vanished biological species than biological organisms themselves. In this view, the original biological intelligence vanishes like scaffolding removed once a building is complete, leaving only the "higher" non-biological intelligence in place. For many other people, the prospect that humanity could become a disposable phase in such a process is an appalling idea.

A more optimistic viewpoint holds that we may eventually be able to convert our minds into something like computer programs and "download" ourselves into machines that allow our mental lives to continue with greatly enhanced abilities. In this scenario, our minds would persist if not forever – that belongs only to the sphere of religion – but for eons, long after Earth and even the wider universe can no longer support biological life.

These science-fiction-like speculations are certainly fascinating, but I am hardly qualified to offer a meaningful judgment on them, and pursuing them further would take us far beyond the subject matter of this book.

Leaving them aside, from an economic point of view, the key issue is not chatbots as such, but computer-simulated artificial neural nets embodied in machines that can learn to perform tasks that have up to now resisted mechanization. This development makes it possible for machines to carry out such tasks without assuming that the AI is acting "for its own reasons" or has somehow achieved consciousness.

The material basis of communist society

To understand what Marx saw as the limits of capital, it helps to look at a passage where he reflects directly on machinery and technology. The following excerpt comes from the *Grundrisse*, a set of working notes Marx wrote during the global economic crisis of 1857–58. His interest in economics was

stimulated by the crisis. Although these notebooks were never published in his lifetime, they contain some of his most far-reaching ideas. Marx later developed many of them in *Capital*, but here he pushes further, asking why capitalism itself is not final to organize production. In this passage, Marx argues that while machines are central to modern production, capitalism is not the natural or permanent system under which machines must operate.

Marx wrote:

> "Machinery does not lose its use value as soon as it ceases to be capital. While machinery is the most appropriate form of the use value of fixed capital, it does not at all follow that therefore subsumption under the social relation of capital is the most appropriate and ultimate social relation of production for the application of machinery."

In other words, as long as capitalism exists, machinery will be subordinate to the social relation of production that we call capital. But machines are not in themselves capital.

> "To the degree that labour time – the mere quantity of labour – is posited by capital as the sole determinant element, to that degree does direct labour and its quantity disappear as the determinant principle of production – of the creation of use values – and is reduced both quantitatively, to a smaller proportion, and qualitatively, as an, of course, indispensable but subordinate moment, compared to general scientific labour, technological application of natural sciences, on one side, and to the general productive force arising from social combination in total production on the other side – a combination that appears as a natural fruit of social labour (although it is a historical product). Capital thus works towards its own dissolution as the form dominating production."

Marx is saying that, looking at things in terms of use value, as the role of fixed capital, scientific labor represented by natural science and technology that is rooted in natural science, the role of direct value-producing labor in the production of use value in production declines. It becomes less and less rational to measure the value of products in terms of direct labor. Capital, however, uses the tremendous growth in the productivity of direct labor for the sole purpose of increasing the ratio of unpaid labor to paid labor.

The rate of surplus value, the ratio of unpaid labor to paid labor, rises, which is the main way that capital uses to reduce the tendency of the rate of profit to fall. From the viewpoint of the working class, what is called for is to increase the ratio of the producers' free time relative to the ever-shrinking

time that must still be spent in direct labor. It is only free time that allows the all-around development of the individual producer as a human being. A future communist society cannot be built on any other foundation.

Karl Marx was a 19th-century revolutionary who devoted most of his adult life to supporting the struggle of the working class against capitalism. Elon Musk, in contrast, is the richest capitalist in the history of capitalism, and politically is as far to the right as it is possible to get, so his opinions on AI are especially interesting.

On November 20, the online edition of the capitalist business magazine Fortune published an interesting article by Sasha Rogelberg, musing about Musk's view of the near future. Rogelberg writes, "In Musk's automated, job-voluntary future, money won't be an issue, he said. Musk takes a page from Iain M. Banks' *Culture* series of science fiction novels, in that the self-proclaimed socialist author conjures a post-scarcity world filled with super-intelligent AI beings and no traditional jobs. … 'In those books, money doesn't exist. It's kind of interesting,' Musk said. 'And my guess is, if you go out long enough – assuming there's a continued improvement in AI and robotics, that seems likely – money will stop being relevant.'" Here, Musk not only quotes a socialist author but also agrees that the further development of science and technology in the form of AI works in the direction of dissolving capitalist relations of production.

Rogelberg writes about Viva Technology 2024, where "Musk suggested 'universal high income' would sustain a world without necessary work, though he did not offer details on how this system would function. His reasoning rhymes with that of OpenAI CEO Sam Altman, who has advocated for universal basic income, or regular payments given unconditionally to individuals, usually by the government".

So both Musk and Altman envision a society where every person receives an income that meets their basic needs, and money plays no role. Whatever such a society is, it is not a capitalist one. "The" Rogelberg writes "Tesla CEO said at the U.S.- Saudi Investment Forum in Washington, D.C., on Wednesday that in the next 10 to 20 years, work will be optional, likening the decision to have a job to the more laborious upkeep of a vegetable garden."

If we believe Musk and Altman, AI will transform the mode of production so that people will work not because they are compelled by material necessity (by the way, here Musk admits that work is not a free choice in a capitalist system of free wage labor, as bourgeois economists like Milton Friedman, author of the book "*Free to Choose*" claim).

Unlike the economists, businessmen like Musk and Altman are not interested in engaging in empty ideological talk about "freedom" but are looking at things with brutal reality. If AI continues to develop as Musk expects, instead of people deciding to work, they'll follow their true desire to work, like people today who choose to plant a few vegetables in their backyards, not because they need the vegetables, but because they like raising food with their own labor.

Human societies organized in clans and tribes many thousands of years ago were forms of original communism, with common ownership and no class hierarchy. But they rested on very low levels of material productivity and lacked the scientific and technical knowledge that later civilizations based on class societies would develop.

The class societies that succeeded the original communist forms enabled a small minority to free itself from direct labor, living instead from the surplus product produced by others, while the majority was compelled to work harder and for longer hours under far worse conditions than their ancestors did in clan-tribal communist communities. The class societies centralized literacy, scientific, and technical knowledge in the hands of the ruling class, even as the vast majority of the people remained excluded from this growing knowledge and culture and were subjected to harsher material conditions imposed by class rule.

Under capitalism, society has remained divided into classes, but there has been a productivity growth in human labor that, driven by competition among the capitalists, has far exceeded anything seen in any previous age. Marx in the *Communist Manifesto* says,

> "The bourgeoisie cannot exist without constantly revolutionising the instruments of production, and thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form, was, on the contrary, the first condition of existence for all earlier industrial classes. Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life, and his relations with his kind."

Capitalism went from deepening the division of labor to the introduction of steam, then integrating electrical power run machinery directly into production. Now it seems we're entering a new period in the history of production: the transformation of the mode of production, as machinery gains the power to learn and do tasks that have so far resisted mechanization.

Not so long ago, factory, mining, and agricultural workers driven out of production were told they should learn skills like computer programming. Now, computer programmers are being in turn are being replaced by AI programs that can code, causing programming jobs to vanish like so many other jobs before. Today, computer programming is going the way of weaving, along with other layers of white-collar work.

Capital is only interested in the production and appropriation of surplus value (unpaid labor). The development of productive forces is merely a side effect as far as the capitalists are concerned. As this process unfolds, it becomes ever more irrational to measure the value of products by the ever-shrinking quantities of human labor necessary to produce them, while forcing the remaining workers to perform an ever greater amount of unpaid labor producing still more surplus value.

The capitalists are interested in using machines that can learn to create new opportunities to pit this even more powerful machinery- the machines can now learn – against workers. Either produce more unpaid labor for us, the capitalists will say, or we'll replace you with our intelligent machines that can do everything you do – except produce surplus value. Without the production of surplus value, there can be no profit, and no capitalist production.

Once we reach this point in the history of production, the contradictions of capitalism reach absolute levels. As long as workers had to work long hours in factories, mines, and farms, there couldn't be a communist society where the full development of the capacity of one person requires the full development of the capacities of all.

Once machines "learn" to do all the drudge work that must be done, humans, all humans, will be able to at last be free to fully develop their full capacities. Not only will capital vanish from production, but the "enslaving division of labor" will also be overcome. Then, communism, the higher stage of communism, will become not only possible but, as even Elon Musk is obliged to at least partially acknowledge, the only way to organize production.

Three basic laws of the capitalist system involving the evolution of the rate and mass of profit

As long as capitalist production has not been overcome, the ever-shrinking role of direct value-producing labor relative to science and technology in the production of the use values is expressed through the tendency of the rate of profit to fall.

Let's examine three basic laws of motion of the capitalist mode of production discovered by Marx that involve an evolution of the mass and rate of profit.

1) The tendency of the rate of surplus value to rise.

If it is to resist the tendency of the rate of profit to fall, capitalist production has to increase the amount of unpaid as opposed to paid labor performed by the working class. The more the productivity of labor increases, the more the ratio of unpaid labor to paid labor can rise without reducing the standard of living of the working class below the level that would prevent it from being able to reproduce itself. Indeed, as labor productivity develops, the living standard of the working class can rise even as the rate of exploitation, the ratio of unpaid to paid labor, increases.

2) The rise of the organic composition of capital

The competition between the various industrial capitalists, and more importantly between the sellers of labor power – the workers – and the buyers of labor power – the capitalists – means that the capitalists will introduce machines to replace workers whenever the rate of surplus value threatens to fall. The competition between the industrial capitalists and the workers turns into a competition between workers and machines.

Under capitalism, the development of science and technology that leads to ever more powerful machines strengthens the capitalists' position over the workers within the labor market. But at the same time, the unprecedented growth in the productivity of labor creates the material preconditions for a higher mode of production. This is one of the most important consequences of the labor union struggle against the increasing rate of capitalist exploitation.

However, the replacement of living labor by dead labor means that the ratio of constant to variable capital grows. Since only living labor – variable capital – produces surplus value, the rate of profit tends to decline despite the rise in the rate of surplus value.

3) The growth in the total amount of profit

Although the rate of profit tends to decline, the mass of profits grows progressively with the development of capitalist production. This is reflected outside of crises in the rising trend of stock market prices.

To maintain the growth in the mass of profit in the face of a decline in the rate of profit, capital must first exploit the existing workers more intensely. This is made possible by the rising productivity of labor and by transforming ever more people, both in absolute numbers and as a percentage of the population, into surplus-value producers.

However, even leaving aside the inevitable resistance of the workers, since no worker can work more than 24/7, the surplus value that a given number of workers can create is limited not only by biological but also by mathematical laws. The laws of mathematics prevent workers from working more than 24 hours a day. Therefore, if capitalism is to wring enough surplus value out of the working class to keep the system going in the long run, the size of the population must grow relentlessly over time.

Over the last few centuries, the exploding human population has nothing to do with the alleged Malthusian law that claims that the human population rises in lockstep with the growth in the means of subsistence. This "law," Malthus and his followers claimed, dooms the great mass of the population to a miserable subsistence living, no matter how much the productive forces of humanity develop. In reality, the "population explosion" of the last few centuries reflects the need for capitalist production (outside of temporary cyclical fluctuations) to exploit an ever-growing number of workers.

Effects of a fall in the rate of profit on capitalist production

As already indicated, while the rate of profit tends to fall as capitalism develops, the mass of profits grows progressively. Rosa Luxemburg claimed in her "*Anti-Critique*" that the rise in the mass of profit rendered the fall in the rate of profit harmless to capitalism so that capitalism would not collapse due to the fall in the rate of profit "before the sun burned out." We believe that Luxemburg was mistaken on this key question. Why is this so?

1) A falling rate of profit leads to the centralization of capital.

How does a rise in the total profit compensate for a fall in the rate of profit?

For example, in 2014 U.S. dollars, if a capital in the form of an ongoing business is $1,000,000, a rate of profit of 10% yields an income of only $100,000 to its owner, a barely adequate income for even the smallest of capitalists. If

our individual capitalist has to capitalize half the profit – plow it back into the business – an income of $100,000 will leave $50,000 for personal consumption, about what a skilled union worker might earn in an imperialist country.

On the other hand, a mere 10% rate of profit on a capital of $100 million yields a "comfortable" $10 million annual income. Even if half of this income has to be capitalized, it leaves $5 million left over to meet the annual personal consumption needs of the capitalist and their family. Limiting your consumption to "only" $5 million a year is no great hardship.

The same is true of the capital owned by money capitalists, insomuch as the fall in the rate of profit is reflected in a fall in the rate of interest. Remember, interest is just a portion of the profit, and the interest rate cannot, in the long run, exceed the rate of profit. A low rate of profit, therefore, will mean an even lower rate of interest.

The lower the interest rate, the greater the capital's size if the money capitalist owner is to have a large enough interest income to live at a standard of living that is adequate for "a gentleman and gentlewoman." And since the late 19th century, stock corporations have come to dominate capitalist production. The result is a powerful tendency to gradually convert the individual members of the capitalist class into money capitalists who have to settle for the lower average rate of interest as opposed to the average rate of profit. However, owners of corporate stocks get to participate in the higher mass of profits through rising stock market prices that can be realized when the stocks are sold.

2) Capital can only exist in the form of many capitals.

Capital consists of commodities. Commodity production requires private ownership of the means of production, where each private owner works for their private account. Each commodity producer finds itself under pressure – competition – from other commodity producers. Indeed, as Marx pointed out, under a system of commodity production, the producers recognize no higher authority than the mutual competition that rages among themselves.[1]

Capital, like money, as Marx pointed out, is a form of the commodity relationship of production.[2] It can, therefore, exist only in the form of many capitals that exert constant pressure – competition – on each other. The many capitals find themselves in a war of "all against all." Each individual capital must expand or die. Huge numbers of capitals die, but a few expand to immense size.

A falling rate of profit increases the intensity of competition. Each capital must strive to become big quickly if it is to be able to compensate its own-

1 *Capital*, Volume I, Chapter 12

2 *Capital*, Volume I, Chapter 3: Money, or the Circulation of Commodities\n

er(s) for the lower rate of profit by increasing the total mass of profit. But the growth of the individual capitals means eventually developing gigantic businesses that centralize the productive forces in the hands of a few giant joint stock corporations. The point is reached where a few or even one capital can produce so many commodities that it can satisfy the entire market demand.

At this point, competition begins to devour itself and gives birth to capitalist monopoly. Capitalist monopoly is the first stage of the transition from capitalism based on free competition among many capitals to socialist – or communist – production based on centralized planned production managed by the associated producers according to a common plan.

3) A low rate of profit undermines innovation.

A low rate of profit is an obstacle to capitalist innovation. As a rule, innovative technologies are pioneered by small capitalists. However, a low rate of profit makes small capitalist enterprises increasingly nonviable. If small, innovative "startups" can survive at all, it is because the rate of profit in a new, fast-developing industry is well above the average rate of profit.

We see this in places like California's Silicon Valley. The vast majority of these startups never become profitable at all and soon go bankrupt. But once in a while, startups win the support of existing large capitalists and grow into huge monopolies – Apple Computer, Intel, and Cisco are examples – which find themselves in a position to make super-profits–that is, profits above the average rate of profit. In addition, perhaps one or two large existing monopolies will enter the field.

The process of formation of monopoly, which in the past took decades or even centuries, now often takes place within a few years of the birth of a new industry. The lower the rate of profit, the shorter the stay of small capitalists in new branches of industry, as Rosa Luxemburg pointed out as long ago as 1898 in "*The Industrial Development of Poland*," and therefore, the quicker new branches of production become centralized in a handful of companies or even a single capitalist corporation.

Interest, the profit of enterprise, and the tendency of the rate of profit to fall

Very large capitals can generate huge profit incomes for their capitalist owners, even if the rate of profit is very low. However, this doesn't mean that a low rate of profit is harmless to the capitalist system. The rate of profit–realized surplus value minus rent – is itself divided into two fractions: interest and the profit of enterprise.

As we have seen throughout this work, only the profit of enterprise provides an incentive for the capitalists to produce surplus value. If the rate of profit is no higher than the rate of interest – or not significantly higher than the rate of interest – capitalists will have little or no incentive to act as industrial capitalists. They will instead transform themselves into money capitalists. This is true not only of individual capitalists but also of large corporate monopolies.

The whole "financialization phenomenon" that arose near the end of the 20th century, triggered by the period of extremely high interest rates that followed the 1968-1982 stagflation crisis, illustrates this point. This episode is a real-life illustration of what happens when the rate of profit is not substantially higher than the rate of interest. If such a situation were to persist, the capitalist system would progressively disintegrate.

As we saw in the years after 1980, however, interest rates did gradually fall back to levels that were well below the rate of profit, though huge amounts of means of production had to be destroyed and consequently jobs lost to achieve this necessary fall in the rate of interest. To calculate the total cost of the post-stagflation high rate of interest relative to the rate of profit, in addition to the jobs and means of production that were destroyed, we also should include the jobs and means of production that were not created.

But the situation would be far more serious for capitalism if it were not a matter of an extraordinarily high rate of interest but rather an extremely low rate of profit.

If the rate of profit is 100%, it is possible to have a vast range of interest rates and still have a positive profit of enterprise. For example, at a rate of profit of 100%, the rate of interest could be 95, 50, 5, 1, or even 0.25%. But if the rate of profit falls to 5%, the highest sustainable general rate of interest must be below 5%. If the rate of profit falls to 1%, the rate of interest would have to fall below 1%.

This would be the feared permanent "liquidity trap" of the Keynesian economists. At a 1% rate of profit, the rate of interest would have to be lower than 1% to have any incentive to produce surplus value at all, and even then, the profit of enterprise would always be below 1%.

Therefore, a very low rate of profit kills the incentive to produce surplus value, no matter how large the mass of profit. At very low rates of profit, even a slight rise in the rate of interest threatens to wipe out the profit of enterprise entirely. The system would have to produce tremendous quantities of money material – gold – just to keep the interest rate below the profit rate.

There are two ways a low rate of profit undermines the capitalist system. The lower the rate of profit, the stronger the trend toward an increased centralization of capital will be, and the lower the rate of interest must be to ensure a positive profit of enterprise. Therefore, contrary to Rosa Luxemburg's belief, no increase in the mass of profit can make the fall in the rate of profit harmless to capital.

The depletion of raw materials and the rate of profit

Marx was fond of quoting Sir William Petty–the founder of classical English political economy, where Petty wrote that the–"land is the mother of wealth, while labor is its father." (See "*Capital*," Chapter 1, Commodities)

Capitalist production, as it develops, assaults not only labor – the working class – but also the "land"– that is, nature itself. In "*Dialectics of Nature*," Frederick Engels wrote, "Let us not flatter ourselves overmuch on account of our human conquest over nature. For each such conquest takes its revenge on us."

Marx was far from the first or even the last economist who believed that the tendency of the rate of profit was downward. However, Marx was the first economist to show that the tendency of the rate of profit to fall is rooted in the rising organic composition of capital. While the main cause of this rise is the growing role of machinery, the value of raw and auxiliary materials also plays an important role in determining the organic composition of capital. Like fixed capital, raw and auxiliary materials form part of the constant capital. The more that mines, oil wells, natural gas fields, and so on are depleted–all other things remaining equal – the higher the value of these commodities and all other things remaining equal, the higher the organic composition.

Even if the supplies of these raw materials are not exhausted, any rise in their values increases the organic composition and, all other things remaining equal will lower the rate of profit – with all the consequences that I explored above.

For example, while concerns about "peak oil" have faded somewhat in mainstream discourse due to developments in shale extraction and renewable energy, the underlying economic dynamic remains. Whether energy comes from conventional oil, heavy oil deposits like those in Venezuela, shale, or renewables requiring massive infrastructure investment, the value of a given unit of energy affects the organic composition of capital since energy in one form or another is an "auxiliary material" in every branch of

production. A rise in the value of energy means, all other things remaining equal, a higher organic composition and a lower rate of profit. This is why the struggle for cheap sources of raw materials and energy remains so important for the capitalists, regardless of the particular energy sources in play at any given moment.

The increasing difficulty in realizing value and surplus value

As we have seen through both theoretical and empirical arguments, the market grows in the long run by producing ever - greater amounts of money material – gold. As we saw in the last chapter, the modern gold industry involves a particularly vicious assault on both the mother of wealth – nature – and its father – the workers. Today, the Earth bears huge scars visible from space, which testify to the growing difficulties in realizing the everg-reater amounts of value and surplus value that must be produced if capitalist production is to continue.

Even if "peak gold" turns out to be far distant, the gold mining companies will be forced to find new gold in increasingly inaccessible places – perhaps the ocean bottoms as well as ever-deeper shafts within the Earth and maybe eventually beyond the Earth in asteroids. The fact that there are no substitutes for gold, insofar as it represents money material, forms a material basis for the increasing difficulty in realizing the ever-greater mass of value and surplus value if capitalist production is to continue.

Besides doing enormous damage to the natural environment and risking the lives of large numbers of workers, this will tend to increase the value of gold relative to the value of other commodities. As gold rises in value relative to most other commodities, the prices of these commodities expressed in the use value of gold will tend to decline.

Capitalism reacts to the growing difficulty in realizing the value and surplus value of commodities – in plain language, finding markets for the growing mass of commodities produced – by increasing the centralization of the bank-centered credit system. Over time, the power of finance capital increases, though with cyclical fluctuations, as we have seen.

The development of the bank-centered credit system makes it possible for the capitalist economy to function on ever smaller amounts of "hard cash." The result is that the capitalist system becomes more and more unstable. When the inflated credit system finally topples over, and it must topple over periodically, if only because one piece of money cannot settle two payments simultaneously – economic crises grow more intense and prolonged.

Any slowdown in the growth of the market means more intense competition among the various capitals that make up capitalist production. Competition becomes a zero-sum game if the market size is fixed and doesn't grow at all. The gain of one capitalist is offset by a loss for another. But in a rapidly expanding market, even if a particular capitalist loses market share, that capitalist might still gain absolutely in terms of rising sales. This softens competition among the capitalists.

Just as falling rates of profit brought on by a rising organic composition of capital, an overproduction crisis and its aftermath intensify competition. The more intense the competition, the greater the tendency towards capitalist monopoly. It is no accident that the modern capitalist monopolies first appeared on a large scale in the wake of the economic crisis of 1873, a period not coincidentally marked by falling gold production.

Environmental crises, crises of overproduction, and the centralization of capital linked

Here, we also discover a direct tie between the environmental crisis, the increasing strain on the Earth's ability to tolerate the ever-greater assault of capitalist production on the mother of all wealth – nature – and the world market's ability to keep expanding.

Though it is not apparent at first glance, the growing environmental crisis is linked to the tendency of the rate of profit to fall – the discovery of cheap new sources of raw materials lowers the organic composition of capital and, therefore, counteracts the tendency of the rate of profit to fall – but also through the tendency of crises of overproduction to grow more intense as the world's gold mines are depleted.

Capitalist production must strive to squeeze ever more of the yellow metal out of increasingly depleted gold mines – no matter the cost to the environment and the workers – if the world market is to keep on growing so that capital can realize the ever-greater mass of surplus value that it must squeeze out of the workers if a collapse of capitalist production is to be staved off. Capital's assaults on the twin sources of wealth, land and the workers, therefore, intensify.

Why the 'stationary state' is impossible for the capitalist system

John Stuart Mill, who was well aware of the falling tendency of the rate of profit, hoped that capitalism would evolve into a "stationary state." John Maynard Keynes, who was also well aware of the tendency of the rate of profit to fall, expressed similar hopes. Essentially, both these bourgeois

economists hoped that "reproduction on an expanded scale," to use Marxist language, was just a passing phase of capitalism and that it would eventually be succeeded by a mere "simple reproduction" that would allow the population to be stabilized.

But the very nature of capitalism precludes this. Marx insisted that capitalism could only exist in the form of expanded capitalist reproduction. But why is this?

If expanded reproduction of capital becomes impossible or at least is greatly impaired either because no more or very little additional surplus value can be produced and/or not enough additional surplus value can be realized in money form, competition between the various capitals that make up the capitalist system of production will intensify to such an extent that competition will devour itself completely.

Or, more simply, the tendency towards an ever-greater centralization will overwhelm those counter-tendencies toward the decentralization of capital that, as Marx put it ("*Capital*" Vol. III Part III, The Law of the Tendency of the Rate of Profit to Fall), prevent a quick collapse of capitalist production.

The breakdown theory in Engels

First, let's look at how Frederick Engels explained the inevitable "breakdown" of capitalist production in his "*Socialism: Utopian and Scientific*."

"We have seen," Engels explains, "that the ever-increasing perfectibility of modern machinery is, by the anarchy of social production, turned into a compulsory law that forces the individual industrial capitalist always to improve his machinery, always to increase its productive force. The bare possibility of extending the field of production is transformed for him into a similarly compulsory law. The enormous expansive force of modern industry, compared with which that of gases is mere child's play, appears to us now as a necessity for expansion, both qualitative and quantitative, that laughs at all resistance."

But Engels then points out that the industrial capitalists meet resistance as they attempt to expand production "qualitatively and quantitatively" without limit. And what is it?

Engels goes on: "Such resistance is offered by consumption, by sales, by the markets for the products of modern industry. But the capacity for extension, extensive and intensive, of the markets is primarily governed by quite different laws that work *much less energetically* [emphasis added –SW].

The extension of the markets cannot keep pace with the extension of production. The collision becomes inevitable, and as this cannot produce any real solution so long as it does not break in pieces the capitalist mode of production, the collisions become periodic. Capitalist production has begotten another 'vicious circle.'"

But it is not just a circular – or cyclical – movement; it is a spiral movement.

"As a matter of fact," Engels explains, "since 1825, when the first general crisis broke out, the whole industrial and commercial world, production and exchange … are thrown out of joint about once every 10 years. Commerce is at a stand-still, the markets are glutted, products accumulate, as multitudinous as they are unsalable, hard cash disappears, credit vanishes, factories are closed, the mass of the workers are in want of the means of subsistence, because they have produced too much of the means of subsistence; bankruptcy follows upon bankruptcy, execution upon execution."

"In these crises," Engels continues, "the contradiction between socialized production and capitalist appropriation ends in a violent explosion. The circulation of commodities is, for the time being, stopped. Money, the means of circulation, becomes a hindrance to circulation. All the laws of production and circulation of commodities are turned upside down. The economic collision has reached its apogee. The mode of production is in rebellion against the mode of exchange."

"This rebellion of the productive forces," Engels explains, "as they grow more and more powerful, against their quality as capital, this stronger and stronger command that their social character shall be recognized, forces the capital class itself to treat them more and more as social productive forces, so far as this is possible under capitalist conditions. The period of industrial high pressure, with its unbounded inflation of credit, not less than the crash itself, by the collapse of great capitalist establishments tends to bring about that form of the socialization of great masses of the means of production which we meet with in the different kinds of joint-stock companies. Many of these means of production and of distribution are, from the outset, so colossal that, like the railways, they exclude all other forms of capitalistic expansion. At a further stage of evolution, this form also becomes insufficient. The producers on a large scale in a particular branch of an industry in a particular country unite in a 'Trust,' a union for the purpose of regulating production. They determine the total amount to be produced, parcel it out among themselves, and thus enforce the selling price

fixed beforehand. But trusts of this kind, as soon as business becomes bad, are generally liable to break up, and on this very account compel a yet greater concentration of association."

"In any case … the official representative of capitalist society – the state – will ultimately have to undertake the direction of production," according to Engels. "This necessity for conversion into State property is felt first in the great institutions for intercourse and communication – the post office, the telegraphs, the railways."

But things don't stop there – remember, the above was written in 1877. For example, during the crisis of 2007-2009, the Obama administration was forced against its will to take over what had been the General Motors Corporation, which was not so long before the biggest industrial corporation in the world. However, this kind of "state ownership" is not socialism and is progressive only to the extent that it prevents further destruction of the productive forces.

"But, the transformation – either into joint-stock companies and trusts, or into State-ownership – does not do away with the capitalistic nature of the productive forces," Engels wrote. "In the joint-stock companies and trusts, this is obvious. And the modern State, again, is only the organization that bourgeois society takes on in order to support the external conditions of the capitalist mode of production against the encroachments as well of the workers as of individual capitalists. The modern state, no matter what its form, is essentially a capitalist machine – the state of the capitalists, the ideal personification of the total national capital. The more it proceeds to the taking over of productive forces, the more does it actually become the national capitalist, the more citizens does it exploit. The workers remain wage-workers – proletarians. The capitalist relation is not done away with. It is, rather, brought to a head. But, brought to a head, it topples over. State-ownership of the productive forces is not the solution of the conflict, but concealed within it are the technical conditions that form the elements of that solution."

The more industrial production, including mining and agriculture, is centralized in the hands of a few gigantic stock corporations and even state enterprises, not only is the free market that is the only regulation mechanism proper for capitalist production undermined, but the easier it is for the working class once it is organized as the state power to seize control of the means of production and exchange.

The breakdown theory in Marx

In Volume I of "*Capital*," Marx wrote: "As soon as this process of transformation has sufficiently decomposed the old society from top to bottom, as soon as the laborers are turned into proletarians, their means of labor into capital, as soon as the capitalist mode of production stands on its own feet, then the further socialization of labor and further transformation of the land and other means of production into socially exploited and, therefore, common means of production, as well as the further expropriation of private proprietors, takes a new form."

And what is this new form?

"That which is now to be expropriated," Marx explains, "is no longer the laborer working for himself, but the capitalist exploiting many laborers. This expropriation is accomplished by the action of the immanent laws of capitalistic production itself, by the *centralization of capital* [emphasis added –SW]. One capitalist always kills many.

> "Hand in hand with this centralization, or this expropriation of many capitalists by few, develop, on an ever-extending scale, the co-operative form of the labor-process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labor into instruments of labor only usable in common, the economizing of all means of production by their use as means of production of combined, socialized labor, the entanglement of all peoples in the net of the world-market, and with this, the international character of the capitalistic regime."

Today, the capitalist media talks about "globalization" as something new. But Marx was talking about globalization in the 1860s and even earlier in the "*Communist Manifesto*," which he wrote with Engels in the winter of 1847-1848:

> "Along with the constantly diminishing number of the magnates of capital who usurp and monopolize all advantages of this process of transformation," Marx continues in "*Communist Manifesto*," "grows the mass of misery, oppression, slavery, degradation, exploitation; but with this too grows the revolt of the working-class, a class always increasing in numbers, and disciplined, united, organized by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter upon the mode of production, which has sprung up and flourished along with, and under it. Centralization of

> the means of production and socialization of labor at last reach a point where they become incompatible with their capitalist integument. Thus integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated."

In this work, we have explored exactly how the economic laws of capitalism discovered by the classical political economists and Marx work in practice, with special emphasis on how they produce and reproduce the periodic crises of the generalized overproduction of commodities. Each crisis gives a new impulse to the centralization of capital and the further socialization of labor.

What is true of the crisis is also true of the reckless inflation of credit and its associated over-trading, which pushes production far beyond its capitalist limits and precedes each successive crisis. Credit and the stock market system that is linked to the credit system make possible the creation of gigantic enterprises that achieve a massive socialization of labor far beyond what would be possible if individual capitalists owned enterprises. This growing socialization of labor increasingly unfolds on an international basis. As a result, it becomes as meaningless to ask what country a given commodity is made in as to ask the name of the individual worker who produced it.

We have seen how the credit system grows out of the capitalists' need to artificially extend the market as the productive forces they are forced to create by the pressure of competition expand far beyond the limits set by the ability of the market to grow. The development of the credit system, far from being "a means of adoption" of the capitalist system, as Eduard Bernstein thought, pushes the contradictions of capitalist production to the point where they explode in the form of a crisis of the generalized relative overproduction of commodities.

Just as within an individual industrial cycle, where the inability of the market to keep up with the rising level of commodity production causes the boom to collapse well before "full employment" is achieved, the increasing socialization of labor and centralization of capital will force the working class under pain of its own destruction to organize itself as the state power and finally overthrow the rule of capital long before it reaches the ultimate limits set by the maximum amount of surplus value that can ever be produced and realized – given the limits set by our material world.

In the end, capitalism will collapse because the workers of brawn and brain will, at last, be given no alternative but to cease being surplus-value producers and instead organize themselves as the "associated producers of the world" and take charge of their own collective destiny.

APPENDIX

Value Theory, the Transformation Problem and Crisis Theory

This owes a lot to the work of Professor Anwar Shaikh of the New School, especially his 1978 essay "Marx's Theory of Value and the Transformation Problem" and his 1982 article "Neo-Ricardian Economics: A Wealth of Algebra, A Poverty of Theory"

The transformation problem in classical political economy

The law of value as developed by classical political economy held that the value of a commodity is determined by the amount of labor that under the prevailing conditions of production is on average necessary to produce it.

According to the classical economists, the value of a commodity determines its natural price around which market prices fluctuate in response to changes in supply and demand. The fluctuations of market prices around values – or what comes to exactly the same thing, according to classical political economy, natural prices – regulate the distribution of capital among the various branches of production.

As far as the classics were concerned, natural price (to use Adam Smith's terminology) or cost or price of production (to use Ricardo's preferred terminology) was identical to the value of the commodity. [1]

1 The term price of production is far preferable to the term cost of production for two reasons. First, the term cost of production can easily be confused with the cost price. The cost price is the cost to the capitalist of producing a commodity, while the price of production is the price that society must pay if a given commodity is to be produced. The price of production, unlike the cost price, includes the average rate of profit.

Second, the term price of production reminds us that prices of production are indeed *prices*. That is, prices of production always represent a weight of gold bullion—assuming gold is the money commodity. The classical economists notwithstanding, prices of production are not the same as values. Values are definite quantities of abstract human labor measured in terms of time, while prices of production are definite quantities of gold bullion measured in terms of weight. This important distinction between values and prices of production is obscured by the term "cost of production."

While Ricardo generally used the term cost of production, as did Marx in his early writings, in his mature work Marx never used the term cost of production but always price of production, or sometimes production price for short.

Suppose too much corn is produced and not enough shoes. The market price of corn will fall below its natural price or value, while the market price of shoes will rise above its value or natural price. The capitalists will then invest less capital producing corn, where profits will be below the average rate of profit or even negative, and more in the production of shoes, where profits will be above the average rate of profit.

As each individual capitalist seeks super-profits – profits above and beyond the average rate of profit – the rate of profit will tend to even out among the various branches of production. At the same time, the various types of commodities will be produced in the proportions needed to meet the needs of society. All this is achieved without any type of central management of the economy whatsoever.

The central tenet of classical political economy that emerged is that as long as everybody is free to advance their individual material interests, the common good will emerge thanks to the operation of the law of the labor value of commodities. This became the main doctrine of economic liberalism.

However, it was realized already by Adam Smith that the law of value thus formulated is in apparent contradiction with the tendency of competition to equalize the rate of profit. Under the relentless pressure of competition, no individual capitalist can afford to settle for a lower rate of profit if a higher rate of profit can be achieved. Every capitalist under pain of bankruptcy must seek the highest rate of profit possible. [2]

Assuming there are no barriers to the free flow of capital among the various branches of production – that is, free competition or, as Adam Smith called it, "perfect liberty"– competition among capitals will tend towards a situation where capitals of equal size earn equal profits in equal periods of time.

But this leads to a contradiction. Capitals that employ a larger than average amount of fixed capital have longer turnover periods than those that employ a smaller amount of fixed capital on average. But do not the branches of production that experience longer than average turnover periods for

2 We often hear about the "greed" of individual capitalists. For example, many articles have appeared in the capitalist press blaming the panic of 2007-09– which in the last couple of weeks has been threatening to flare up again – on the "greed" of Wall Street bankers. If only the Wall Street bankers had been less "greedy," the crisis would have been avoided. Here the contradictions of capitalist production are reduced to the personal psychology of individual capitalists.

In truth, the greed of individual capitalists is the reflection of the laws of capitalist production in the minds of its capitalist agents. The very laws of capitalism force the individual capitalists to seek the highest rate of profit.

This compulsory law tends to even out the rate of profit among the individual capitals, tending toward a situation where equal capitals yield equal profits in equal periods of time.

their capitals have to charge – all else remaining equal – higher prices than capitals in those branches of industry that experience shorter than average turnover periods? If they don't, capitals with different turnover periods cannot realize equal profits in *equal periods of time*.

The fine wines aged in old oak chests problem

The example that was often given to illustrate capital with a long turnover period is fine wine aged in old oak chests over many years. As the wine sits in the chests, it appears to be accruing "interest," much like money in a high-yielding savings account does, even though it is not absorbing any additional human labor.

Modern bourgeois economists argue that this shows that the law of labor value cannot possibly be true. According to them, not only the labor the wine absorbs through the process of production but the "interest" the wine earns while aging in old chests prove that the wine and the chests are also producing value. Indeed, isn't it true that wines aged over many years are very expensive due to this accrued "interest"?

Since the days of Adam Smith, virtually all schools of economics – the classical school, the Marxist school, and the marginalist school, though the marginalists will say equal rate of interest rather than profit – have accepted this basic economic law. But why is there an apparent contradiction between the values of commodities being determined by the quantity of labor necessary to produce them, on one hand, and the tendency of the rate of profit to equalize, on the other?

The transformation problem in Marx

The apparent contradiction between the law of labor value and the tendency of the rate of profit to equalize is sharpened further in the transition from classical political economy to the economics of Marx as developed in Volume I of "*Capital*."

Unlike the classical economists, Marx distinguished between constant capital – fixed capital and raw and auxiliary materials, on one side, and variable capital – labor power – on the other. Remember, according to Marx only living labor, variable capital, produces value and surplus value. Constant capital, in contrast, can only transfer its existing value to the commodities it helps produce.

Suppose one branch of production employees $50 of constant capital – depreciation of machines and raw and auxiliary material – and $50 for

wages to produce an individual commodity. Abstracting the fluctuations of market prices around values, we assume that the commodities sell at their labor values. Assume that the rate of surplus value is 100%. That is, each worker works half the time for herself and half the time for the boss. We get 50C + 50V + 50S = 150. The rate of profit will be 50%.

Assume that another branch of production employs $75 worth of constant capital and $25 worth of variable capital for each individual commodity produced. Assume again a rate of surplus value of 100%. We get $75C + 25V + 25S = 125. Therefore, assuming again that commodities sell at their values, the rate of profit is only 25%. [3]

However, under the relentless pressure of competition no capitalist can afford to invest in a branch of industry where the rate of profit is 25% if the capitalist can just as easily invest in a branch where the rate of profit is 5%. Therefore, the natural price, to use Adam Smith's terminology, around which market prices fluctuate will not be determined by the quantity of labor socially necessary to produce the commodities.

Smith's solution to the transformation problem

Adam Smith reacted to the transformation problem by retreating from the law of labor value in many passages of his "*Wealth of Nations*." Instead, he suggested that in a capitalist society regulated by the average rate of profit the natural price, or value, could be determined by simply adding up the basic revenues earned by the different members of society: wages of labor, profit of stock – capital – and rent of land.[4] Essentially, Smith claimed the law of labor value applied only in an economy of simple commodity production where the producers owned their own means of production.

For a capitalist society, Smith suggested a cost of production theory of value. The value of a commodity was determined by the sum of the wages, profits and rents that went into its production. Adam Smith could do this only because he ignored constant capital, which he claimed was legitimate because constant capital could always be reduced to wages in the "final analysis."

This cost of production theory of value was sufficient for the economists who dominated political economy between the death of Ricardo in 1823 and the so-called marginalist revolution of the 1870s.

3 This is the same phenomennon that lies behind Marx's famous law of the tendency of the rate of profit to fall, which plays such an important role in Marxist crisis and breakdown theories.

4 In English, particularly in earlier times, the word "stock" was used in place of the word "capital." Hence the term "stock market" and the expression "stock in trade."

Ricardo and the transformation problem

David Ricardo agreed with Adam Smith that the value of a commodity was the average price around which the market price fluctuated according to the ebbs and flows of supply and demand for that commodity. But while Ricardo's view was far narrower than Smith's, it was far more logical. Ricardo simply did not like logical contradictions.

While Smith was able to move from one theory of value to another within his "*Wealth of Nations*" as it suited his purposes at the moment, Ricardo craved consistency. Though well aware of the contradictions of Smith's law of labor value, he strived all the same to use the law of labor value consistently.

But Ricardo was not able to resolve the contradictions of the classical law of labor value any more than Smith was. Unlike Smith, however, he sensed that the seeming contradictions of the law of labor value could be resolved and he looked forward to a successor who would be able to so. That successor was not a political economist, however, but a representative of the working class who stood in opposition to all bourgeois political economy. (5) His name was Karl Marx.

Marx and the transformation problem

Marx developed the law of labor value far beyond the level achieved by any of the classical economists, including Ricardo. Next to his theory of surplus value, which by distinguishing between labor and labor power explains how surplus value arises when equal quantities of labor embodied in commodities are exchanged for equal quantities of labor, Marx's greatest economic advance beyond classical political economy was his discovery of the categories concrete labor, which produces use values, and abstract labor, which produces value. (6)

5 Between Ricardo and Marx, representatives of the working class called "Ricardian socialists" used Ricardo's theories against the capitalist class. Though their work contained valuable insights on the origin and nature of surplus value, as students of the capitalist economy they were inferior to Ricardo. Marx was the first representative of the working class who not only fully mastered Ricardian economics, the necessary starting point in those days, but transcended it by solving the contradictions of the classical law of labor value, which Ricardo had not been able to accomplish.

6 According to Marx, it was the great materialist English philosopher Thomas Hobbes (1588-1679) who first made the distinction between labor and labor power. But the political economists had failed to follow Hobbes' and others' hints in this regard and used the term "labor" to describe both labor power – the ability to labor and labor itself. Marx was the first to explain the origin of profit and rent –the incomes of the non-working part of the population – not by the capitalists buying the labor power of the workers below its value – though that can certainly happen—but rather by assuming that capitalists actually pay the full value of the workers' labor power. Marx held that if you cannot explain the origins of surplus value in this way, you cannot explain it at all. Frederick Engels said that with this discovery socialism at last became a science and must be studied as a science.

This is not the easiest thing to grasp and explains why for those who are approaching "*Capital*" for the first time – and the second and third time – the first three chapters are so difficult. Especially for those who are not trained in philosophy and logic, the first three chapters represent a considerable challenge.[7] But once the concept of labor with all its specific features abstracted, such as labors of different skills, labors producing different types of use values, or even labors of individual workers at different times of day (for example, before and after the morning cup of coffee), we get human labor as such, as pure homogenous social substance.

It is abstract labor that makes it possible to equate different types of material use values such as apples and oranges with each other in the process of exchange. The abstraction occurs not only in the pages of "*Capital*" but in an unconscious way, when commodities with qualitatively different use values are all the same exchanged and thus equated with one another. They must have something in common, otherwise they couldn't be equated with one another, but what is it?

Marx reasons in the first three chapters of "*Capital*" that commodities that are so different in terms of their material use values must, all the same, share a common quality. That common quality is that they are all products of human labor.

Not the concrete labor that produced them, for example the labor of a machinist, or the labor of a jeweler, or the labor of ditch digger, but the quality that all forms of labor have in common. This is human labor in the abstract, with all features that distinguish an hour of concrete labor from another hour of concrete labor left out.

The skill or lack of skill of the individual worker, the health of the worker, whether the worker has had her morning coffee, the time of the day the labor is performed, and so on are all abstracted. Leave all this out and anything else that distinguishes one hour of human labor from another and you get an hour of abstract labor. This, Marx explained, was the pure social substance – not physical substance – of value that all commodities have in varying degrees.

7 It is often recommended that when approaching "Capital" for the first time a reader begin with the historical chapters, such as the struggle of the English workers for the 12-hour and then the 10-hour day, rather than begin with the first three chapters. This is a good idea. Most people who attempt to read Volume I of "Capital" from beginning to the end are defeated. When the reader has become more comfortable with "Capital" and Marx's style and terminology and has begun if only partially at first to comprehend the meaning of value and surplus value, it will become easier—though still not easy—to tackle the first three chapters.

Once value is reduced to a homogenous social substance, it can be measured by a common unit – time. The more abstract labor a commodity contains the more valuable it is. In terms of value, commodities differ quantitatively from one another but are qualitatively the same.

This theory of value represented a huge advance beyond Ricardo's theory of labor value. Unlike the Ricardian theory, it made possible a consistent theory of money and price. Marx was able to show that the abstract labor that a commodity represents functions as the immanent measure – internal measure – of the commodity's value.

But the amount of abstract labor that a given commodity represents can never be directly known by the producers – not even approximately – once the production and exchange of commodities has developed beyond its earliest stages.

Therefore, Marx distinguished between value and exchange value as the form of value. The classical economists had only distinguished between use value and exchange value. Going beyond the bourgeois classical theory of labor value, Marx made a distinction between value measured in terms of a certain quantity of abstract labor – its immanent measure – and exchange value in which the value of a commodity is measured in terms of the use value of another commodity. This leads straight to Marx's theory of money and price.

Therefore, under the capitalist mode of production, which is the highest form of commodity production, where labor power has become a commodity, value can only take the form of exchange value.[8] Before Marx, value and exchange value were used synonymously. But Marx showed they are really quite different. The exchange value of a particular commodity – the relative form of the commodity must always be measured in terms of the use value of another commodity – the equivalent form.

8 The classical economists and Marx himself in his earlier writings treated value and exchange value as though they were the same thing. But Marx eventually realized that value and exchange value are two quite different things. Value is always measured in terms of abstract human labor—it is abstract human labor. Exchange value is the form that value must take. It the use value of the commodity that is used as the unit of measurement – the equivalent form, to use Marx's terminology, and is always measured in terms of the unit of measurement appropriate for the particular use value of the equivalent form of the commodity.

Money arises as a relationship of production when a particular commodity emerges as the universal equivalent. For example, gold. Once gold emerges as the universal equivalent or universal measure of value, exchange value is measured in terms of weights of gold bullion. Gold therefore becomes the independent value form of the commodity. It becomes possible quite literally to carry around exchange value – gold bullion – in your pocket.

Gold is not money by nature, but money is by nature gold

Long before the rise of capitalist production, commodity production arose out of accidental exchanges of different products of human labor. As this process developed, one or at most a few commodities emerged as universal equivalents. Over thousands of years of commodity production and exchange, gold has proved to be the best money commodity. It not only contains a great amount of value in a relatively small physical substance. In its bullion form, gold is extremely homogeneous, since it is a chemical element, not a compound.

In addition, due to its natural chemical properties, gold does not corrode. Also, as a simple material use value, gold does not change qualitatively during the history of production. An ounce of gold bullion produced in the days of Adam Smith is identical to an ounce of gold bullion produced today, even if the method of producing it from the raw materials provided by nature and the amount of abstract human labor a given quantity of gold represents has changed drastically.

The same cannot be said of the use values of most other commodities. A suit of clothes I purchase today is not identical to a suit of clothes that Adam Smith might have purchased. Fashions have changed quite a lot since the 18th century. Nor are the varieties of apples that are sold at my local grocery store the same as would have been available to Smith at his local grocery store back in the late 18th century.

A personal computer produced in the 1980s – not that long ago – had completely different capabilities as a material use value than a computer produced today. If you have an old IBM XT or an Apple II somewhere in your garage, and the old computer still works, try to watch a YouTube video on it! A personal computer produced in the 1980s as a material use value is far from equal to a personal computer you might purchase in the year 2010.

But an ounce of gold bullion produced in the year 2010 is as a material use value identical to an ounce of gold bullion produced in the 1980s, or in the year 1776 when Adam Smith published the "*Wealth of Nations*."

In addition to its unchanging nature as a material use value, gold bullion can be divided into smaller bars, or sent to the melting pot and recombined into bigger bars. Therefore, just as abstract human labor is divisible as a social substance, so is gold as a physical substance. For these reasons, as Marx said, gold is not by nature money, but money is by nature gold.

Once a universal equivalent emerges – I will assume throughout this reply that gold is this universal equivalent – gold bullion in its material use

value becomes the measure of the exchange values of all other commodities. Exchange values are therefore measured in terms of the use value of gold bullion – in terms of weights of gold bullion. Not only individual commodities but the more complex forms of the commodity – wealth in a capitalist society – such as capital, prices, rents, interest and the profit of enterprise – are all measured in terms money – that is, in terms of weights of gold bullion.

Like all commodities, a certain quantity of gold bullion represents at any given point in time a given quantity of abstract human labor. Unlike the social labor embodied in other commodities, abstract human labor embodied in gold bullion doesn't have to prove its *social* nature by being exchanged for a sum of money. Unlike all other commodities, gold bullion already is money. It doesn't have to show itself to be social wealth by being sold on the market.

Direct price

Traditionally, Marxists from Marx onward have often referred to a commodity selling "at its value." There is nothing wrong with this expression as a short cut as long as you know *exactly what is meant*. But few Marxist after Marx have known exactly what is meant by this expression. Many Marxists have a view of value that is more or less identical to that developed by classical political economy rather than the far more sophisticated understanding of value developed by Marx.

In order to gain a greater degree of clarity, I will follow Anwar Shaikh and replace the traditional terminology of a commodity selling at its value with the terminology of a commodity selling at its *direct price*. If a commodity sells at its direct price, I mean that the *value of the price* of the commodity is identical to the *value of the commodity itself*. Since price is always an amount of gold bullion measured in terms of weight – assuming gold is the money commodity – p*rice always has its own value independent of the commodity for which it is exchanged or whose value it is measuring.*

Or what comes to exactly the same thing, the direct price of a commodity is the price at which the amount of abstract labor embodied in the gold bullion represented by that price is exactly equal to the amount of abstract labor embodied in that commodity.

The uses of direct prices

The *value of the price* of a given commodity may in theory be identical with the same commodity's value, but in *practice it almost never is*. Still, the assumption that values of commodities and the values of their prices are

identical – that is, that all commodities sell at their direct price – is a powerful analytical tool for analyzing the hidden secrets of the capitalist economy. This is especially true when analyzing the nature and origin of surplus value, the most important question in all of economics. But it remains a powerful tool for analyzing other relationships as well.

Market price

This is price in the every day sense of the word. It is what is on the price tag and what you actually pay at the cash register. The market price may be, and almost always is above or below the direct price. There is only a vanishingly small chance that a price you see on the sticker actually equals the direct price of a given commodity.

Back in the day when I first started reading Marx and Engels, as opposed to reading popularizations of their work, I was disturbed when Marx – or Engels – wrote that commodities virtually never exchange at their values – or in our terminology sell at their direct prices. As I understood it, the essence of Marxist economics was that prices of commodities were determined by values. And values are in turn determined by the amount of socially necessary labor needed to produce the commodities.

Yet here Marx (or Engels) seemed to be rejecting the labor theory of value that Marx was so famous for! It was hard enough to learn that prices of commodities are determined by the amount of labor socially necessary to produce them. Now the masters were saying they weren't! If what I was reading didn't bear the name Karl Marx or Frederick Engels, I would be sure that I was reading the work of a dangerous revisionist.

At first, my reaction was to blot these bizarre-sounding passages out of mind, since they seemed to stand in contradiction to the very "Marxist economics" that I was trying to master. I now realize that in those early days my own theory of value was closer to that of the classical economists but still quite a distance from that of the theory of value developed by Marx. It was a good first step toward understanding Marxist value theory but nothing more. I was still a long way from fully mastering it.

Price of production

The price of production is the quantity of gold bullion that a commodity would exchange for *if the rate of profit in all branches of capitalist industry* were in fact equal. Marx sometimes referred to prices of production as production prices for short. So if I use the term production prices, I mean prices

of production. That is, if everywhere you looked, capitals of equal size – measured in terms of weights of gold bullion – earned equal profits – also measured in terms of weights of gold bullion – in equal periods of time.

In the real world, this will *never be true*. Even if a particular capital – capitalist enterprise – actually earns the *average rate of profit* – it is almost certainly doing so because it is buying some of its inputs at prices that deviate from their production prices either upward or downward. The tendency toward the equalization of the rate of profit is only a tendency, even in a economy based on "free competition."

But it is an *important tendency*, as the classical economists correctly realized. With production prices, as opposed to direct prices, we begin to approach the surface of economic life. The average rate of profit exists in the minds of the everyday capitalists as the "hurdle rate," the minimum rate of profit that must be expected – although there is never any certainty that it can be realized – below which no new investment in a particular line of industry will be carried out.

The everyday capitalist in order to make an educated guess about whether a proposed investment will actually realize the "hurdle rate" will have to make an informed estimate of the price that the market will bear and still be able to realize at least the "hurdle rate." This price will more or less approximate the "price of production."

Labor power wages and production prices

Labor power, the only commodity that produces surplus value, is not in fact capitalistically produced. It therefore has no price of production as such, though it has both a value and a price – the wage. But to the extent the rates of profit equalize, and market prices approach the prices of production, production prices will determine the wage. If market prices actually equaled the prices of production of commodities, the *value of the price* of the labor power a worker sells to the capitalist would therefore certainly deviate somewhat from what it would be if the worker actually bought the commodities necessary to reproduce the worker's labor power at their direct prices.

Gold and production prices

A further complication involves gold bullion itself. Gold bullion of a given weight, assuming it functions as money, has no price, only a value measured in terms of the quantity of abstract labor that is necessary to produce it. Since gold bullion has no price of any kind, it also has no price of production.

But if the organic composition and period of turnover of capital involved in gold production deviate from the average, gold will exchange at a ratio with other commodities that is somewhat different than would be the case if the organic composition and period of turnover of this capital did not deviate from the average.

There are other complications as well. For example, we can assume that the industrial capitalists who produce gold bullion buy their inputs at production prices and not direct prices and that their workers buy their means of subsistence that reproduce their labor power at production prices and not direct prices.

There is also the likelihood that the industrial capitalists who produce gold bullion through the mining and the refining of gold will settle for a somewhat lower rate of profit than average because their risk is also lower. They already have money as soon as they produce the bullion, they don't have to worry about selling it.

I will avoid the complications that are brought about by the ground rent yielded by the gold bearing lands in order to keep this reply from turning into a book longer than Volume III of "*Capital*"!

If after we take into account all these disturbing elements, gold exchanges with commodities at a rate below the rate that would prevail if commodities actually sold for their direct prices, the sum total of commodity prices in terms of gold bullion will be greater than the sum total of prices in terms of gold bullion would be if prices actually corresponded to direct prices.

If the converse is the case, the sum of commodity prices in terms of gold bullion would be somewhat lower than would be the case if commodities sold at their direct prices.

In "*Capital*," Marx worked with essentially three types of prices: direct prices, prices of production, and market prices. Which of the three types of prices did Marx use in "*Capital*" and elsewhere in his mature writings? It all depends on the context in which Marx was writing.

When Marx wrote about how the crisis of 1857 or the U.S. Civil War affected the price of cotton, a vital question for England in those days, he used market prices.

When he dealt with the question of differential rents, he used prices of production. When he dealt with absolute rent, he used prices of production and direct prices. [(9)]

But when he had to explain the most important question of political economy, the origin and nature of surplus value, he found it was absolutely necessary to use *direct prices*.

If you attempt to analyze the origins of surplus value – profit and rent – in terms of prices of production, it will appear that dead labor – constant capital produces surplus value. We already saw this in looking at the problem of fine wine aged in old oak chests. When we use production prices, it appears that the aging wine and old oak chests are producing considerable quantities of surplus value. But Marx already realized that this was an illusion. This is why Marx did not use prices of production to analyze the origins and nature of surplus value. Indeed, production prices hide the real nature of surplus value.

The biggest single difference between scientific economics – both the classical school and Marx, on one side, and what Marx called vulgar economics, on the other – is that vulgar economics *begins* with the "uniform rate profit" and prices of production, since that is the way things appear to the capitalists engaged in everyday business competition, and that is how the real world works after all. Scientific economics – especially Marx's economics – begins with values and direct prices where the value of the commodity corresponds exactly to the *value of its price*.

Marx used direct prices not only to explain surplus value but also in analyzing reproduction, both simple and expanded, as well as the famous tendency of the rate of profit to fall. That is, he used direct prices not only throughout Volumes I and II but well into Volume III, as well. Though direct prices are not prices you pay at the grocery store, they are very powerful means for analyzing the capitalist mode of production.

However, direct prices are *not adequate* to deal with the question of differential and absolute ground rent. Therefore, before he could tackle the problem of rent, Marx had to explain prices of production. This inevitably led Marx to the transformation problem, which as we saw had defeated classical political economy.

9 There are still further complications involving the theory of rent where Marx speaks about individual values and individual prices, individual prices of production as opposed to social values, social prices of production, market values and so on. In order to prevent this reply from becoming as long as Volume III of "*Capital*" itself, I will not go into these categories here. Anyway, I want to save some suspense for those readers who might wish to actually read Volume III of "*Capital*."

Marx's solution to the transformation problem

In Volume III of "*Capital*," Marx took the *first step* in developing a mathematical model that illustrates the process of the transformation from direct prices into prices of production. As always the case with his abstractions, Marx's partial transformation of direct prices into prices of production is a powerful tool to uncover the hidden processes of the capitalist mode of production. For example, if we mistake direct prices for production prices as the classical economists did and people approaching Marx for the first time do – I know I did – we will commit significant errors. These errors played a key role in leading to the downfall of classical political economy.

In his partial solution to the transformation problem, Marx assumed that the inputs sell at direct prices but the outputs sell at prices of production. Marx showed using this partial transformation that the transition from direct prices to prices of production redistributes the surplus value from branches that have a lower than average organic composition of capital to branches that have a higher than average organic composition of capital. The branches of industry with a higher than average organic composition sell their commodities at prices above the direct prices of their commodities, while those with a lower than average organic composition sell their commodities at prices below their direct prices.

In Marx's example, the mass of and rate of profit in terms of direct prices is identical to the rate of and mass of profit in his partially transformed system of prices of production. This is a powerful first step in understanding what happens in the transformation from a system of direct prices to a system of production prices.

We learn that branches of industry that have a higher than average organic composition of capital sell their commodities at production prices, and therefore we assume as a rule market prices that are above their direct prices. Conversely, branches of industry that have a lower than average organic composition of capital also are forced to sell their commodities at production prices – and therefore at market prices that will be below their direct prices. They will therefore yield a portion of the surplus value that they extract from their workers to the capitalists who produce with capitals of an above average organic composition of capital.

This result has very important implications in analyzing the changes in the capitalist system that we have seen in recent decades. We see that industrial production is more and more moving from the imperialist countries

of North America, Western Europe and Japan to the countries where the value of labor power is much lower and therefore the rate of surplus value is much higher.

The industries that remain in the imperialist countries such as computer chip manufacturing have extremely high organic compositions of capitals and employ very few workers. Therefore, even excluding the whole question of monopoly prices, less and less of the surplus value is being produced in the imperialist countries and more and more is being produced in the historically oppressed countries.

All the same, Marx's solution to the transformation problem is only a partial solution. Modern bourgeois economists who specialize in "refuting Marx" see this as a weakness in Marxist theory that they hope to use to destroy Marx's entire "system." They speak about the "error" that Marx made in Volume III with his partial transformation of direct prices into prices of production. This is much like the "error" Marx made in Volume I when he used direct prices to explain the origins and nature of surplus value rather than beginning with the uniform rate of profit and the "cost of production" like the bourgeois economists do. In fact, Marx was well aware that his solution was only a partial one.

Completing the transformation of direct prices into prices of production

To complete the calculation, you have to repeat it, feeding back into the equations the partially calculated prices of productions calculated in the first stage as inputs, and then re-calculating the prices of production one again. The more you repeat this iteration, it's been proven mathematically, the more the prices of production that you obtain converge on the correct solution.

So why is the transformation of direct prices into production prices still treated as a major problem in Marxist value theory? And why do bourgeois economists still think that they can use the transformation to "refute" Marx?

As long as you assume that all commodities are used as inputs – re-enter the reproduction process – not only have you transformed direct prices into prices of production but you can show that the rate and mass of profit calculated in terms of direct prices is identical to the rate and mass of profit calculated in terms of prices of production – an amazing result that gives no entrance to the professional Marx "refuters" at all.

But what about commodities that *do not enter the process of reproduction*? That is, what about luxury commodities – fine carriages in Ricardo's day

and Gulfstreams of today, for example, that are only purchased by the capitalists or their hangers-on? And what about the means of destruction that are produced as commodities by private capitalists but purchased by the state? The bombs that the U.S. government is dropping in Pakistan, Afghanistan, Iraq, and other countries are certainly not re-entering the process of production. They are simply means of destruction.

In the real world, luxury commodities that the actual producers of commodities, the workers, do not get to consume – plus the means of destruction – form no small part of the total mass of commodity production in today's capitalism. It is here that a whole series of Marx critics, including some well-meaning socialists who want to "improve" on Marx's criticism of bourgeois political economy by ditching his theory of value, and some bourgeois economists who want to "refute" Marx altogether, begin their attack.

Once the commodities that do not re-enter the system of reproduction are taken into account, the absolute identity between the mass and the rate of profit referred to above breaks down. In this case, the mass and rate of profit suffer a certain transformation when you shift from a system of direct prices to a system of production prices. It probably won't be a very great transformation, since after all some of the luxury and military commodities will have production prices above their direct prices and some below, but a certain transformation in both the mass and rate of profit will occur all the same.

At this point, the Marx critics proclaim, the law of labor value is refuted and must be abandoned. And what Marx critic first discovered this alleged "flaw" in Marx's system? None. It was Marx himself, as we will see below.

The history of the transformation problem

The transformation problem has been with us in one form or another since the days of Adam Smith. When Smith faced the apparent contradiction between natural prices determined by the quantity of labor socially necessary to produce commodities and the tendency of competition to equalize the rate of profit, he retreated toward a vulgar cost of production theory that began not with labor values but with a uniform rate of profit.

The problem with this "cost of production analysis" is that it explains the determination of prices by prices. It is what logicians call a circular argument. What is the cost of production of a commodity? Why it is the sum of the prices of inputs that are necessary to produce it. Prices are thus determined by means of prices. Therefore, within Smith's work, alongside the

beginnings of a scientific system of economics we also see a system of what Marx called vulgar economics. Ricardo then developed the scientific side of Smith's system, while the vulgar economists – men such J.B. Say, for example – developed the vulgar side of Smith.

With the death of Ricardo, any further progress in developing scientific economics on a bourgeois basis came to an end. The bourgeois successors of Ricardo put forward Ricardian economics without Ricardo's law of labor value, much as Smith had already done in his "vulgar passages" within the "*Wealth of Nations*." These economists began with the uniform rate of profit and then derived the "costs of production" around which market prices fluctuate.

The marginalist revolution

The marginalists were uneasy with the circular reasoning of post-Ricardian political economy. Instead, they developed a theory of value based on the relative scarcity of material use values relative to subjectively determined human needs. In this way, they escaped from the "transformation problem" – or at least they thought they did. Not coincidentally, another "great advantage" of the marginalist theory of value was that surplus value could be explained as arising from the scarcity of the factors of production.

On this basis, the marginalist proved – to their own satisfaction anyway, if not that of the conscious workers – that the working class was not exploited by the capitalist class as long as free competition prevailed.

Each factor of production, the marginalist explained, earned the value of its marginal product. As long as free competition prevailed – no monopolies like trade unions, for example – no factor exploited another factor. The workers earned back in wages exactly the value they produced, the capitalists earned the value they produced in the form of "interest" and the landlords – we must not forget them – earned the value produced by the land in the form of rent.

The modern history of the transformation problem

In 1960, the left-wing Italian-British economist Piero Sraffa (1898-1983) published a small book he had been working on for decades, "*The Production of Commodities by Means of Commodities*."

Sraffa had emigrated to Britain in the 1920s to escape Mussolini's fascist dictatorship, where he spent the rest of his life. In his youth, he had clearly been sympathetic to communism and the Russian Revolution. He was a close friend of Antonio Gramsci, the founder of the Italian Communist Party.

As an anti-fascist emigrant in Britain, he was befriended by John Maynard Keynes and became at Keynes's suggestion the main collector of the papers of David Ricardo. [(10)] Sraffa emerged as the world's leading Ricardo scholar.

In "*The Production of Commodities by Means of Commodities*," Sraffa did not deal with the "transformation problem" in Marxist economics nor did he deal with Marx's law of labor value – or Ricardo's law of labor value, for that matter. Instead, his target was "neo-classical" marginalism, which dominated – and still dominates – university economics departments.

Sraffa's starting point was not Marxist economics but rather the assumptions of the marginalists themselves. Among these assumptions was that under conditions of free competition, competition drives the economy towards a point where all capitals earn a uniform rate of interest. (As I explained in my posts, the marginalists reduce profit to interest.)

Cambridge capital controversy

Sraffa showed using simple mathematics that marginalism breaks down in terms of its own assumptions. The marginalists were – and are – very proud of their mathematics. The point where marginalism breaks down mathematically involves the shift from labor-intensive techniques of production, where labor is assumed to be plentiful relative to capital, to capital-intensive techniques, where capital is plentiful relative to labor.

Sraffa showed that under certain conditions as capital becomes more plentiful relative to scarce labor, causing wages to rise and "interest rates"– really profits rates – to fall, there occurs a "re-switching" from capital-intensive techniques back to labor-intensive techniques. A vindication, by the way, of trade union struggles against the bosses – a result that no doubt pleased the left-wing Sraffa, who was sympathetic to the trade union movement, though he was far removed from the actual life of the working class in his academic Cambridge environment.

Many of the economists who taught at Cambridge had been associated with John Maynard Keynes and leaned toward the political left. They had become increasingly dissatisfied with marginalism and were happy to see Sraffa punch holes in the marginalist system with his simple mathematics.

10 Sraffa was certainly familiar with Marxism in the radical days of his youth. Perhaps Keynes befriended the young left-wing Italian anti-fascist émigré in the hope of turning him away from Marxist economics and instead integrating him into the bourgeois-dominated world of professional academic economists.

In the years after World War II, the United States, which as the leading imperialist power had a far more politically conservative environment than postwar Britain, now dominated marginalist economics. Few economics professors who taught at American universities were likely to challenge marginalism. The late Paul Samuelson (1915-2009), a professor of economics at the Massachusetts Institute of Technology, was the acknowledged leader of American marginalism. He came to the defense of marginalist theory against the attack that had been launched against it by Sraffa.

This became known as the "Cambridge capital controversy," because it involved a dispute between the economists of Cambridge in England led by Sraffa and economists of Cambridge, Massachusetts, led by Samuelson. Samuelson was a strongly pro-capitalist economist who described himself as a neo-Keynesian. He supported expansionary monetary policies and deficit spending during periods of recession, but he removed the elements in Keynes's theory that conflicted with traditional marginalism.

The results of the 'Cambridge controversy'

Below in Samuelson's words was the result of the clash between the Sraffa-led anti-marginalists of Cambridge, England, versus the Samuelson-led marginalists of Cambridge, Massachusetts.

"The phenomenon of switching back at a very low interest rate [really profit rate – SW] to a set of techniques that had seemed viable only at a very high interest rate involves more than esoteric difficulties. It shows that the simple tale told by Jevons, Böhm-Bawerk, Wicksell and other neoclassical writers – alleging that, as the interest rate falls in consequence of abstention from present consumption in favor of future, technology must become in some sense more 'roundabout,' more 'mechanized' and 'more productive' –cannot be universally valid [emphasis added –SW]." ("A Summing Up," Quarterly Journal of Economics vol. 80, 1966, p. 568)

Neo-classical marginalism now had, as Anwar Shaikh pointed out, its own "transformation problem." It was shown to be mathematically inconsistent. To this day, the marginalists have not been able to plug the holes punched in it by Sraffa.

But did Sraffa's book against the marginalists, which begins – like all vulgar economics – with a uniform rate of profit and prices of production, lay the foundation for a new scientific theory of the capitalist economy that could replace not only marginalism but the Marxist theory of value as well? [(11)]

The British socialist economist Ian Steedman, now an emeritus economics professor at the University of Manchester, answered in the affirmative. In his 1977 book "*Marx After Sraffa*," Steedman endorsed the claim of bourgeois Marx critics that Marx's method of transforming direct prices into prices of production was incorrect. Once luxury and military commodities were taken into account, Steedman pointed out, the absolute equality of the mass and rate of profit in terms of direct prices and in terms of prices of production prices breaks down. What matters to the capitalists and thus explains the operations of the real economy, Steedman argued, is not the values of commodities, labor values that the capitalists are unaware of anyway, but the real-world system of prices of production.

Steedman came down firmly on the side of the "vulgar economists," who begin with the uniform rate of profit and prices of production. Starting with values, Steedman claimed, is redundant and leads to serious errors in analysis. Therefore, Steedman urged the socialist movement to abandon the now "refuted" law of labor value in all its forms, classical as well as Marxist, once and for all.

According to Steedman, Sraffa showed how it is possible to calculate prices of production without labor values and all the problems they bring. Sraffa, Steedman held, was the worthy successor to Marx.

For some reason, Steedman and his Sraffa-based tendency have become known as "neo-Ricardians." This is odd, because Ricardo himself stubbornly upheld the law of labor value, even when he admitted that there were contradictions in his own version of it that he could not overcome. Perhaps the term neo-Ricardian comes from the fact that Sraffa was indeed a Ricardo scholar who obviously despised marginalism.

But are the "neo-Ricardians" supporters really advancing economics beyond Marx, or are they merely falling back into the swamp of post-Ricardian vulgar economics?

11 That is the extent that Sraffa used prices at all. Sraffa did not use the Marxist concept of price in his "Commodities Produced by Means of Commodities" any more than he used the Marxist concept of value. Instead, he tried to construct an invariable measure of value that did not fluctuate with changes in what Marx would call the rate of surplus value.

Marx came to the conclusion that Ricardo's search for an invariable measure of value was misconstrued. Sraffa ended up with what he called the standard commodity, constructed out of the commodities that enter into the production of other commodities – in other words commodities that enter the process of reproduction – basic commodities in Sraffa's terminlogy. All this is far removed from Marx's theory of value, exchange value, money and price.

The so-called neo-Ricardian followers of Sraffa end up measuring wages and prices in terms of physical units, an approach that is about as far from Marx as you can get. I have no idea how you explain a crisis of the generalized overproduction of commodities on that basis.

The high stakes in the debate

According to Frederick Engels, socialism became a science with Marx's theory of surplus value. However, Marx's theory of surplus value is completely dependent on his overall theory of value. If the Marxist version of the law of labor value has really finally been refuted by the "neo-Ricardians," scientific socialism along with marginalism is in ruins.

In that case, there is of course no alternative but to begin the work of constructing a new theory of economics, perhaps based on the work of Sraffa. Who knows where that would lead or what conclusions would ultimately be drawn? Such a theory would have to explain not only the class struggle between the working class and the capitalist class, but ultimately it would have to provide a theory of imperialism and, of special interest for this blog, capitalist crises. As far as I can see, the "neo-Ricardians," basing themselves on Sraffa, have made remarkably little progress in this direction.

Mandel versus Shaikh

Realizing the high stakes that were involved, the American Marxist Robert Langston was profoundly upset by the claims of Steedman and his so-called "neo-Ricardians" that they had finally located a fatal flaw in Marx's economic theory of value. Langston brought together some of the leading Marxist economists of the day, including Ernest Mandel and the young Anwar Shaikh. He moved to Europe to work with Mandel and others on the problem. Unfortunately, Langston died of a heart attack at the age of 45 before the project could bear fruit. However, Langston's project did lead to the book "*Ricardo, Marx, Sraffa*," published by Verso in 1984.

Though all the contributors to this book, which included Ernest Mandel and Anwar Shaikh, supported the Marxist law of labor value, to the extent that they themselves understood it, against Steedman, they were unable to come to complete agreement.

Ernest Mandel states in his introduction that although the various contributors attempted to harmonize their views, they were unable to do so completely. "Pierre Salama and I argue," Mandel explained, "that the main theoretical purpose of Marx's solution of the transformation problem in the third volume of *Capital* was to uphold a combined identity ... the identity of both the sum of values [direct prices – SW] equalling the sum of prices of production, and the sum of surplus value [in terms of direct prices – SW] equaling the sum of profits [calculated in terms of prices of production –SW]."

'Anwar Shaikh's contribution to the present volume," Mandel goes on, "while sharing the position that value and surplus value can only be created by living labor in the process of production, and that profit originates in surplus-value, nevertheless concludes that the sum of profit can and generally does differ from the sum of surplus-value."

Mandel's friendly criticism of Shaikh here seems to be firmly on the ground of "orthodox" Marxism, but here Mandel is being, in my opinion, more "Marxist" than Marx himself. It turns out that Marx was well aware of the problems raised by Steedman, though this most certainly did not lead Marx – or his friend Frederick Engels – to dump the law of labor value as urged by the present day "neo-Ricardians." "This phenomenon of the conversion of capital into revenue should be noted, because it creates the illusion [Marx's emphasis]that the amount of profits grows (or in the opposite decreases) independently of the amount of surplus value."

Here Marx anticipates the entire "neo-Ricardian" criticism of his theory of labor value. Interestingly enough, Marx points to the ultimate solution to the transformation problem that lies along the lines indicated by Anwar Shaikh, and not the more strictly "orthodox" approach of Mandel.

In this book, neither Mandel nor any of the other contributors could actually deny that the mass and rate of profit is somewhat transformed during the transition from a system of direct prices to a system of prices of production. On this terrain, they were unable to refute the points raised by Steedman.

Shaikh's solution to the transformation problem

As long as we are dealing with commodities that enter into reproduction, there is in fact no transformation of the mass and rate of profit when we move from the sphere of calculating in terms of values (where the calculations are in terms of hours of abstract labor) to direct prices (where the calculations are in terms of weights of gold bullion) and from direct prices to prices of production (where the calculation remains in terms of weights of gold bullion). If one industrial capitalist gains by selling a machine tool above its value, the industrial capitalists who purchase the machine tools are losers to exactly the same degree that the producer of the machine tool is a winner. The capitalists as a whole neither gain nor lose. It is a zero-sum game.

The same is true of the means of consumption consumed by the (productive-of-surplus value) workers. The labor power that the industrial capitalists purchase from the workers is not, strictly speaking, a capitalistically pro-

duced commodity and therefore has no price of production. But we can assume that the workers purchase the means of subsistence necessary to reproduce their labor power at their prices of production, not their direct prices.

Suppose the prices of production of the means of subsistence purchased by the workers is above the direct prices of these same means of subsistence. The industrial capitalists will suffer a loss when they purchase the labor power of the workers above its value – or more precisely above the sum of the direct prices of the means of subsistence – but they gain back what they lose when they sell the means of subsistence to the workers at prices of production in excess of their direct prices. What they lose with their right hand they regain with their left hand.

Or we could make the converse assumption that the workers purchase their means of subsistence at prices of production that are below the direct prices. The result will still be the same zero-sum game. What the industrial capitalists gain by buying the workers' labor power at a price below the direct prices of the means of subsistence, they give up when they sell the means of subsistence to the same workers at prices of production below the direct prices of the means of subsistence. So far there is no problem. The rate of profit in terms of direct prices will always exactly equal the rate of profit in terms of prices of production.

But what about the luxury commodities that only the capitalists get to purchase? Suppose the luxury commodities that the industrial capitalists produce are sold back to the collective class of capitalists at production prices that happen to be on average above the direct prices of these same luxury commodities. The capitalists will in terms of money realize an extra profit above the profit that they would realize in terms of money if they sold the luxury goods at their direct prices. It seems as if the capitalists are realizing a profit a part of which at least is being produced by something other than the unpaid labor of the working class.

Happy capitalists!

Unfortunately for the capitalists and their Marx-refuting economists – as well as for their socialist supporters such as Ian Steedman – there is a catch.

Shaikh showed – and Marx as we saw above was already aware of the fact – that what the capitalist class gains in terms of profit when they sell the luxury commodities in production prices above their direct prices they will lose in terms of revenue when they buy back these same luxury items at "inflated" prices – that is, at production prices in excess of the direct pric-

es. The extra profit that the capitalists realized in terms of money that did not reflect any actual unpaid labor performed by the working class is pure money illusion!

The same is true in the converse case. Suppose the capitalists sell to themselves luxury commodities at prices of production that are below the direct prices of these commodities. They will realize in money terms a lower mass and rate of profit than they would have if they had sold these items at their direct prices. Therefore, isn't a certain amount of the surplus value disappearing in the sphere of circulation?

Unhappy capitalists!

But before we feel too sorry for our capitalists, we should realize that what they lose when they sell luxury commodities to each other at prices of production below the direct prices, they gain back as consumers, when they buy back these same luxury items at "bargain" production prices that are below direct prices. The apparent loss our capitalists suffer is again pure money illusion!

Steedman's real error

At bottom, Steedman's critique of Marx's value theory is based on his failure to understand the relationship between value and the form of value, or what comes to exactly the same thing, the Marxist theory of prices and money! This is the same mistake that so many Marxists make who accept Marx's law of labor value – without fully understanding it – when it comes to crisis theory.

A tell-tale sign that a given Marxist writer has not really fully grasped Marx's theory of value comes when they try to explain the nature of paper money that is no longer convertible into gold at a fixed rate. They explain that modern "non-commodity" money somehow represents value directly or reflects the values of the commodities that it circulates rather than simply representing the value of a money commodity such as gold that acts as the universal equivalent – that is, acts as the measure of the value of commodities in terms of its own use value.

Isn't this the same mistake Steedman and the other "neo-Ricardians" make? The only difference is that Steedman and his "neo-Ricardian" supporters have thought out their mistake to its logical conclusion – and then based on their mistake draw conclude that Marx's entire theory of value, including surplus value, is invalid.

In my posts, we met a group of Marxists who see the problem of the production of surplus value but don't understand the problem of realization. Other Marxists such as the Monthly Review School – which I will examine in my next reply – fall into the trap of "underconsumption," thinking that the problem of realizing surplus value arises because the rate of surplus value is too high. If only the capitalists were less greedy, capitalist crises could be avoided.

The practical implications

What we have seen is that even as prices of production deviate from direct prices they continue to be ruled by the law of labor value. And to the extent that prices of production deviate from direct prices in luxury and weapons industries, the rate and mass of profit in terms of direct prices will be somewhat transformed as a result of the transition to prices of production. In the real world, it is highly probable that some of the production prices in some of the industries engaged in luxury and/or weapons production will have prices of production in excess of their direct prices and some will have production prices that are below their direct prices.

Therefore, the rate and mass of profit in the system of prices of production should be seen as a slightly displaced image of the mass and the rate of profit that exist in the system of direct prices. As Shaikh emphases, this no more changes the fact that prices are in the final analysis ruled by labor values than the deviation of production prices from direct prices or for that matter the fact that market prices deviate from direct prices do. If market prices always corresponded to values, then economic science would be a lot simpler, but then there would hardly be any need for economic science at all.

And what explains this deviation of the mass and rate of profit in the system of production prices from the mass and the rate of profit in the system of direct prices that has bedeviled economists in one form or another for the last couple of centuries? It is the relationship between value and the form of value, between the value of a commodity and its independent value form. And what is the solution to the "transformation problem"?

Why it is Marx's full theory of value including his theory of exchange value as the necessary form of value and money as the independent form of exchange value. So the stumbling block that generations of Marxists have stumbled over when it comes to answering attacks on Marx's labor theory theory based on the transformation problem turns out to be the same stumbling block generations of Marxists have stumbled over when it comes to crisis theory.

Inflation targeting

This blog has concentrated on crisis theory, not value theory. But it has been built on the foundation of value theory. Marx's distinction between value, exchange value as the form of value, money and prices has played no small role.

I have relied heavily on the fact that the general price level is not arbitrary but is ruled by a world of labor values. When the general price level rises too much above the underlying values – or more precisely the direct prices of commodities – a violent adjustment in the form of an economic crisis of generalized overproduction becomes inevitable that one way or another, whatever policies that capitalist governments and their central banks follow, will bring the general price level below the direct prices of commodities. I have often shown that such divergences between the general price level and the direct prices of commodities is, given the nature of capitalist production, not only possible it is inevitable.

The capitalist economists, for example "Depression expert" and current U.S Federal Reserve Board chairman Ben Bernanke, have noticed that before World War II, dramatic falls in prices had always accompanied severe economic crises and the depressions with their prolonged unemployment crises that have followed. They have concluded that the way to avoid the kind of prolonged depressions that endangers the continued existence of the entire system of capitalist production is to prevent the general price level from ever falling.

The formal economic training that these economists received has been dominated by marginalism. The universities continue to teach marginalism notwithstanding Sraffa's demonstration that it is logically and mathematically invalid, due to a lack of any alternative – they can hardly be expected to teach Marx![12] As a result of their marginalist mis-education, these bourgeois economists have no suspicion that behind the world of paper money prices there lurks a world of prices, profits and rents in terms of real money – gold bullion. And behind the world of prices in terms of weights of gold bullion, there lurks a world of values and surplus value measured in terms of hours of abstract labor.

Still less to do they understand that in the final analysis it is the hidden world of labor values – more hidden than ever in the imperialist countries

12 If modern economists such as Bernanke are aware of the theory of labor value at all, they no doubt "learned" in their student days that this theory was refuted long ago, so there was no need to pursue it.

as the world of production moves more and more to the oppressed countries – that rules the prices, rates of profit, and thus the booms and busts of the actual real world capitalist economy.

For example, at the end of the 1960s the Bretton Woods international gold-dollar exchange system was on the brink of collapse. The bourgeois economists of those days and decision-makers they advised decided that there was no need to contract the "money supply" or defend the gold value of the U.S. dollar and the other currencies linked to it as would have been required under the rules of the dollar-gold exchange standard.

Wasn't the $35 per ounce of gold just an artificially supported price, as Milton Friedman explained? Why should gold, which plays such a small role in the world of production, matter anyhow? Gold should be treated just like "any other commodity" and allowed to find its own price on the world market. Indeed, by moving towards demonetizing gold, its main use value – to act as money – would be destroyed. The marginalist economists believed that once gold was duly "demonetized" its dollar price would plummet.

It didn't turn out that way. The phenomenon of stagflation – the combination of soaring prices in terms of paper money plus economic stagnation – finally got so bad that the "Volcker shock" with all its consequences became necessary to prevent the collapse of the entire system of paper money and the credit and banking system built on top of it. This was followed by years of sky-high interest rates that severely damaged economies around the globe, in the imperialist countries and oppressed countries alike.

And can the marginalist – or the "neo-Ricardian" – economists explain what happened during the 1970s and the subsequent Volcker shock, even in retrospect? Why did the dollar price of gold not fall as the marginalist assumed it would as the fixed link between the dollar and gold ended, but on the contrary soared? [13]

We know that the economists and policy makers in the 1970s believed they had to "expand the money supply" and carry out large-scale deficit spending to avoid another Great Depression. But what caused the Depression in the first place? More precisely why did an apparently quite "ordinary" recession that began in 1929 turn into the economic collapse that we now call the Depression with all its consequences, including Hitler fascism

13 When I refer to the dollar price of gold, I am using the prevailing economic slang. The so-called dollar price of gold is not in the scientific sense of the word the price of gold bullion but simply the amount of gold bullion that a U.S. dollar represents on the world market at a particular moment.

and World War II? Even in retrospect the marginalist economists cannot explain it. But neither can the "neo-Ricardians."

In my own analysis of the Depression of the 1930s, based on Marx's labor law of value, I pointed to the extraordinary inflation of prices in terms of gold bullion relative to the underlying values – or direct prices – of commodities that occurred as a result of World War I. It really doesn't matter whether in the 1920s the difference of rate and mass of profit in terms of direct prices compared to the rate and mass of profit in terms of prices of production deviated 1% or 2% or even 5%. There is indeed even a vanishingly small chance that the rate of and mass of profit in the years leading up to the Depression were actually equal in terms of both direct prices and production prices up to the last decimal point.

Nobody knows or really can ever know the answer to this question. But what did matter and what ultimately led to the death of tens of millions of people was that market prices in terms of gold bullion were grossly inflated relative to underlying direct prices. That is, as a result of World War I they were grossly inflated relative to direct prices that are governed by labor values.

How can we know prices were grossly inflated relative to the levels that are in the final analysis ruled by underlying labor values? We know that because gold production was greatly depressed relative to the levels that prevailed before World War I. Once market prices in terms of gold did fall drastically during the Depression, gold production recovered as real production and employment collapsed. As a result of the collapse of the "real economy" that we know as the "Great Depression," there was a huge amount of idle gold and idle money in general after World War II.

This led to a boom – a sudden expansion of the world market – that was completely unexpected by most Marxists, who assumed that the Depression would resume after the war. In truth, most Marxists of the time could not explain why the Depression had occurred in the first place. When the boom – or, more strictly speaking, several industrial cycles with strong and prolonged booms and weak recessions – occurred, many Marxists retreated from Marxism entirely or at best ended up giving undue credit to government policies that were justified by the prevailing Keynesian economic theories that then dominated the universities.

They were completely unprepared for the collapse of Keynesian domination in the universities and its replacement by Friedmanite "neo-liberalism." What explanation do the "neo-Ricardians" have for these events?

If I followed the path Ian Steedman urged – I was well aware of him by the end of the 1970s, since his book "*Marx After Sraffa*" was prominently displayed in every radical bookstore in New York City, where I then resided, and I couldn't take it on faith that Steedman was wrong – I would never have been able to produce this blog. But like my senior contemporary Robert Langston, I admit I was bothered by the claims that a prominent socialist economist such as Ian Steedman through the use of sophisticated mathematics had proven that the Marxist economics I was trying to master was wrong.

I was forced to look at the whole question of labor value anew, which I admit I had first understood in a completely inadequate way.

It is possible that some of the "neo-Ricardians" have developed a compelling analysis of capitalist crises – the Depression, the "stagflation" of the 1970s ending with the Volcker shock and earlier capitalist crises, both relatively minor and major ones as well, using the theories derived from Sraffa and Steedman. But if they have, I not seen it. As far I can see, despite Sraffa's brilliant destruction of the claims of marginalist theory, the attempts to use Sraffa's "*Commodities Produced by Means of Commodities*" to create a new school of economics that could replace the one developed by Marx have born scant fruit indeed.

You can only get so far by assuming a "very simple economy that produces two commodities, iron and wheat." Indeed, Marx always avoided these kinds of "violent abstractions." Instead, the path pointed to by Marx, Engels and modern Marxists like Anwar Shaikh who have further developed Marx's theory in certain respects – for example, by introducing the term direct price – have been key to my current understanding of the world in which we all actually live.

In the post that is due two weeks from now, I will examine the Monthly Review School. In many respects, that reply will be a continuation of this one.

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A Marxist Guide to Capitalist Crises

SAM WILLIAMS

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