It must be asked if this is actually the case of the capitalist system. One vigorous critique of these suppositions, targeting Say's Law explicitly, was the economic theory of John Maynard Keynes. Keynes, in fact, flips Say on his head: it is not supply that determines demand, but consumption that determines the conditions of the production of this supply. At the same time, Keynes was doubtful that production of supply would be capable of maintaining full employment, which would set off a downward spiral in which unemployment would pull down the possibility of the supply being consumed, leading to greater rates of unemployment. This leads Keynes to break with the theories of self-organizing balance, and endorsing a variation of the underconsumption theories of Sismondi (though his point of reference is the reactionary economist Thomas Robert Malthus, himself a follower of Sismondi). The Keynesian solution is to increase the possibilities of demand through welfare, job growth programs, and other forms of government stimulus enabled through deficit spending. Only through successful government intervention, Keynes argued, could the capitalist economy reach something that looked like an equilibrium based on full employment.

Keynesian theory was forged in the context of economic crisis, most specifically the British unemployment crisis of the 1920s. Adversarial to socialism and Marxism in particular, Keynes worked closely with the British government in developing jobs programs – but it would be in the wake of the Great Depression that his theories would find their highest application, becoming the de facto economic paradigm of choice for both the US and Europe governments. It appeared to be wildly successful: for the US economy, the Keynesian era saw the highest peak in the rate of profit in the modern history of capitalism (1963), the lowest unemployment rate (1969), and the longest bout of income equality (between roughly 1960 and 1970). In this time period, Keynes came to if not replace Marx then parallel him in terms of relevancy in the eyes of many Marxist theorists and socialist organizations, most notably the Monthly Review school of Paul Baran and Paul Sweezy. This marked a redirection of aims for many socialists, a movement from the abolishment of capitalism to one of 'smoothing out' capitalism's contradictions. If full employment and the standard of living could be increased within capitalism, alongside a repudiation of the tendency of the rate of profit to fall, then the need for revolutionary theory was all but abolished.

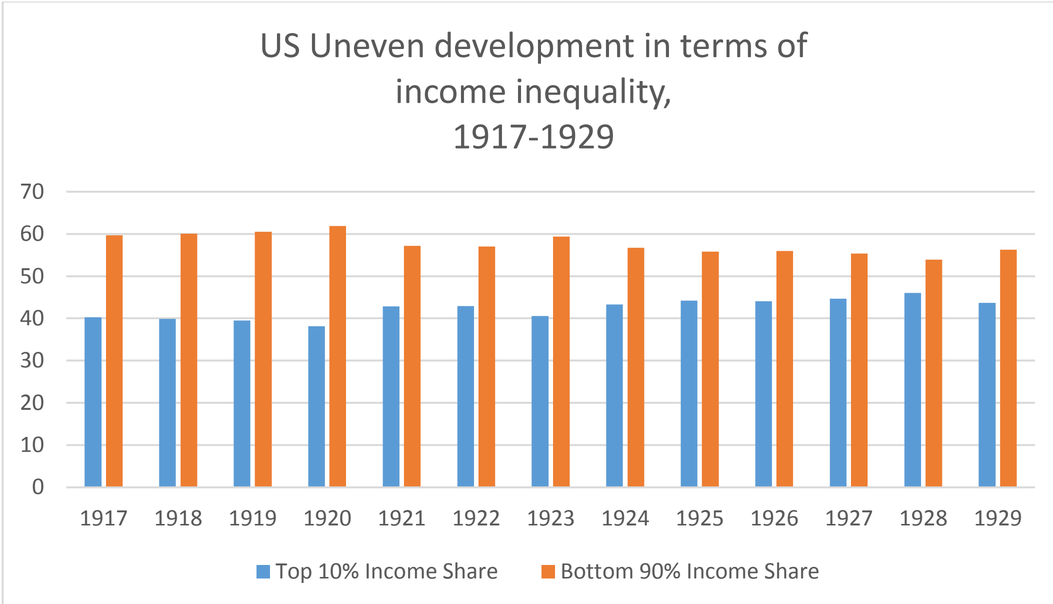
At the end of the 60s, however, something funny happened: Keynesian ran headlong into a crisis, one that would open the floodgates for the neoliberal system that we are currently moored within. Inflation rose considerably, and would transform into a decade-long stagflation that threatened the longevity of the capitalist project itself. The rate of profit declined, having yet to truly recover. Government expenditures threw the dollar into crisis, and the inflexibility of production, particularly in the face of foreign competition, sent shockwaves through the global market. Importantly, this crisis saw no decline in demand and real evidence of a 'general glut' of commodities. Does this mean that the underconsumption theories are incorrect, or that the Keynesian approach is not applicable (from the perspective of the capitalist?) Not precisely. To answer this, we must turn to one of the largest crises of modern capitalism: the Great Depression.

Uneven Development

In the second volume of *Capital*, Marx divides industrial capitalism into two "departments". The first of these, Department I, which constitutes the production of the means of production – raw materials, machinery and the like (in other words, constant capital). Department II, on the other hand, is the output of production proper: consumer goods, luxury items and other commodities. It is thus between Department I and II and to the side of Department II that crises of overproduction and underconsumption can occur. Unlike Say and Ricardo, Marx saw the possibility of overproduction occurring in Department I,[20] a situation that takes on larger dimensions when we factor in the inevitable rise in the organic composition of capital, which can be compounded by the general underconsumption that is necessary for capitalism – a potent combination that can trigger the arrival of a crisis. An argument can be made that is this precisely what occurred in the build-up to the Great Depression.

The early 1900s saw the introduction of a wide-scale transformation in the modes of production, made possible by developments in the technologies in production and the invention of "Taylorism", that is, the so-called "scientific management" of labor that aimed to increase worker productivity through processes of regimentation and standardization.[21] This new production mode introduced semi-automated systems, typified by the assembly line created by Henry Ford in his automobile factories in Detroit and the "flexible mass production" introduced by Alfred Sloan at General Motors. Under the Fordist paradigm, the mass production of similar commodities became the golden standard of industrial capitalism, calling into being simultaneously a new regime of social regulation (including the rise of the advertising industries, 'industrial' psychology, higher stages of organizational planning in both the corporate firm and the state, and the reinforcement of values and ethics deemed equitable to maintaining the rates of production. In the immediate context of labor, Fordism greatly accelerated rate of surplus value extraction, and by extension accelerated the production of commodities.

The rise of advertising, business psychology, planning and the like signals a shift from pre-Fordist capitalism, where the output of limited production was focused primarily on scattered, localized markets, to one in which national markets were essential to maintain the solvency of American capitalism, entailing by extension the need for the laborer to be able to consume more and more of this output. Measures were taken to ensure that this occurred; Ford himself, famously, raised the daily pay in his factories to $5 (though it has to be pointed out that half of this increase came in the form of bonuses, which the workers were only entitled to after being approved by Ford's Socialization Organization – a firm that would routinely check on worker's private lives to ensure they were living the "American Way"). During the 1920s wages climbed alongside the rapid expansion of credit to the working class (innovated primarily by General Motor's auto loans). It appeared successful: between 1920 and 1929, income obtain from profit (realization of surplus value), rents and interest climbed 45%, while total wealth accumulated by the country's wealthiest soared to dizzying heights.[22] The apparent success of the 'roaring twenties' became a "business euphoria".



This euphoria obscured the reality of the uneven development that had been amplified by the introduction of Fordism. The boom led to extreme income inequality: by 1929 the top 0.1% percent of the population holding a combined income equal to the bottom 45%. For all the talk of wage increases, the decade leading up to the Great Depression saw the wage income of the working class increase by only 13%. This meant that despite the speeding-up of production through labor-saving technology, the development of national markets, and the easy availability of credit, it became harder and harder for capitalists to realize surplus value as profit. In 1926, three years prior to the Great Depression, the consumer commodity market witnessed a peak and a decline, indicating the building of an underconsumption crisis tearing at the relationship between supply and demand.

The uneven development between the conditions of production and the conditions of society exacerbated an uneven development between the departments of production. Anticipating a long-term rising rate of demand, investments – inflated by the proliferation of credit – poured into Department I. Anticipating a rise in prices alongside this demand, a wave of commodity and money speculations spread across the market as a whole. As Michel Aglietta points out, this generated a situation where "[f]inancial circulation [began] to exhibit an autonomous movement of its own",[23] wholly detached from the distortions between production and consumption on one side, and between the two departments on the other. In the years between 1923 and 1926, the output of Department I doubled the rate of productive capacity in Department II. What this meant was that when consumption peaked and reclined in 1926, a surplus had built up that could not be absorbed, triggering a decline in investments. This difficulty in realizing surplus value as profit triggered the flow of more and more capital into finance, leading the nominal value of financial firms to increase from 100 million dollars in 1924 to 1800 million in 1929. This mountain of wealth, however, was built upon an increasingly shaky foundation: a literal wall of debt had formed, with speculation becoming the only way of realizing any sort of potential profit. This is the situation that exploded on October 22nd, 1929, ushering the Great Depression.

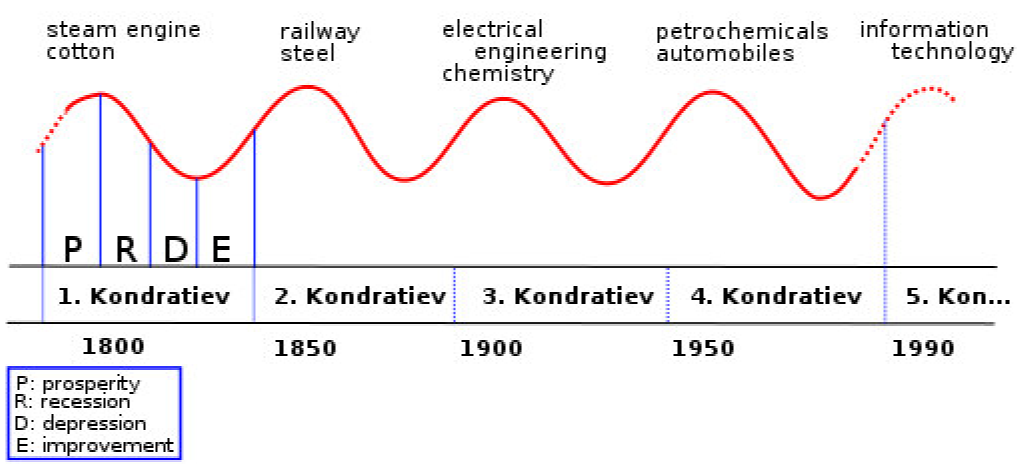
The Long Wave

Juglar, Kitchin, Kondratiev

In his 1939 book *Business Cycles*,[24] Schumpeter sought to carry out a synthesis of the different business cycle theories that had been circulating through economic thought, honing in on three primary cycles that he felt contained the explanation for the oscillations between prosperity and depression. These were the *Juglar cycles* (identified in 1862 by Clement Juglar), the *Kitchin cycles* (discovered in the 1920s by Joseph Kitchin), and the *Kondratief wave* (described by Nikolai Kondratiev in 1925). Each cycle, all exhibiting their own patterns of rise, peak, and decline, unfolds in different amounts of time: the Juglar cycle plays out across seven to ten years, with the Kitchin cycle is considerably shorter, lasting roughly forty to forty months. The Kondratiev wave, on the other hand, spans fifty to sixty years, with the peak of the wave occurring around the middle.

Juglar, Kitchin, and Kondratiev waves all correspond to different movements in capitalist production. The Juglar cycle arise from capital investments in the production process, particularly where the actual conditions of the modes of production, alongside the raw materials for production, are concerned. This cycle had already been discovery, in fact, by Marx, in the *Grundrisse* (a point readily acknowledged by Schumpeter). For Marx, this was the ten-year *industrial cycle*, which he defines as "periods of moderate activity, prosperity, over-production, stagnation, and crisis."[25] Indeed, Schumpeter notes that the Juglar cycle is intricately bound to crisis, with a depression and recession occurring at the bottom of the cycle's downswing. Furthermore, given that this cycle deals with investments in production, there should exist a correlation between the cycle and the periods in which the organic composition of capital rises.

The Kitchin cycle, on the other hand, arises from the inventory stock held by capitalist firms. In times of prosperity, capitalist firms will increase the output of production, which will inevitably lead to a flood of commodities on the marketplace. In the Kitchin cycle, overproduction occurs as the amount of available commodities effectively outstrips demand and inventory stocks remain full – yet a time lag appears to develop between suppliers and manufacturers. This time lag, in turn, becomes coupled with a generalized slow-down of production until existing inventory stocks run down. Importantly, Schumpeter suggests, the Juglar cycle and Kitchin cycles usually alternate in their peaks and troughs. In other word, prosperity rising in the Juglar cycle can offset a crisis generated by a declining Kitchin cycle and vice-versa.



The Kondratiev wave encompasses the Juglar and Kitchin cycles, with a succession of these minor cycles occurring within the course of a single Kondratiev. It can best be described as a long-term wave of capitalist expansion, complete with its own rise, peak, stagnation and recession. This overall wave, however, exhibited two phases, with a crisis – or "turning point" marking the transition between one phase and the next. Writing in the 1920s, Kondratiev identified three waves spanning the development of modern capitalism: the first running from 1970 to 1849, with a turning point in 1815; the second running from 1850 to 1896, with a turning point in 1873; and third kicking off in 1896. The problem arises, however, when one asks what exactly sets off this long wave. For Kondratiev, the explanation was to be found in patterns of capital investment, while Schumpeter argued that the wave was the very force of *creative destruction* that he saw as the dynamic underlying capitalism itself. At the start of each wave, he posited, one would find a paradigm-shifting innovation that forcibly changed every sector of the market (we should point that this implies, by default, an extremely important role for investment). Neo-Schumpeterian perspectives, such as those offered by Christopher Freeman and Carlota Perez,[26] have gone to considerable lengths in identifying this role of innovation plays in the long wave, suggesting that each wave is the expansion – and eventual exhaustion – of a given technological revolution. For Freeman and Perez, the turning point signifies the movement from the "installation period", in which industry undergoes rapid transformations, to a "deployment period", in which the contradictions and uneven developments of the installation period are smoothed out. The chart below illustrates this clearly:

<table>
<tr><th>Phase in Long Wave</th><th>Years</th><th>Historical Era</th></tr>
<tr><td>Installation</td><td>1875-1889</td><td rowspan="3">Age of Steel and Heavy Engineering</td></tr>
<tr><td>Turning Point</td><td>1890-1894</td></tr>
<tr><td>Deployment</td><td>1895-1907</td></tr>
<tr><td>Installation</td><td>1908-1929</td><td rowspan="3">Age of Mass Production</td></tr>
<tr><td>Turning Point</td><td>1929-1943</td></tr>
<tr><td>Deployment</td><td>1944-1970</td></tr>
<tr><td>Installation</td><td>1970-2007</td><td rowspan="2">Age of Information-Communication Technology</td></tr>
<tr><td>Turning Point?</td><td>2007-?</td></tr>
</table>

Different economists have posed different dates in their periodization, but the majority tend very closely to this set. It is beyond our scope here to address the question of periodization, though it is certainly a question to be taken up at a future point. What should be of interest of us is the problem that long wave theories pose to economics, both neoclassical and Marxist alike. For the neoclassical economist, the idea that capitalist development can be plotted into interlacing waves, each exhibiting their own rises, peaks, and falls, runs contrary to the notion that capitalism tends towards equilibrium. For the Marxist, on the other hand, the reoccurrence of capitalist expansion appears as a profound contradiction of the tendency of the rate of profit to fall. This proposition assumes, of course, that the "golden age" (i.e. the deployment period) of each wave produces a rate of profit on par with or larger than the previous expansionary wave. It is only interesting to recall early Michael Robert's determination, using Marx's formula, that there was a rising rate of profit, with a corollary low organic composition of capital, between 1945 and 1965 (corresponding to a bull market, indicating that the finance markets were responding favorably). This is precisely the time period identified by Perez as the "gold age" in the era of mass production. The resolution of this era, and the turn towards the next long wave, corresponds with a bear market, a rising organic composition of capital, and a falling rate of profit.

Further questions arise when we consider the specific causes of the new waves. It is readily apparent that the introduction paradigm-shifting innovations (such as the steam engine, the automobile, the computer, etc.) are the pivots of these tendencies; both Kondratiev, and later Schumpeter, observed that during the stagnating points of a wave innovations tended to "pool" together, finding only marginal application in the economy due to low investments. The innovations that would set off the age of mass production first entered into circulation in the deployment phase of age of steel and heavy engineering, just as the computer, so essential for the age of information-communication technology, became prominent first in the deployment stage of the era of mass communication. Remaining at the perspective of bourgeois producer, Schumpeter choses to simply attribute an increasing rate of investment as the force that brings these innovations to their full realization. Yet as we established at the outset of this chapter, investment must follow a rising rate of profit, and thus follow the realization of surplus value. This itself indicates a transformation involving the relations of production – and indeed, Christopher Freeman sees turning points as the opportunity for "institutional adaptation" that must be successfully carried out if the deployment phase is to take root.[27] For Freeman, institutional adaptation entails the 'updating' of the "socio-institutional framework" of a given historical era to cope with the new conditions arising from the technological revolution. This explanation, of course, remains again abstracted from labor, and does not acknowledge that any 'socio-institutional frameworks' will be marked with the struggles inherent to class society – as will any 'golden age' of successful deployment. So what drives the turning point, and allows for the renewed realization of surplus value? To unpack this, we must now turn to the postwar boom.

Evening Out

As we saw earlier, the Great Depression emerged in the context of a crisis of underconsumption, one that encompassed both the relationship between producers and consumers and the relationship between the two departments of production. It was thus generated by the contradictions inherent to both its unique historical moment – the introduction of mass production into a plane of uneven social development – and the greater capitalist system, that is, the chronic inevitability of general underconsumption and the tendency of the rate of profit to fall. Importantly, it is easily observable that while the "deployment phase" of the previous age (the age of steel and heavy engineering) saw a surging mass of profits for wealthy, society itself remained underdeveloped and dogged by persistent depression. This "long depression", as it has been called, set off the great global race of colonialism, as nations hunted for cheaper raw materials to increase their profits – thus putting into motion the events that would erupt into World War I. This period also saw an explosion in workers struggle, typified by the trade union movement in the United States but also the Russian Revolution, which ultimately brought the Soviets to power.

This empowering of class conscious would play a fundamental role in the resolution of the Great Depression (the "institutional adaptation"). This would be President Roosevelt's New Deal, with its moves to push back against the power of finance capital, its courting of the labor movement, its utilization of welfare and jobs programs, and its ushering in of the Keynesian consensus. From this perspective, the New Deal constitutes a major victory for the working class, even if one of the primary goals was to re-channel class consciousness into a reformist platform. Despite these efforts, there was a steady incline of labor strikes across the 1960s, right in the heart of the Keynesian program. As the economist Michal Kalecki has shown, the business classes grew increasingly worried during the 1960s, as policies promoting full employment appeared to be empowering the working class to take more radical and adversarial stances.[28] When combined with the Civil Rights movement, the student's movements and the widespread opposition to the Vietnam War, a broad, if informal, coalition against the Fordist paradigm could be traced.

It must be asked, however, to what extent the New Deal truly played in ameliorating the conditions of the Great Depression. The first New Deal was applied in 1933, almost immediately following Roosevelt's election; its mix of fiscal conservatism (intended to reduce federal deficits by cutting government worker wages, as in the Economy Act of March 20, 1933) and the managerial-style cartelization of industry (best exemplified by the National Recovery Administration, which reduced competition between firms and implemented price controls) appeared to have been successful. The economy began growing at an accelerating rate, but virulent opposition – lead primarily by conservative businessmen – began to dismantle Roosevelt's sets of programs. He responded in 1935 with the second New Deal, which entailed the Social Security Act, the National Labor Relations Act, and the creation of the Work Progress Administration. Again, the economy appeared to grow, with production reaching its 1929 levels in early 1937.

Then it went awry: in mid-1937 the economy took a sharp downturn. Industrial production fell by 30%, and by 1938 unemployment rates had grown from 14.3% to 19.0%.[29] Roosevelt was quick to blame monopoly capital for obstruction recovery, and led the FBI to launch an investigation into business practices. It would seem, however, that this was not the case. In 1938, the rate of profit for US corporations was below half of that in 1929, while investments were just barely above their levels at the outbreak of the Great Depression. What this indicates it that surplus value was not being realized at a rate high enough to drive up the rate of profit, and thus set off a wave of investments that could grow the economy. This means that the New Deal was, in actuality, *incapable of resolving the contradictions of Fordism capitalism and thus unable to resolve the crisis of the Great Depression*. This challenges the neo-Schumpterian theories of "institutional adaptation" as something *endogenous* (that is, emerging from within) to the forces of the long wave.

If it was not the New Deal, then what brought about a resolution to the crisis? The rate of profit for corporations sharply climbed in 1941, coupled with a doubling of investments as a share of GDP. This was not due to the New Deal stimulus programs, but to the entry of the United States into the Second World War. Fueled by higher taxation rates and deficit spending, the government plowed huge sums of money into industrial production, retooling American automobile companies to produce tanks and the like and building up the armaments industry. The war effort overseas and the needs of production at home cut down unemployment; wages were increased but domestic consumption was discouraged and channeled instead into war bonds and saving. The moribund capitalist-market economy became, in other words, a capitalist-war economy capable of delivering the 'shock' necessary to resolving critical contradictions eating at the system. That war continually destroyed the output of production (i.e., the machinery produced for war), the needs for industrial production only amplified over the course of the conflict.

When the war ended, the US economy experienced a set of recessions, first in 1945 and another in 1948-1949, the latter of which was expected by many to be a resumption of the Great Depression. Instead, the economy rebounded and set off the long post-war boom, save for minor several minor slumps attributable to the ending of industrial cycles (i.e, the Juglar waves). Again this was attributed to the ascendency of Keynesian as the dominant economic paradigm of the US and much of the Western World – yet as with the case of the New Deal, this picture is in fact not so straight forward. While it is true that Keynesian-inspired policies assisted in mitigating the effects of the minor slumps and assisted in raising the standard of living, there are multiple historical factors that must be taken into consideration. The first of these was the build-up of savings during the war: with rationing removed, capital flowed back into consumer goods, greatly assisting the reconversion of industry from war demand to consumer demand. More importantly perhaps was the role played by the destruction wrought by the war, which saw production decimated in Western Europe and Asia. As the reconstructions began, these spaces became open markets for US goods. Production levels steadily increased to cope with the demands of these exports, accelerating the rate of surplus value and the rate of profit. For both domestic markets and international markets, the research and development carried out during wartime had generated numerous new innovations that assisted in realizing higher rates of investment and return. Finally, the Cold War played an essential role in this boom by ushering in an unprecedented arms build-up, which funneled billions into the defense industries. The social democracy of the Keynesian era was, in other words, simply a new form of the war economy.

Does this mean that the long wave theory is ultimately incorrect? Not exactly. What this indicates is that the "turning point", when manifesting as a contradiction-wrought crisis, may very well exogenous (i.e outside) factors in order to properly spark a recovery. In the case of the "long boom", it appears that what occurred was in fact abnormal to the capitalist system. Had such a wide of swath of destruction not been cut across the face of the earth, it is unlikely that recovery could have achieved the rates of profit that it did. This problem of exogenous factors was, in fact, part and parcel of Trotsky's own critique of Kondratiev's initial theory of the long wave. As he wrote:

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 determine the character and the replacement of ascending, stagnating or declining epochs of capitalist development. Along what path then should investigation proceed? To establish the curve of capitalist development in its non-periodic (basic) and periodic (secondary) phases and to breaking points in respect to individual countries of interest to us and in respect to the entire world market.[30]

To recap: the Fordist mass production techniques were introduced (or, in the neo-Schumpterian parlance, "installed") into a highly underdeveloped social and economic system, exacerbating the contradictions that were present. This strain set off a wave of speculation that quickly detached itself from the material conditions of production, resulting in the crisis of the Great Depression. Attempts to solve the crisis through the arm of a managerial state proved ineffectual, and the crisis dragged itself out until the exogenous factor of the war created the conditions for a rather remarkable recovery and a rising rate of profit. Besides the recovery itself, the resolution to the crisis ushered in a new transformation in the international system: the realization of the US as a superpower, the central hegemon over the global economy. This had been planned prior to the entry of the US into the war,[31] and it quickly took steps to ensure this ascendency. International systems such as Bretton Woods were put into place, which created the International Monetary Fund, and the International Bank for Reconstruction and Development (now the World Bank. This system also entailed the introduction of fixed exchange rates to facilitate global trade, with the US dollar serving as the international reserve currency; to increase confidence in the dollar, the currency was pegged to gold at $35 an ounce. These policies helped to integrate the world into a common economic system under the auspices of US leadership, and assisted in pushing forward the long postwar boom.

Breakdown

The forces that set off expansionary waves call into motion the forces that will inevitably undermine it and make it harder and harder to maintain a rising rate of profit. As long as Western Europe and Japan remained underdeveloped, the US could maintain its expansion. In terms of manufacturing exports, the US peaked as early as 1953, with the its foreign-bound manufacturing output constituting 29.3% of total world exports.[32] Three years later this had fallen to 15%, and then to 18.7% on 1959. Percentage of total world manufacturing exports for the US would bottom out (in the context of the Fordist long wave) at 13.4% in 1971. This sharp decline reflected the recovery of the industrialized world and their increasing competitiveness in the global market: between 1953 and 1971 manufacturing exports from Japan grew from 2.8% to 10%, while exports from Germany rose from 9.7% to 15.4%. As foreign competition rose, the US rate of profit resettled into stagnation, peaking in 1965 and falling. Unemployment rose from a historic low of 2.9% in 1953 to 6.8% in 1958, though it would fall to 3.6% in 1968 – though the Vietnam War played a role in offsetting this decline in demand.

Throughout the postwar long boom the industrial cycles or Juglar waves continued. Accordingly, a minor recession occurred in 1957-1958; this was staved off this the application of Keynesian monetary policies (carried out by the Federal Reserve) and socially-oriented stimulus policies. These included the pumping of money into the economy to drive down interest rates and simultaneously increase inflation. Worried out changes in the dollar, European countries began to exchange their dollars for gold – significantly threatening the stability of the Bretton Woods system. In response, the Federal Reserve rose interest rates, effectively saving Bretton Woods and stabilizing the nascent system. On the international level, mechanisms such as the London Gold Pool were put into place that allowed the central banks of various countries to regulate the price of gold at the levels determined by Bretton Woods. Likewise, multilateral trade negotiations such as the Kennedy Round of the General Agreement on Trades and Tariffs sought to coordinate the free trade activities of the dominant countries – with a predictably mixed set of results.[33] Yet for the degree of coordination and organization taking place on an international level, there were definitive limitations to the post-war system that would quickly reveal themselves towards the latter part of the 1960s. As David Harvey writes:

…the period from 1965 to 1973 was one in which the inability of Fordism and Keynesianism to contain the inherent contradictions of capitalism became more and more apparent. On the surface, these difficulties could best be captured by one word: rigidity. There were problems with the rigidity of long-term and large-scale fixed capital investments in mass-production systems that precluded much flexibility of design and presumed stable growth in invariant consumer markets. There were problems of rigidities in the labour markets, and in labour contracts (especially in the so-called 'monopoly sector'… The rigidities of state commitments also became more serious as entitlement programs (social security, pension rights, etc.) grew under pressure to keep legitimacy at a time when rigidities in production restricted any expansion in the fiscal basis for state expenditures. The only tool of flexible response lay in monetary policy, in the capacity to print money at whatever rate appeared necessary to keep the economy stable. And so began the inflationary wave that was eventually to sink the postwar boom.[34]

In other words, the very structures that had accelerated the Fordist wave into prosperity proved incapable of reversing a falling rate of profit. This was exacerbated with wartime spending in Vietnam, which coupled with the expenditures necessary for President Johnson's Great Society program. Facing a money shortages, Johnson directed the Federal Reserve to print money detached from the gold supply.[35] Had the economy been growing at a consistent rate, this increase in the money supply would have been without widespread effect. Because the rate of profit was falling, however, the entry of new money into circulation amplified inflation levels. In 1966 inflation stood at 2.86%, but increased at a steady rate annually, reaching 5.46% in 1969. The tension between the falling rate of profit and the increasing rate of inflation began, once again, to undermine the Bretton Woods system. Foreign governments rushed to exchange their dollars for gold, outstripping the available supply in the gold resources.

In 1971, West Germany officially exited Bretton Woods, precipitating a drastic decline in the value of the dollar. In response, Switzerland and France demanded to exchange their dollars for gold, further troubling the dollar. With the dollar falling, Switzerland followed West Germany's lead and exited Bretton Woods. These events occurred alongside a remarkably high unemployment rate (6.1%) and inflation rate (5.84%). The response would be the infamous "Nixon Shock": on August 31st, 1971, President Nixon directed the US Treasury to end the convertibility of the dollar into gold, formally ending the Bretton Woods arrangement and transforming fixed exchange rates into flexible ones. To combat inflation, an executive order was issued to impose a three month wage and price controls.

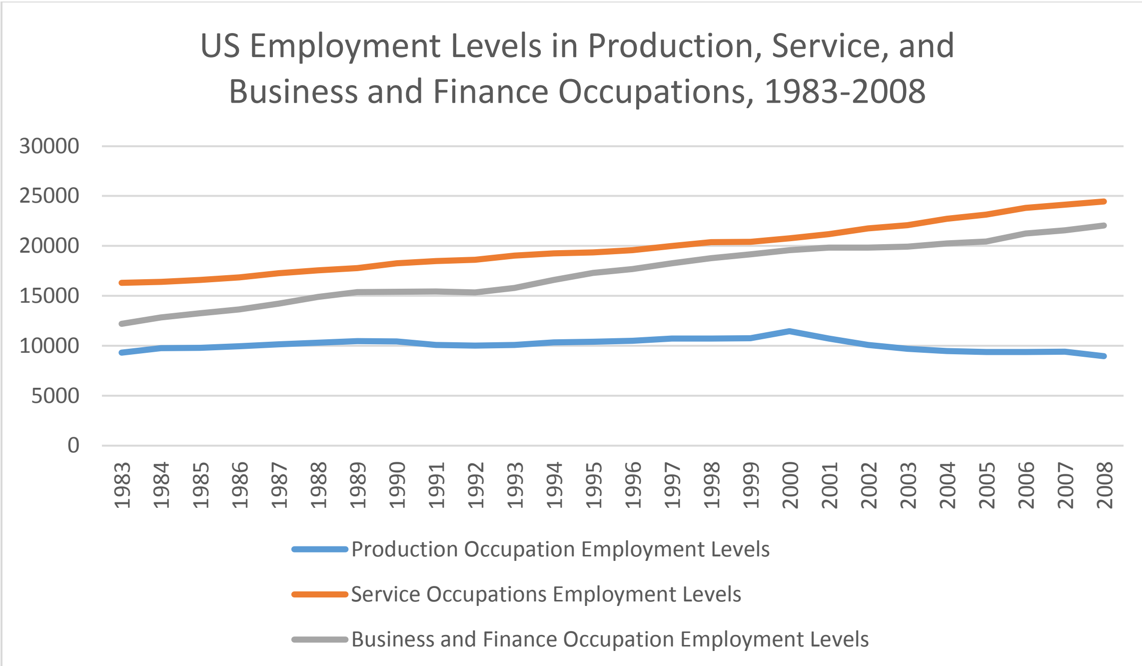
The Nixon Shock and the crisis it sought to manage signaled the end of the post-war long boom, and by extension the long wave that had been ushered in by the introduction of semi-automated mass production techniques (Fordism). This crisis would continue on into the 1970s, described today as the era of "stagflation" – high unemployment and high inflation. As a result, standards of living fell across the US, compounded by the OPEC oil boycott of 1973, which set off a rise in fuel and transportation costs. As a result, the rate of profit continued to fall throughout the decade, with the industrial economy entering into long-term stagnation. As industry fell a new sector of the economy, however, was on the rise. This was the return of finance capital, which gained new traction with the ushering in of the post-Bretton Woods floating exchange rates by President Nixon. Thus what we have come to call "neoliberalism" can be said to start at this point, in the decline of the Fordist system; indeed, one of neoliberalism's most stalwart proponents, Chicago School economist Milton Friedman, had sent confidential memorandums to President Nixon urging him to abandon the Bretton Woods arrangement, noting that it would be a boom for finance capitalism.[36] It is by no accident that it was across this decade that what I call the "neoliberal-New Right opportunity structure" arose to take advantage of the crisis in order to implement a neoliberal policy regime. This topic will be taken up in chapter 2.

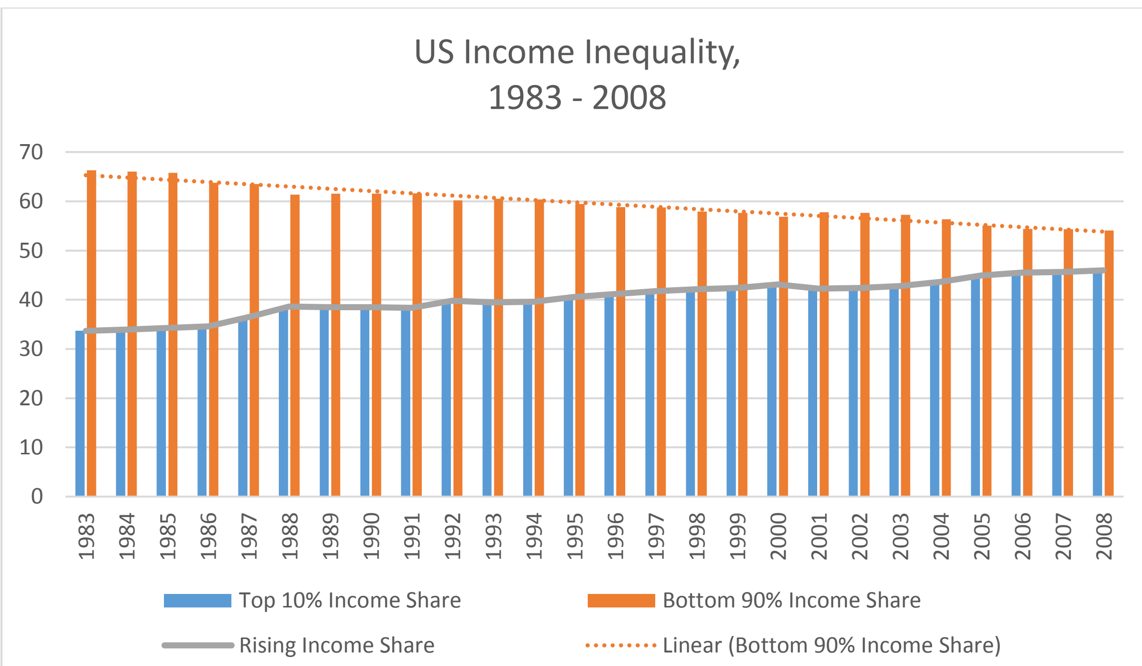
Conditions of the New Long Wave

Neo-Schumpterians such as Perez and Freeman see the 1970s as the take-off of a new long wave, one based on the technological revolution of information-communication technologies (ICT) that had emerged from the military laboratories of World War 2 and slowly gained traction across the post-war boom. It is true that it was during the 1970s, with the introduction of the cheap microprocessor, that ICT began to integrate itself throughout industry and society. They became especially prominent in the trading floors of the newly-empowered financial exchanges, but ICT also found its application throughout industry, which streamlined much of Fordist semi-automation with new labor-saving technologies. Michael Roberts has shown that while the rate of profit fell across the 1970s the organic composition of capital rose (as expected); much of this can perhaps be attributed through higher degrees of technological integration in all aspects of life. It wouldn't be until well into the 1980s, however, that the wholesale adaptation of ICT would become commonplace.

At the same time, a series of other forces must be taken into account when considering the take-off of the new post-Fordist long wave. At the center of this effort is a series of measures to counter-act the falling rate of profit. The integration of ICT and other labor-saving technologies is central to this concern, but essentially every policy enacted from President Reagan onwards has made this its credo. It is only in this context that we can understand the sort of 'race-to-the-bottom' economic and trade policies pursued from the 1980s onwards. One early example of this was the "Volcker Shock" of the early 80s, carried out by Reagan's Federal Reserve chairman Paul Volcker (himself retained from the Carter administration, having earlier helped orchestrate the Nixon Shock). In this shock, interest rates were tripled in an attempt to cure stagflation. This policy not only increased significantly the burden of debts held by working class families, pushing many into poverty; it also accelerated the de-industrialization of the US, triggering waves of factory closures and giving rise to what is called the "Rust Belt". This, in turn, pushed the direction of excess money supply from the investments into industry to investments in financial instruments, driving higher the financialization of the economy.

This shock occurred alongside attacks on organized labor and a cutting of taxes for the wealthiest of Americans. These conditions exacerbated the pauperization of the working class, but also precipitated a widespread transformation in the class makeup in the United States. As manufacturing employment stagnated, more and more workers were forced into low-wage service sector jobs. The overall shift from a Keynesian demand-side policy regime to a neoliberal supply-side regime added a tendency towards wage stagnation in this dynamic transformation. During the Fordist postwar long boom, wages grew in accordance with the increasing levels of productivity; in the post-Fordist long wave, however, wages in the form of hourly compensation have increased only 8.7% - the majority of which occurred between 1995 and 2002.[37] This has occurred despite a *growth in net productivity of 72.2% since the end of the long boom*. This indicates that the rate of exploitation has sped up considerably, extracting higher rates of surplus value from workers. The result has been a sharp increase in income inequality, with the top 10% of income earners taking a greater and greater share of the total US income and nearly rivaling that of the bottom 90%.





Throughout the period of 1983-2007, the gross domestic income (GDI) continued to rise, but the portion of this income realized in the form of wages and salaries paid to persons lagged behind, seeing only marginal gains. In 1983 the GDI stood at 14,590, with wages and salaries constituting 46.8% at this total. By 1997 the GDI had increased to 31,390, but income from wages and salaries constituted only a 45.1% share. The percentages continued to fall over the next decade; when the GDI reached 48,640 in 2007, wages and salary income held at 44.2%.[38] Given this divergence, further reflected in the growing income gap, one might assume that the United States was heading towards an underconsumption crisis.

In reality, quite the opposite was the case: consumer spending was *outpacing* the limitations of income. Despite the stagnation of wages (which becomes a decline in wages if inflation is taken into account), standards of living rose throughout this period. This is due to the rising role of debt to offset the elimination of workers and high wages from the productive sectors. In a windfall move for finance capitalism, "consumer credit" became the instrument of choice for trying to sustain the rate of profit, providing what appeared to be the supply-side alternative to Keynesian policies of full employment.

This debt takes on a variety of forms, from the extension of lines of credit for consumer goods to home loans to borrowed capital for investment purposes, either for productive investments or financial investments. This is part and parcel of the ongoing financialization of the economy that launched in this time period. Ultimately, what we're dealing with in this current long wave is the restructuring of capitalism as a whole. If the previous long wave was one built upon a productive infrastructure managed by industrial monopolies, we now exist in a productive infrastructure based on information technology, services, and finance. In short, the outcome of the crisis of the 1970s was a transition towards *post-Fordist neoliberalism*.

We should not take the term "post-Fordism" to entail the surpassing and elimination of Fordism, with its managerial perspective and regulation of the worker through the patterns of production. The deindustrialization in the United States was only made possible through a wider global restructuring, which pushed the Fordist mode of production into countries with low wages, low taxation rates, and low worker protections. The developing world thus becomes one, from the perspective of the developed world, of "peripheral Fordism". Far away and out of sight, these spaces of hyper-exploitation accelerate the production of goods whose consumer base isn't to be found amongst the workers who produce them; it is the populations of the deindustrialized, 'developed' world who are the recipients. As John Smith writes:

Export-oriented industrialization (or, from a northern perspective, "outsourcing") is the only capitalist option for poor countries not endowed with abundant natural resources. Under its aegis, the "developing nations" share of global manufactured exports rose from around 5 percent in the pre-globalization period to close on 30 percent by the turn of the millennium, while the share of manufactured goods in the South's exports tripled in barely ten years, stabilizing in the early 1990s at more than 60 percent... In 1970, barely 10 percent of their manufactured imports came from what was then called the third world; by the turn of the millennium, this share—of a greatly expanded total—had quintupled.[39]

The transformation of the developing world into the production centers for the developed world has not been an organic process, but a consistent campaign of economic blackmail. During the 1960s the developing world, represented on the international stage through coalitions and groups such as the Non-Alignment Movement (left-leaning nations that sought independence from both US and Soviet hegemony) and the Group of 77 (organized by the United Nations Conference on Trade and Development in 1974) achieved growth through developmentalism, an attempt to balance the demands of international trade and foreign investment with the growth of domestic markets through protectionist measures. Support from developmentalism came from the developed world, with the Bretton Woods institutions of the IMF and World Bank provided loans to assist the process. The rates of growth appeared as outpacing the growth of debt – until, at least, the global decline of the 1970s. Debt levels steadily increased, becoming a crisis during the Volcker Shock. It was at this point that an ideologically reformed IMF and World Bank (discussed in chapter 2) offered neoliberalism in exchange for debt relief; developmentalism would be dismantled through deregulation, privatization, and the removal of trade barriers. Instead of nurturing domestic industry and consumer bases, the widespread utilization "special economic zones" allows corporations to set up shop in host countries for a fraction of the costs associated with the developed world. At one time the North-South divide described the relationship between imperialist countries and their subjugated colonies; today, this continues in the form of the divide between post-Fordism and Fordism, between the owners of capital and the consumers of production and the work force.

For Ernest Mandel, the current long wave is one dominated by stagnation, an argument that gels with what we saw earlier regarding the falling rate of profit.[40] Each of these attempts – financialization, the shift of production to the global south, the rigorous assault on labor, the deconstructions of trade barriers and economic regulation at home and abroad – is a clear indication of a resolution to this wider, protracted crisis. Since the early 1980s, we've witnessed a general speed-up, on a global level, of the rate of exploitation and an accelerated shift from what Marx would describe as the productive sectors to the unproductive sectors. With these conditions in mind, we can turn now to the Great Recession.

The Great Recession and Beyond

Systemic

The inauguration of the neoliberal period was heralded as the coming of a "New Economy", one freed from the ups and downs of business cycles and the inflexibility of the old industrial economy. In the New Economy, information technology would take center-stage, with investors and venture capitalists poised to reap high returns from pouring capital into tech start-ups. Service sector employment and the proliferation of what some have referred to as "immaterial labor"[41] were to lend a newfound flexibility to the labor pool, opening the space for people to have a greater say in defining their lives. The New Economy was one of "creative capitalism", in which the old borders were broken down and everything suddenly capable of being realized on a global level. Underneath the utopian veneer, however, the stagnation remained, its existence obscured by a rising tide of debt and a population being made less creative and free, but more precarious and restrained.

Key to the obscuring of the actual conditions of the economy were the policies maintained by the Federal Reserve throughout the 1990s. Interest rates were kept relatively low, encouraging the spreading of debt in the general population and speculative activities on the behalf of the finance capitalists. Enthused on the apparent unending source of high returns from ICT firms, a bubble began to grow in the mid-90s, the existence of which went unnoticed; in many cases, capital flowed straight into firms when they did as little as add "e-" or ".com" to their names – a practice referred to by some as "prefix-investing". This was the growth of the Dotcom Bubble, which finally burst in 2000. Stocks, which has soared during the course of the bubble, crashed, leading many firms to simply close up shop and many others to lose heavy portions of their market capitalizations. The 'get big fast' mentality that had expanded the bubble had quickly run into structural limitations: ICT firms needed to have a continually expanding consumer base, which in turn pivoted on dual needs of high demand for information technology and the physical infrastructure to support it. The wave of speculation, in other words, had pushed supply to outpace demand in an environment where demand itself could not be organically fostered due to uneven development. The bursting of the Dotcom Bubble, in other words, was reflective