Karl Marx’s Theory of Crisis

Sat, 31/05/2008 - 22:00


The present financial crisis appears – at least at first sight – to be a striking vindication of the Marxist theory of capital accumulation and breakdown. In his writings on political economy, Marx argues that, in the capitalist mode of production, the very process of capital accumulation leads to the ‘overaccumulation of capital’? more capital is concentrated in the hands of the ruling class than can be invested in return for a sufficient profit. Eventually this gives rise to a crisis in the finance system as investors withdraw loans or hike interest to such an extent that the circuit of capital is interrupted. The crisis leads to devaluation of capital in a wide range of forms, from writing off loans, lowering share values and allowing currencies to fall in value, through to soar away inflation (devaluation of money), enterprise closures, falling wages and, eventually, to unemployment.

We can expect to see renewed interest in Marx’s theory, as it appears to explain what has happened to the US and world financial system over the last year, and suggests not only that a recession is coming, but that such events are systemic – embedded in the very nature of the capitalist system. The utter failure of bourgeois economic theory to suggest a meaningful alternative cause for the crisis will further encourage the study of Marx. With this in mind, this article aims to provide an introduction to Marx’s crisis theory, written with the 2007-08 financial crisis firmly in mind. It begins with a very brief overview, before going on to examine Marx’s central contention that crisis arises in the pursuit of higher labour productivity, which creates an ensuing crisis of profitability, and that this is a function of the essence of capital: the exploitation of living labour. We will survey some major objections to Marx’s claim, and will then apply Marx’s theory in a more concrete way to give a summary of his analysis of the economic cycle and the way crises actually happen in the real world.

Overaccumulation and crisis? an overview

Marx’s crisis theory is based on the labour theory of value. As he explains in the first volume of Capital, all commodities have both a use value and an exchange value. Their use values are qualitatively distinct and are therefore non-commensurable. Each must, nevertheless, be exchanged for other commodities. This implies a common component that is quantitatively measurable and commensurable. This is value based on labour time. The value of commodities is determined by the average labour time expended in their production (?socially necessary labour time?). Commodities exchange on average at this value. This holds true also for the commodity labour-power, the only commodity owned and sold by the working class. Labour-power is different from all other commodities, because it is the only one that actually adds value in the course of being consumed in production. This is because when labour-power is applied to other commodities ? raw materials for example ? it adds labour-time to them, which is the measure of value.

If labour-power is the only commodity that the mass of the working class owns and sells, what then is its value? Like other commodities, the value of labour power is determined by the labour time necessary for
its production. In the case of labour power this is the rough value of the goods required to reproduce labour power; that is, to keep the worker alive and able to return to work the next day, to live at or around the general level of culture achieved by the working class in any given country. Expectations of what is normal to keep you going are different in different societies: so the expectations and requirements to reproduce the labour-power of a worker in Detroit and a worker in Mumbai are different. The value of labour-power is therefore lower in some countries than others, though this naturally begins to change in the face of economic development.

The value of labour power governs wages. Crucially, the value of labour power is governed by the cost of reproducing the labourer, not by the value of the product itself. We can therefore think of the working day as divided into two parts. The first part is necessary labour time, which is the period during which a worker produces value equivalent to the cost of reproducing his or her labour power. This could easily be far less than the total length of the working day. The other part of the working day is surplus labour time. This is the unpaid part of the working day in which surplus value is produced. Surplus value is the source of profit.

The necessary labour time is only part of the working day. So the value of labour power is less than the value the worker adds to the mass of products produced. The remainder is surplus value and the capitalist accumulates this as profit. The reason the commodity labour power generates surplus value is that a portion of the worker’s labour-time is unpaid. In the course of accumulating capital, the capitalist raises the productivity of labour, enabling more to be produced in a shorter time period. One of the most obvious and widespread ways of doing this is by introducing new and more advanced machinery. This reduces the time it takes for an average individual worker to produce the product. The average labour time that goes into producing a product therefore falls. This means that the value of the commodity falls. The capitalist that is first to introduce this new system gets a windfall profit if the new, cheaper, commodities are sold at or around the previous price.

Now more products are produced in a given time; this shortens the period of time in which the worker generates value sufficient to cover his or her costs of living. This means that the part of the working day that makes up necessary labour-time is reduced. The necessary labour time falls and the surplus labour time rises in proportion in a given day. The capitalist’s profit increases accordingly. The capitalist system therefore has a basic drive to increase labour productivity by raising the level of technology used in production. In Marx’s terminology, there is a drive to raise the proportion of constant capital (by which he means machinery and raw materials) to variable capital (by which he means living labour).

This boosts the mass of profit in the short term but, eventually, other capitalists in the same line of business will introduce the same system (or go bust), removing the short-term advantage over competitors. At the same time, something very important has happened. The proportion of the capitalist’s investment that goes into living labour has fallen relative to the proportion that goes into machinery and raw materials. Again using Marx’s terms, constant capital has risen in proportion to variable capital. Marx calls this an increase in the organic composition of capital.

Now, this feature of capitalism has important consequences for the system of profit-generation. Marx insists that the source of profit is surplus value, and that surplus value is the unpaid labour-time of the worker. Only the worker can produce profit. This means only the capitalist’s investment in variable capital can generate a profit. The constant capital, the machinery, buildings and raw materials, have already been produced by wage-labour: the profit from the surplus labour expended in their production has already been pocketed by a capitalist earlier in the production chain. The constant capital does not add extra value to products that did not exist before; it just transfers its value to the new product as it slowly depreciates. It is only the variable capital?real workers?that create new value.
To make this clear, consider a factory producing microwave ovens. New technology – a series of new assembly line machines – is introduced in the factory, and allows the same labour force to make a greater number of ovens per hour (an increase in labour productivity). The socially necessary labour time embodied in each item falls; the value of each oven falls relative to the general value of competitors’ ovens; and the factory owning company therefore makes a greater profit than its competitor. The new technology appears to have increased value generation, but it has simply transferred the value created by the labour that generated the new machines originally. As time goes by, the new machinery – the constant capital – transfers its value by slowly depreciating in value itself. The process recurs with a constant drive to increase labour productivity in the factory by introducing new technology, that is, new constant capital. But this process does not simply occur in a single microwave oven factory, but across all capitalist production – including the factory which makes the machine that had so increased productivity. This expresses a general tendency in capitalism for constant capital to increase in proportion to the variable capital, although the variable capital is the sole factor creating new value.

So, if the proportion of the capitalist’s investment that goes into variable capital (living labour) falls in proportion to the investment in constant capital as must happen under capitalism, the proportion of the investment that generates a profit must decline. The build up of constant capital – capital fixed in machines, factories, and so on as well as circulating elements such as raw materials and semi-manufactured components – rises in proportion to living labour. This gives rise to a tendency for the rate of profit to fall. The rate of profit is not the mass of profit generated in capitalist production, but the mass of profit relative to the level of investment. It is by no means the case that the mass of profit should necessarily go down as the rate of profit falls. In fact, it is to be expected that productivity increases boost the mass of profit by expanding the scale of production, but they do so only by increasing constant capital in proportion to variable capital. So, as productivity rises, the rate of profit will fall.

As is well known, capitalist production is subject to industrial cycles. These are periods of roughly 7-10 years in which production and economic activity rise and fall. We will look at the cycle in more detail later but, in general terms, at this stage we can observe a simple pattern. In the expansionary or rising phase of the industrial cycle, profits rise and indeed the rate of profit rises, but over the full course of the cycle the tendency for the rate of profit to fall asserts itself. At a certain stage the next round of investment cannot generate sufficient profit to make it worthwhile to invest. As the profit rate falls major investors withdraw their capital from a particular branch of production, causing closures and sell-offs. Or, they withdraw it from the financial system, causing a credit crunch. Or, they demand much higher interest for loans, causing bankruptcies and more credit problems. Or, they put up prices for fuel and food, causing food riots in poor countries, pay strikes and a falling standard of living for workers everywhere.

This pressure on profit rates results from an overaccumulation of capital. Because profit rates come under most pressure in the sectors with highest organic composition of capital (the sectors with the highest productivity in which constant capital is highest in proportion to variable capital), they find that given the rate of profit, a further round of investment is simply not viable. This drives a frantic search for alternative outlets for capital. The overaccumulation process drives capital to be exported to lower wage economies abroad where higher profit rates can be found because of a lower level of technology. It drives capital into shares and ever more complex financial instruments (like the packaged up mortgage debts that banks are today writing off to the tune of hundreds of billions of dollars), into commercial property speculation; to the ever more reckless use of credit to keep the system going. Ultimately it leads to the emergence of widespread forms of fictitious capital which are not related to the underlying value of real commodities.

It is important to recognise that these factors offset the tendency for profit rates to decline. Marx calls them countervailing tendencies that delay and obstruct the tendency of the rate of profit to fall. But he insists that
none of these countervailing tendencies can offset falling profit rates forever; as we shall see, they cannot postpone the eventual reckoning indefinitely. Overaccumulation of capital means that the boom phase of the industrial cycle develops into a speculative fever which ends in crisis. Money that has been advanced on the assumption of getting a high return is revealed to be worth much less than was previously thought. A credit crunch explodes as bank loans and complex financial instruments are revealed to be massively overvalued. The process of capital circulation comes to an abrupt halt; the system seems to be gripped by a kind of heart attack.

A traumatic process of devaluation of capital ensues. The capitalists begin to fight among themselves as to who will bear the cost. This does not take place in abstract, or just on paper, or evenly across the whole of the world at the same pace. It is a messy process which strikes in real locations and in real time. Currencies are devalued (like the dollar today); loans cease (the credit crunch); not just the rate but the mass of profit falls (profit warnings); bosses begin to look for how they can close ?excess? capacity. Crisis gives way to recession as the effect of the devaluations hits demand and production contracts sharply, causing a sharp rise in unemployment. Ultimately ? and the length and depth of the crisis and recession depend on broad geo-political factors ? capitalists begin to reinvest in cheaper plant, machinery and workers, and a recovery stage sets in. The cycle begins afresh.

How powerful or weak the upturn is, and how quickly crisis and recession recur, will be determined by how successful the dominant capitalists are in making others ? weaker capitalist countries and above all the working class ? pay the price of the crisis. It depends on how much capital is devalued ? or destroyed ? in the violent events of the crisis itself.

**Marx?s law of the tendency of the rate of profit to fall**

As we have seen, capitalism, through continual revolutionising of the techniques of production, raises the productivity of labour in some enterprises, which by definition become the most competitive, in each branch of production. If we were hypothetically to leave out of account the real social relations of production today (capitalism), then improved technology and increased labour productivity would tend naturally towards the reduction of working time. Mechanisation would help convert the worker from a semi-slave constrained by a rigid division of labour into a supervisor of production, someone able through the progressive and sustained reduction of the length of the compulsory working day to participate in supervision and planning of ever wider spheres of production, distribution and consumption (socialism). However, the social relations of production that actually accompany this development of the productive forces obstruct, contain and suppress this as yet unrealised tendency.

At the most abstract level of analysis, capital is self-expanding value: it goes through a series of forms in the process of self expansion: capital is returned as profit, only to then be re-invested to return more profits. It relies for its accumulation of additional value (profit) on the appropriation of unpaid labour (surplus value or ?s?) and, as this surplus derives exclusively from living labour and not from machinery or raw materials, the capitalist is obliged to couple the introduction of labour-saving technology to a reduction not of ?labour? in the sense of individual average working time or the burden that falls on the working population as a whole, but of his spending on labour, i.e. his labour costs. Accordingly, the net effect of the rising productivity of labour under capitalism is the expulsion of living labour from the labour process, but in a manner that intensifies the exploitation of the workers rather than abolishing it, as Marx explains:

?This mode of production produces a progressive relative decrease of the variable capital as compared to the constant capital, and consequently a continuously rising organic composition of the total capital. The immediate result of this is that the rate of surplus-value, at the same, or even a rising, degree of labour exploitation, is represented by a continually falling general rate of profit. (We shall see later why this fall
does not manifest itself in an absolute form, but rather as a tendency toward a progressive fall.) The progressive tendency of the general rate of profit to fall is, therefore, just an expression peculiar to the capitalist mode of production of the progressive development of the social productivity of labour. This does not mean to say that the rate of profit may not fall temporarily for other reasons. But proceeding from the nature of the capitalist mode of production, it is thereby proved a logical necessity that in its development the general average rate of surplus-value must express itself in a falling general rate of profit. Since the mass of the employed living labour is continually on the decline as compared to the mass of materialised labour set in motion by it, i.e., to the productively consumed means of production, it follows that the portion of living labour, unpaid and congealed in surplus-value, must also be continually on the decrease compared to the amount of value represented by the invested total capital. Since the ratio of the mass of surplus-value to the value of the invested total capital forms the rate of profit, this rate must constantly fall.\(^1\)

The driver to the introduction of technology and the associated rise in the productivity of labour is the immediate impact that it has in the revolutionised units of raising the rate of surplus value (the rate of exploitation? or the ratio of surplus-value to variable capital) by reducing the period of time it takes to produce a given product. As noted above, by increasing the number of commodities the labourer is able to produce in a certain time, the value of the commodity falls relative to the value of competitors' products and the capitalist pockets a higher profit. If \(s\) is surplus value and \(v\) is variable capital, the value of \(v\) is determined by the necessary labour-time. So, we can say that the rate of exploitation is \(s/v\). When labour productivity rises, the proportion of necessary labour-time ? the time required to reproduce the labourer's labour-power, i.e. a wage ? to the working day as a whole is thus reduced. This boosts the mass of profit and the profitability of the investment.

Let's look at an example, perhaps a computer manufacturer. If we give \(s\) a value of 5 (say $5million profit) and \(v\) a value of 10 (say $10million invested in labour), clearly 5/10=0.5 and we get a rate of surplus value (or rate of exploitation) of one half or 50 per cent. If we now reduce necessary working time, so that the workers can produce the same amount of surplus value in, say, half the time, we get a sharp rise in the rate of surplus value. So if \(s\) still has a value of 5 (profit still being $5million), but we now give \(v\) a value of 5 (with the labour-power now having the value of just $5million), clearly 5/5=1 and we get a rate of surplus value (or rate of exploitation) of 100 per cent.

Now let's include constant capital (raw materials, buildings and machinery) in the picture, and call it \(c\). We can show that an increase in the proportion of constant to variable capital ? of non-surplus value producing to surplus value producing capital, of machinery and materials to workers, of dead to living labour ? necessarily reduces the rate of profit. If the rate of exploitation is \(s/v\), the rate of profit can be shown as \(s/c+v\), the surplus value in relation to the capitalist's total investment.

Again using a simple numerical example, if \(s=5\), \(v=5\) and \(c=5\), then \(s/c+v = 5/5+5\) or 5/10. So in this example the rate of profit is 0.5 or 50 per cent.

If our computer-producing capitalist spends $5million on labour and $5million on technology, and his profit is $5million, then his rate of profit is 5m/10m, which is one half or a rate of profit of 50 per cent. Now let's see what happens if we raise labour productivity by introducing new hi-tech machinery into the manufacturing process, increasing constant capital in proportion to variable capital, leaving \(s\) and \(v\) the same but increasing \(c\).

If \(c\) is increased to $10million but \(s\) and \(v\) stay the same, we get \(s=5\), \(v=5\), \(c=10\), so \(s/c+v = 5/5+10 = 5/15\) a third or 33 per cent. By increasing the proportion of constant to variable capital, our computer manufacturer's rate of profit therefore falls, as the $5million profit is now realised from an investment of
$15 million? even though the rate of surplus value or rate of exploitation has remained the same.

The more massive the investment in constant capital, the greater the corresponding downward movement in the profit rate. So in the case of a very major investment in plant and machinery, for example increasing it to $45 million, then with $c$ at 45 we get an even sharper fall in the rate of profit:

\[ \frac{s}{c+v} = \frac{5}{45} + 5 = 0.1 \text{ or } 10 \text{ per cent.} \]

So far, so simple. But the cause for so much confusion in this area, is that, as we will examine in more detail below, the introduction of technology and new systems of production that raise labour productivity can give rise both to increases in the rate of surplus value and a tendency for the rate of profit to fall. This means that we often see sharp rises in the mass of profit on the very eve of a major crisis of falling profit rates.

The reduction of the profit rate as a result of the rising ?organic composition of capital? ($c/v$) in part explains why capitalism is subject to persistent economic cycles; we will examine this in further detail below. Yet at this stage it is essential to remember that across the industrial cycle the profit rate does not always decline. If it did, capitalists would never make a profit and the system would simply have collapsed in on itself before it had even started. The rising organic composition of capital creates a tendency for the profit rate to decline, but powerful countervailing tendencies exist which slow, retard and partially paralyse the tendency of the profit rate to fall. It is only when the tendency to overaccumulation overmasters these countervailing tendencies, resulting in an actual fall of the profit rate for new investments and therefore ultimately a fall in the mass of profit, that crisis and corrective devaluation of capital ensue.

Marx explained in his Grundrisse how in theory (1) the mass of profit grows, in inverse proportion to the rate of profit, but then (2) ultimately the mass of profit cannot continue to grow as profit rates fall. He begins with the first point:

?The gross profit, i.e. the surplus value, regarded apart from its formal relation, not as a proportion but rather as a simple magnitude of value without connection with any other, will grow on the average not as does the rate of profit, but as does the size of the capital. Thus, while the rate of profit will be inversely related to the value of the capital, the sum of profit will be directly related to it.?2

So, let?s examine this by continuing with our example where our manufacturer is investing $5 million in labour, $5 million in machinery and generating a profit of $5 million, or, in more mathematical terms, where $c$, $v$ and $s$ were all 5. If we now double the values across the board, and assume the rate of exploitation $s/v$ stays the same at 100 per cent, then $c = 10$, $v = 10$, $s/v = 1$, so gross profit $s = 10$. The gross profit has risen with the size of the capital.

Now let?s look at an example of how the gross profit can rise while the rate of profit falls. Remember our starting point was that $s$, $c$ and $v$ are all 5. Before we doubled the size of the capital, $s/c+v = 5/5 + 5$, so the profit rate was $5/10 = 0.5$ or 50 per cent. When we increased $v$ to 10 and held the rate of exploitation $s/v$ at 100 per cent, the gross profit rose. If we increase the constant capital in the same proportion, to 10, the rate of profit remains the same. $10/10 + 10$ gives the same rate as $5/5 + 5$. Both are equal to 50 per cent.

But what would have happened if we had increased $c$ by a greater measure than we increased $v$, to 40, so that not only had the total capital increased, but constant capital had also risen in proportion to variable capital? Again assuming a static rate of exploitation $s/v$ of 100 per cent, $s$ is now 10, $c$ is 40 and $v$ is 10, giving us $s/c+v = 10/40 + 10 = 10/50 = 0.2$ or 20 per cent. The gross profit, the mass or sum of the profit, has risen from 5 to 10 because the size of the capital increased. But the rate of profit has fallen from 50 per
Our computer manufacturer's total capital has increased massively and his gross profit has risen as a result. Because the rate of exploitation was 100 per cent, which means half of the time worked by his employees was unpaid, when he doubled the size of the workforce from a spend of $5 million to a spend of $10 million, his profit doubled with it from $5 million to $10 million. But at the same time his massive investment in new machinery of $45 million, while increasing the productivity of his workers, has pushed down the rate of profit from a return of 50 cents on every dollar invested to a return of just 20 cents on every dollar invested.

So Marx has shown that the gross profit rises while the rate of profit falls. The change in the gross profit is directly proportional to the size of the capital, but the change in the rate of profit is inversely proportional to it. Returning to Marx, he continues his explanation in the Grundrisse by showing that this phenomenon of the gross profit rising as the rate of profit falls can only continue for a while. He tells us that “even this statement is true only for a restricted stage of the development of the productive power of capital or of labour.”

Marx gives an example of how this phenomenon works itself out in the course of capitalist development. He gives us an example of a lower profit rate giving rise to a higher gross profit and then expands the example:

“A capital of 100 with a profit of 10 per cent yields a smaller sum of profit than a capital of 1,000 with a profit of 2 per cent. In the first case the sum is 10, in the second 20, i.e. the gross profit of the larger capital is twice as large as that of the 10 times smaller capital, although the rate of the smaller capital’s profit is 5 times greater than that of the larger.”

But, if the process of falling profit rate continues, eventually this must have an effect on the gross profit too. Marx shows this very simply:

“But if the larger capital’s profit were only 1 per cent, then the sum of its profit would be 10, like that for the 10 times smaller capital, because the rate of profit would have declined in the same relation as its size. If the rate of profit of the capital of 1,000 were only 1/2 per cent, then the sum of its profit would be only half as large as that of the smaller capital, only 5, because the rate of profit would be 20 times smaller.”

So, if the rate of profit falls more than the size of the capital rises, the gross profit of a large capital can decline relative to a smaller one, making investment to expand the size of a capital pointless.

“Thus, expressed in general terms: if the rate of profit declines for the larger capital, but not in relation with its size, then the gross profit rises although the rate of profit declines. If the profit rate declines relative to its size, then the gross profit remains the same as that of the smaller capital; remains stationary. If the profit rate declines more than its size increases, then the gross profit of the larger capital decreases relative to the smaller one in proportion as its rate of profit declines.”

This is of enormous importance. It shows that if the labour theory of value is correct then falling profit rates periodically overcome the growth of the mass of profit. At a certain point, the rate declines to such an extent that capitalists withdraw their capital from production or other spheres of investment, because it is not generating sufficient profit. If this were true, capitalism would necessarily go through cycles culminating in a point at which investment would suddenly halt, forcing capital to be violently devalued before accumulation could resume in a new cycle. And this, of course, is exactly what does happen, as the credit crunch of 2007 and the bank crisis of 2008 have shown only too clearly.
No wonder Marx himself was struck by both the simplicity and the enormity of his discovery. He concludes this passage in the Grundrisse by saying:

“This is in every respect the most important law of modern political economy, and the most essential for understanding the most difficult relations. It is the most important law from the historical standpoint. It is a law which, despite its simplicity, has never before been grasped and, even less, consciously articulated.”

This is the underlying cause of the phenomenon of the overaccumulation of capital, of the “excesses” of liquidity that accompany the crises that ensue after the peak of every capitalist boom, of the mad chase of capital to increase returns above and beyond the average rate of profit, and of the otherwise inexplicable drying up of investment despite the existence of extraordinary volumes of surplus cash (“an excess of liquidity?”). It explains why these conditions often explode in crises that disrupt investment even before a collapse of consumer demand (which is what appears to have happened in 2007).

The suspension of investment, the breaking of the circuit of capital, the writing off of over-valued loans and credit instruments and ultimately the closure and break up of unprofitable industries, represent a violent devaluation of capital. The devaluation that occurs in these crises is capitalism’s response to the overaccumulation of capital. It is also, for Marx, the clearest possible sign that capitalism heads inexorably towards its own destruction — something that does not happen automatically without the conscious intervention of human beings, movements and parties, but which is continually posed as a necessity and a possibility by a series of spasmodic capitalist crises:

“[T]he development of the forces of production brought about by the historical development of capital itself, when it reaches a certain point, suspends the self-realisation of capital, instead of positing it. Beyond a certain point, the development of the powers of production becomes a barrier for capital; hence the capital relation a barrier for the development of the productive powers of labour?The growing incompatibility between the productive development of society and its hitherto existing relations of production expresses itself in bitter contradictions, crises, spasms. The violent destruction of capital not by relations external to it, but rather as a condition of its self-preservation, is the most striking form in which advice is given it to be gone and to give room to a higher state of social production.”

Countervailing tendencies

As we have already said, Marx insisted that the trend towards falling profit rates is not a linear process, but that it is offset by a range of factors that slow it, postpone it and obstruct it.

Logically, if these factors are to slow down the progress of capital accumulation towards crisis and breakdown, they must all have something in common. The root cause of crisis is the overaccumulation of capital and falling profit rates, which arise because of the growth of constant capital relative to variable capital. So the countervailing tendencies must logically either a) reduce constant capital in proportion to variable capital, b) increase variable capital in proportion to constant capital, c) increase gross profit without increasing constant capital in proportion to variable capital or d) increase gross profit while only later increasing constant capital in proportion to variable capital, or e) some combination of a), b), c) and d).

We shall see that each of the countervailing tendencies does this to some degree, but that each can have only limited effect. None can permanently offset the tendency to falling profit rates or postpone crisis indefinitely.

The countervailing tendencies which offset and slow the tendency of the rate of profit to fall are many and varied. They include:
Export of capital, so that investment can take place in countries where labour power is cheaper, and where as a result of lower technological development the organic composition of capital is lower. So, profit rates are higher because the proportion of variable capital in relation to constant capital is higher. Clearly this refers to the process of investors from the most highly developed countries pouring money into ?emerging markets? (the underdeveloped world) in order to secure higher rates of profit, employing huge numbers of workers fresh from the countryside, whose standards of living are lower and who are set to work using a smaller volume of less highly developed machinery than in the West.

Expansion of share capital, which spreads the range of investors and allows the leading capitalists to deliver to shareholders a return below the average rate of profit

Extension of credit, which allows capitalists to draw on broader sources of funds for investment and to postpone the point at which a fall in the mass of profit forces them to suspend further rounds of investment.

Expansion of trade between advanced and less developed capitalist economies. As the international prices for traded goods and services are based on average profit rates, and yet the rate of profit in the more advanced country will be lower than that in the less developed country, the capitalists of the more advanced power benefit from a form of ?unequal exchange? because they exchange at an average higher than their own profit rate. Although both sets of capitalists profit, the capitalists of the advanced power gain a boost to the mass of profit (a ?super-profit?) from international trade of this type.

Reduction of the value of labour power through exploitation of cheap foreign labour and import of cheap foreign foodstuffs: this boosts the rate of surplus value and increases the mass of profit.

Reduction of turnover and circulation time through faster production, transportation and commercial sales systems: this reduces the time for which capital is dormant and increases the velocity at which capital can circulate. Capital can thus spend more time being expanded in value by living labour and less time locked up in circulation.

Reduction of the value of constant capital, both plant and machinery and raw materials, which reduces the proportion of constant capital relative to variable capital.

Expansion of the proportion of the proletariat which is paid below the value of labour power through pushing down wages and through use of casualised, precarious, migrant and child labour.

Spending on armaments and waste, which expends huge quantities of money without producing surplus value and therefore without raising the organic composition of capital.

These countervailing tendencies all exert a reduced effect as the cycle unfolds, and eventually turn into their opposites.

Thus, export of capital sets in train in the recipient country a process of capital accumulation that itself results in overaccumulation and crisis, reducing by its own action its initial effect of lowering the organic composition of capital in the developing country. The example of China shows that, as a result of development, prices rise destabilising the emerging economy and aggravating class contradictions and struggle in the newly developing capitalist state. Not only the process of capital accumulation but all of its contradictions and crisis tendencies are expanded on a global scale, as prices rise in the ?West? as a result.

The expansion of share capital and the extension of credit expand the proportion of fictitious capital in circulation. It is, incidentally, vital to understand that this is not an aberration or some strange collective
madness, but a necessary element of the circulation of capital in a system based on the market. As we see so clearly in the crisis of 2007-08, far from postponing crisis indefinitely, a vast expansion of credit such as has been seen in the period 1998-2008 massively aggravates the instabilities within the financial system, spreads the ?contagion? of overvalued capital around the world, and makes the corrective jolt required to reduce excess liquidity in the market? all the sharper. The process of devaluation of fictitious capital results in a chase for the hardest form of money, today preferably gold or non-convertible ?fiat? money backed by a strong state. Today, as the dollar?s historic decline assumes new depths, the position of global currency looks as if it could be vacant in the foreseeable future ? a living indicator of approaching inter-imperialist tensions.

Credit in its modern, mass consumer, form of home loans and credit cards now draws the mass of the population into the net, socialising future crises of devaluation in hitherto unforeseen ways. In the days of Marx there was no mass market in home loans. Yet, far from creating a new and stable basis for capitalism (the ?home-owning democracies? so beloved of Ronald Reagan and Margaret Thatcher), in fact mass consumer credit and the financialisation of domestic rent has massively destabilised the financial system. Just as commercial rents are deductions from average profits, so domestic rents are deductions from average wages (with certain differentials factored in for locational advantages, i.e. how close they are to work in the big money centres). House prices for ?homeowners? are just capitalised forms of domestic rent, and rent is transformed into a mortgage repayment, with the profit on any increase in land value shared with the mortgage lender in the form of extortionate interest. So, when real wages decline and commercial interest rates rise, as they have done in the USA over the last years, and as profits decline, eventually land values fall. This exposes the home loans as being in large measure fictitious capital. Both the lenders and the ?sophisticated? financial institutions that lent on the basis of repackaged mortgage debt have to write off billions or go bust. This aggravates the trend towards recession as hard up homeowners and homeless former homeowners tighten their belts and stop spending.

As mentioned above, trade between the imperialist metropoles and the fast developing semi-colonial countries boosts profits in the ?West? because the semi-colonies have a lower organic composition of capital and thus higher rate of profit. In addition, in the short term, the rate of surplus value is boosted in the ?West? by imports of cheap wage goods that lower the cost of reproduction of labour power. However, in value terms, the lowering of the value of labour power lowers the value of v (variable capital), ultimately aggravating the problem of the rising value composition of capital and therefore of falling profit rates. The crisis of overaccumulation cannot be indefinitely postponed because, as we show below, the value of c (constant capital) will rise faster than v.

When, in turn, the eventual overaccumulation of capital in the developing semi-colonial country reduces the deflationary effect of the export of wage goods to the metropoles, this does not simply restore equilibrium by raising the value of labour power in proportion to c. The value of constant capital ? plant and machinery and raw material imports ? also rises. At a more concrete level, the effect of higher prices for fuel and food and of higher interest rates to control inflation undermines the expansion of credit to a mass consumer base, precipitating crises of mass consumption whether on debt repayments, mortgage debt, interest payments or, ultimately, luxuries and wage goods. A further countervailing tendency, the reduction of turnover time, raises the mass of profit by keeping capital in circulation. But this also accelerates the timescale within which unconsumed constant capital must be abandoned before its value has been realised. As everyone knows, hi-tech equipment becomes obsolete quickly as it is rendered inefficient compared with newer models. This increases the pressure on each capitalist to raise the composition of capital, driving the organic composition of capital higher and accelerating the crisis dynamic.

Exploitation of migrant and sweated cheap labour boosts profits, drives down wages and undermines
collective bargaining by organised labour. But it expands the size of the poor proletariat, of that section uncorrupted by labour aristocratic prejudice, of that part that has no ?tiny stake? in its bosses? profits through higher wage deals and benefits, and has absolutely nothing to lose but its chains. And, ultimately, as wages rise in the boom and demand rises for wage goods, the effect of migrant labour on boosting the rate of exploitation is overpowered by the pressure on profit rate across the economy as a whole.

Increased armaments spending offsets breakdown ? just as the carnage ensuing from the use (?consumption?) of the weapons brings about explosive ?devaluations? which can have a restorative effect on capital accumulation. Yet this spending ? particularly on the vast scale adopted by the Bush administration in 2001 ? aggravates the crisis of public finances and makes it ever more difficult for the bosses to offset pressure on profits with tax cuts. It also further undermines the value of the national currency. A further point that no Marxist should fail to mention when considering the limited effect of military spending in maintaining social equilibrium is that, of course, war breeds revolution.

**The most important law**

It is entirely clear from a reading of Marx?s Grundrisse, the Contribution to a Critique of Political Economy, Capital and the Theories of Surplus Value that, far from being incidental to his theory, Marx regarded the law of the tendency of the rate of profit to fall as central, ?the most important law from the historical standpoint.?9

Marx had the law of the tendency of the rate of profit to fall firmly in mind when he wrote the first volume of Capital, even though he decided not to give a full elaboration of the law in that introductory volume. But he explains there that, because capital accumulation leads to the over-accumulation of capital, which can no longer be invested sufficiently profitably, the resultant crises create an army of unemployed ? workers whose labour power lies fallow, for whom capitalism has no use. As he explained elsewhere, accumulation leads in Marx?s words to an ?excess of capital combined with an excess of population?.10

It follows from this that capitalism is a form of production and rule which steers towards its own collapse. Whether this collapse is resolved in favour of the workers is a subjective factor, a question of revolutionary organisation, action, programme and leadership.

So, in the first volume of Capital in the Chapter Historical tendency of capitalist accumulation, Marx wrote the famous revolutionary passage:

?One capitalist always kills many. Hand in hand with this centralisation, or this expropriation of many capitalists by few, develop, on an ever-extending scale, the co-operative form of the labour-process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labour into instruments of labour only usable in common, the economising of all means of production by their use as means of production of combined, socialised labour, the entanglement of all peoples in the net of the world-market, and with this, the international character of the capitalistic regime. Along with the constantly diminishing number of the magnates of capital, who usurp and monopolise all advantages of this process of transformation, 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, organised 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. Centralisation of the means of production and socialisation of labour at last reach a point where they become incompatible with their capitalist integument. This integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated.?11

Plainly, at this stage of his exposition of his ideas in the first volume of Capital, Marx had not yet set out the
concepts necessary to explain the law of the tendency of the rate of profit to fall, which he had elaborated in the as yet unpublished manuscripts that were later to form the third volume of Capital. But earlier ? in the Grundrisse ? Marx formulated the same revolutionary thoughts as follows, with his Law central to his explanation:

?Since this decline of profit signifies the same as the decrease of immediate labour relative to the size of the objectified labour which it reproduces and newly posits, capital will attempt every means of checking the smallness of the relation of living labour to the size of the capital generally, hence also of the surplus value, if expressed as profit, relative to the presupposed capital, by reducing the allotment made to necessary labour and by still more expanding the quantity of surplus labour with regard to the whole labour employed. Hence the highest development of productive power together with the greatest expansion of existing wealth will coincide with depreciation of capital, degradation of the labourer, and a most straitened exhaustion of his vital powers. These contradictions, of course, lead to explosions, crises, in which momentary suspension of all labour and annihilation of a great part of the capital violently lead it back to the point where it is enabled [to go on] fully employing its productive powers without committing suicide. Yet, these regularly recurring catastrophes lead to their repetition on a higher scale, and finally to its violent overthrow.?12

Marx?s theory of crisis is therefore a revolutionary anti-capitalist theory. Small wonder then that it has been subject to a systematic and sustained attack.

Rate of exploitation and rate of profit
The law of the tendency of the rate of profit to fall (LTRPF) is matched only by the labour theory of value in the controversy it has generated among economists. It attracts the opprobrium not only of the bourgeois theorists but every type of revisionist claiming to operate from ?within? Marx?s system of thought.

Criticism of the LTRPF has focused on challenging Marx?s insistence that the tendency to falling profit rates has the status of a law, whilst the countervailing tendencies are of a lesser order. The aim of these criticisms of Marx is, of course, to claim that profit rates can just as easily rise as fall, that there is no general trend to falling profit rates, that the ?countervailing? tendencies rank equally with the LTRPF, and ? by obvious extension ? that there is no inherent tendency to breakdown lodged within capital accumulation. This of course supports reformist rather than revolutionary conclusions as to how the working class should best respond to capitalism?s contradictions.

This conclusion constituted the underlying stance of the Revisionists in the great conflict between reformists and revolutionaries in the Second International at the time of Lenin and Luxemburg, when Bernstein, Tugan-Baranovsky and Otto Bauer and anti-Marxist bourgeois theoreticians like L. von Bortkiewicz and Bohm-Bawerk attacked Marx?s breakdown theory, adopting the ?harmonist? view that crises derive from disequilibria between the spheres of production which can be permanently avoided through state intervention, planned management and/or the operation of the finance system. The LTRPF has remained controversial ever since, attracting criticism from prominent writers such as Natalie Moszkowska (a critic of the Marxist theoretician Henryk Grossman, author of The Law Of Accumulation and Breakdown of Capitalism), from the anti-Marxist Joan Robinson, from the influential Paul Sweezy and many more to this day.

This is not the place to set out an exhaustive exegesis and response to every one of these criticisms.13 But we must deal with the major objections, as they are relevant to the question of the role of Marxism in analysing the current global crisis.

One of the most important is based on the argument that the rising organic composition of capital, an
increase in constant capital relative to variable capital, will only have the net effect of lowering profit rates if it is greater than the increase in the rate of surplus value \((s/v)\) brought about by the introduction of new technology and machinery. If this is the case, then why would profit rates tend to fall? They could surely just as easily rise. Increases in productivity could either lower the value of \(v\), boosting the rate of surplus value, or lower the value of \(c\), reducing the organic composition of capital, or both: and this could be sufficient to cancel out the tendency towards a falling profit rate. Thus a primary countervailing tendency that can be expressed in value terms at the same level of abstraction as the LTRPF itself is presented as a logical destruction of the law. According to this argument, the effect of rising productivity on all the terms of Marx’s equation on the proportional relations of \(s\), \(v\) and \(c\) can either raise or lower profit rates and there is no general tendency in one or the other direction.

Moszkowska formulates this conclusion as follows:

?’The Law’ does not confirm a historical fact, namely that the rate of profit falls; it only formulates the mutual dependence of two variables, namely 1. If the rate of surplus value remains constant, the profit rate falls. 2. If the profit rate remains constant, the rate of surplus value increases. That is, the law simply expresses a functional connection. And for this reason one could equally call the law of the ?tendency of the rate of profit to fall? the law of the ?tendency of the rate of profit to rise??.

Paul Sweezy, in his Theory of Capitalist Development made essentially the same point when he claimed:

??there is no general presumption that changes in the organic composition of capital will be relatively so much greater than changes in the rate of surplus value that the former will dominate movements in the rate of profit. On the contrary, it would seem that we must regard the two variables as of roughly co-ordinate importance.?15

If this is correct then there is nothing left of the LTRPF. But Marx actually anticipated and rebutted this criticism.

First, consider how rises in labour productivity increase the rate of surplus value. Can this rise in the rate of surplus value match the rising organic composition of capital, permanently offsetting the tendency of the profit rate to fall? Marx shows very clearly why it cannot. In all branches of industry, a rise in productivity through the introduction of technology raises the proportion of constant to variable capital. Now, of course, the value of labour power is also reduced by commodities that are produced at a lower value as a result of this increase in productivity, and this boosts the rate of surplus value. But it is very important to bear in mind that not all of the industries in which productivity rises are industries that produce wage goods, i.e. goods consumed by workers. A significant proportion of industry produces machinery, raw materials, buildings? this department of production produces means of production. The rise in the productivity in this department has no effect on the value of labour power. So, this vast sector of the economy increases the organic composition of capital, and aggravates the tendency of the rate of profit to fall without boosting the rate of exploitation through the cheapening of consumer goods:

?’The increase in productive power likewise increases the ratio between constant and variable capital in all branches of industry which do not produce necessaries (either directly or indirectly) without giving rise to any kind of alteration in the value of labour.?16

Furthermore, there is an even more fundamental reason why the rate of exploitation cannot rise to such an extent that it effectively cancels out falling profit rates. Even a worker who never tired and never stopped could only work for 24 hours a day. As Marx explained in the Grundrisse:
The larger the surplus value of capital before the increase of productive force, the larger the amount of presupposed surplus labour or surplus value of capital; or, the smaller the fractional part of the working day which forms the equivalent of the worker, which expresses necessary labour, the smaller is the increase in surplus value which capital obtains from the increase of productive force. Its surplus value rises, but in an ever smaller relation to the development of the productive force.\textsuperscript{17}

This means that the lower a worker’s necessary labour time is, the less effect it has for profits when the capitalist lowers it still further. This allows Marx to explain not only why it is that the poorer a worker is, the more obsessed the capitalists become with how they spend their time, but also why the capitalists’ vicious attacks on workers’ time become ever less effective in boosting profitability:

Thus the more developed capital already is, the more surplus labour it has created, the more terribly must it develop the productive force in order to realise itself in only smaller proportion, i.e. to add surplus value because its barrier always remains the relation between the fractional part of the day which expresses necessary labour, and the entire working day. It can move only within these boundaries. The smaller already the fractional part falling to necessary labour, the greater the surplus labour, the less can any increase in productive force perceptibly diminish necessary labour; since the denominator has grown enormously. The self-realisation of capital becomes more difficult to the extent that it has already been realised.\textsuperscript{18}

So, the higher the technical level, the more mature capital becomes, the harder it becomes to realise sufficient profit. Capital ends up straining itself against the barriers of time, but the absolute limit of the average working day sets an absolute limit to the compensation for a reduction of variable capital by a higher rate of surplus value, or for the decrease in the number of workers exploited by a higher degree of exploitation of labour-power.\textsuperscript{19}

Incidentally, the form taken by the appearance of profit in the financial system conceals this reality which for our purposes in 2008 is also highly pertinent. Why? Because it explains the deep foundations of the ideology that prevents the capitalists from recognising the dangers associated with the expansion of fictitious capital until the very moment crisis breaks: The identity of surplus value and surplus labour imposes a quantitative limit upon the accumulation of capital. This consists of the total working day?But if one conceives of surplus-value in the meaningless form of interest, the limit is merely quantitative and defies all imagination.\textsuperscript{20} In short, because the capitalists do not recognise and cannot admit the source of profit in unpaid labour living as they do in blissful ignorance they cannot see the distinction between fictitious capital and real value. That is why every crisis, no matter how historically regular and predictable, is for the bourgeoisie almost entirely unexpected.

**Devaluation of constant capital**

We have examined the issue of whether a rise in the rate of exploitation (s/v) can offset the fall in the profit rate (s/c+v). Now we must examine another crucial objection to Marx’s law: one that centres on the devaluation of constant capital. This objection is in fact the opposite of the last. Here, again, the critics allege that Marx fails to give equal emphasis to two consequences of rising labour productivity. They point out that when Marx observes that the mass of actual machinery and raw materials rises in proportion to labourers, he ends up with a Law? the LTRPF? under which the overall value of constant capital c rises in proportion to variable capital v. However, the same process under which new technology cheapens products also lowers the value of machinery, reducing the value of c. But Marx treats this reduction in the value of constant capital not as a law but as a mere countervailing tendency?.

Was Marx justified in this? Or should they rank equally? Do they have the same effect and cancel each other out? Can the devaluation of constant capital permanently offset the tendency for profit rates to...
Roman Rosdolsky, author of The Making of Marx's Capital, draws our attention to Marx's clearest refutation of this argument, in Part Three of the Theories of Surplus Value. There, Marx explains just how impractical and unrealistic this objection really is. It overlooks the obvious fact that technological improvements do not just replace one obsolete piece of machinery with a single more advanced instrument, but use their cost advantage to scale up:

"The increasing productivity of labour (insofar as it is connected with machinery) is identical with the decreasing number of workers relatively to the number and extent of the machinery employed. Instead of a simple and cheap instrument a collection of such instruments (even though they are modified) is used, and to that collection has to be added the whole part of the machinery which consists of the moving and transmitting parts; and also the materials used (like coal, etc.), to produce the motive power (such as steam). Finally, the buildings. If one worker is in charge of 1,800 spindles instead of driving a spinning-wheel, it would be quite ridiculous to ask why these 1,800 spindles are not as cheap as the single spinning-wheel. The productivity in this case is brought about precisely by the amount of capital employed as machinery. The ratio of the wear and tear of the machinery affects only the commodity; the worker confronts the total amount of machinery and similarly the value of the capital laid out in labour confronts the value of the capital laid out in machinery."

Anyone who has ever done a day's work in their lives can recognise the basic truth of this. Marx goes on to expand on the fact that, as machinery becomes cheaper, capitalists will introduce more of it:

"There can be no doubt that machinery becomes cheaper, and this for two reasons: [1] The application of machinery to the production of raw materials from which the machinery is made. [2] The application of machinery in the transformation of these materials into machinery. In saying this, we already say two things. Firstly, that in both these branches, compared with the instruments required in the manufacturing industry, the value of the capital laid out in machinery also grows as compared with that laid out in wages. Secondly, what becomes cheaper is the individual machine and its component parts, but a system of machinery develops; the tool is not simply replaced by a single machine, but by a whole system, and the tools which perhaps played the major part previously, the needle for example (in the case of a stocking-loom or a similar machine), are now assembled in thousands. Each individual machine confronting the worker is in itself a colossal assembly of instruments which he formerly used singly, e.g. 1,800 spindles instead of one. But in addition, the machine contains elements which the old instrument did not have. Despite the cheapening of individual elements, the price of the whole aggregate increases enormously and the productivity consists in the continuous expansion of the machinery."

When one takes these shatteringly obvious observations into account, it is difficult to imagine how anyone could claim that the devaluation of constant capital can offset the fundamental processes that raise the proportion of constant capital in relation to variable capital and bring about the tendency for the rate of profit to fall. But there is more to constant capital than machinery. Constant capital comprises more than its fixed component of machinery and buildings; it also includes raw materials, what Marx calls the circulating component of constant capital.

What impact does the cheapening of raw materials have on the overall picture of capital's progress towards crisis? Here Marx insists on another simple point: the amount of raw materials used must grow with the productivity of labour. He is aware of the objection that this growth in the physical volume of the materials could be cancelled out by the fact that rising productivity will reduce the value of these materials, but answers:
Raw materials such as skins, etc., and other animal products become dearer partly because the insipid law of rent increases the value of these products as civilisation advances.\footnote{23}

To understand the meaning of this, remember that for Marx, rent is a deduction from profit, charged by a landlord for the use of his land. As the gross profit rises in the course of capitalism's advance, the rent on the land that gives up these products rises. Their price rises as a result. Marx also deals with key raw materials, like oil today, which have to be extracted from the land. He says:

\footnote{As far as coal and metal (wood) are concerned, they become much cheaper with the advance of production; this will however become more difficult as mines are exhausted, etc.?24}

This has such obvious relevance that no further comment is necessary here, except to observe that as industrial development expands, demand rises for oil because it powers the mechanical processes at the heart of capital's drive to increase constant capital (machines) at the expense of variable capital (people). The rise of capitalism in the East has pushed oil and raw material prices up, not down (although the recession that will doubtless follow the crisis of 2008 could of course so depress production as to bring the oil price back down somewhat).

Nevertheless, some types of land are different from those that contain key raw materials like coal, oil, crops and ore. Some land has a higher value not because of its natural treasures but because of its location?its proximity to big money and rich people. As we explained earlier, rent is in very general terms a deduction from profit?and the \textit{price} of land is nothing more than an attempt to posit the value of future rent as capital?what today's surveyors and property finance parasites call the \textit{capitalisation} or \textit{securitisation} of rental income. When commercial land rises in value, it is fundamentally because average profits are rising?when commercial land falls in value, it is because profits are falling.

If land has a locational advantage, then its price rises differentially in relation to the average land value. Higher rent based on the natural properties and treasures of the soil are of course consequences of the value of the precious items they contain. But at the same time, the higher value of land which is close to big cities, financial centres, centres of production and so on?like the land close to the newly developed coastal cities of China?is caused by their location. This means that the higher rents on this land do not merely reflect the value of the materials they contain, but actually serve to increase them. So the very consequences of capitalist development?including some of its most significant and powerful trends, like urbanisation?itself offset the process of the cheapening of raw materials, giving rise to strong tendencies towards inflation in the prices of oil, food and wood.

Marx explains this very clearly:

\footnote{While it can be said with regard to corn-rent and mine-rent that they do not increase the value of the product (only its market price) but are rather the expression of the value of the product (the excess of its value over the production price), there is, on the other hand, no doubt that animal rent, house rent, etc., are not consequences but causes of the increasing values of these things.?25}

So what does this mean for our overall theory of crisis? That the devaluation of the circulating component of constant capital?raw materials and semi-manufactured goods?cannot have sufficient effect to block the rise of constant capital in proportion to variable capital forever, and therefore cannot obstruct the tendency to falling profit rates forever. What is more, if you make a profit from selling oil, the cheapening of oil is hardly going to offset the tendency for your profit to fall:

\footnote{The cheapening of raw materials, and of auxiliary materials; etc., checks but does not cancel the growth}
in the value of this part of capital. It checks it to the degree that it brings about a fall in profit.\textsuperscript{26}

And with that, Marx concludes his discussion of how the devaluation of constant capital supposedly rescues capitalism from crisis:

\textit{This rubbish is herewith disposed of.}\textsuperscript{27}

**Marx’s Law and the Crisis of 2008**

In conclusion, the law of capital accumulation and breakdown is central to understanding not only the general course of capitalist development, but also the current crisis of 2007-08.

The current financial crisis is a product of the overaccumulation of capital, culminating in an unsustainable expansion of credit and a breakdown of accumulation. Exactly as Marx observed in his own day and predicted for future crises, this has led to a seismic process of devaluation of capital. The growth of fictitious capital is a product of the LTRPF and overaccumulation in surplus value producing sectors; but it is no aberration, no weird departure from the \textit{normal}\textsuperscript{28} course of \textit{pure}\textsuperscript{29} capitalist development. It is a necessary, indeed an essential, element of capital accumulation. It is inseparable from capitalism.

The growth of inflationary pressures is also a product of overaccumulation of capital in the fast developing Asian capitalist countries. Today do we not see, as a result of the vast expansion of capitalist production in China, not merely the initial effect of lowering of the value of constant and variable capital in the west, but ultimately a massive pressure towards the increase in the value of raw materials, of food and fuel, as land values (capitalised rent) and food prices rise in China, as demand and \textit{exhaustion}\textsuperscript{30} of natural resources push the price of oil and metals sky high? And it is precisely the working through of these contradictions which has brought the initial deflationary effect of Asian development to an end, making the 2007-08 crisis sharper than the last, restricting the ability of the central banks to extend endless credit, and, in turn, bringing the world economy into crisis: demonstrating again both the explanatory power of Marx’s analysis and the fundamental contradictions of the capitalist system.

The countervailing tendencies have failed to postpone crisis indefinitely. Elements of crisis-driven devaluation seen so far include; ruptures in the circuit of capital (drying up of credit lines); falling asset values including loans, real estate and equities; the onset of falling levels of consumption; the devaluation of the dollar; inflation as a form of devaluation (reduction of the value of wages). It is not just in theory that we can show how none of the countervailing tendencies can permanently to offset the fundamental tendency to breakdown. So far we have expressed this in purely theoretical terms. But our abstract argument can rely on concrete proof. Real crises (of differing length and depth) occur in every capitalist economy every seven to 10 years. We will now go on to examine why and how this happens.

**The capitalist cycle**

While fully appreciating the status of the LTRPF, we must recognise it as one key driver of overaccumulation and crisis but not the only one. At the concrete level, it is its interaction with the turnover of fixed capital, circulation time, disproportions between the departments of production and finance capital\textsuperscript{’}s sponsorship of fictitious capital which causes real crises.

Marx identifies the turnover time of fixed capital ? the depreciation of plant and machinery and thus the period over which the value already contained in it is unlocked, transferred to other commodities in production and circulated ? as a key factor shaping the timescale of the regularly recurring industrial cycles in capitalism. As the cycle develops, the organic composition of capital rises, so as manufacturing capitalists approach the need to replace fixed capital they do so under conditions of greater pressure on profit rates. The need to replace large-scale fixed capital is also a key driver of credit. So is the need for
cash flow while capital is in circulation. Capital needs to be pushed ever faster through the circulation process so that it can get back to its job of valorising other capitals by being expended on labour-time. Marx observes that "the contradiction of labour time and circulation time contains the entire doctrine of credit." 28

Increasingly, for such large-scale and long term investments, the capitalist cannot rely on retained profits or inter-enterprise loans and has to turn ever more to bank loans. The proliferation of complex loan derivatives and other instruments at the same time is driven by overaccumulation and lower profit rates in manufacturing and ? as we see today - directs ever more of the manufacturing companies' overall investment into speculation in the capital and real estate markets. Towards the end of the upswing of the cycle, demand for credit drives the price of commercial loan capital (interest) ever higher. This, and the expansion of fictitious capital, give rise to credit and banking crises as the upswing of the cycle comes to a sudden end.

Why should the turnover of fixed capital appear to take place on a relatively correlated timescale? Why does a greater proportion of fixed capital near the end of its depreciation at the same time? Is not the process by which individual capitalists make large-scale investments in fixed capital so varied, and the outcome of so many individual decisions by different competing capitalists, that no time pattern ought to emerge?

One answer lies again in the nature of the turning point of the cycle. Overaccumulated capital must be devalued in a crisis. A recessionary phase then follows in which stocks are sold off or dumped, fixed capital is scrapped, unprofitable enterprises are closed, workers are laid off. In this phase, a collapse will occur in demand ? prices will fall for capital goods, wages will fall, interest rates will tend to be low. It is from this recessionary environment that a new recovery phase of the cycle emerges: conditions favourable for large scale investments in fixed capital. This explains why a relatively high proportion of such investments takes place at this time ? giving an overall temporal pattern to the upswing of the cycle.

We should note here ? of great importance for perspectives and an understanding of the broader curve of development across the cycles which we will examine later ? that the turnover time of fixed capital can only explain the timescale of the upswing of the cycle from recovery phase to crisis relatively accurately; indeed they average between 7 and 10 years, though there can be exceptions when national cycles are interrupted by external events such as major shifts in other countries' economies, war, famine and so on. The duration and destructive intensity of the crisis and recessionary phases, however, are not governed by the turnover time of fixed capital and are therefore far less predictable. They are governed by the geopolitical situation, including the subjective policy actions of governments, financial institutions and social classes: they depend on the extent to which capital is successfully devalued, and the extent to which, in the ensuing recovery phase of the cycle, capital accumulation can be resumed at relatively low organic composition.

It is not true to argue, as some have done, that in Marx there is no theory of the cycle. In Volume Three of Capital, Marx sets out ? in unavoidably abstract and simplified terms ? how a cycle of capital accumulation and breakdown occurs, through the interplay of fixed capital formation, the introduction of technological improvements, rising organic composition of capital, rising wages29 and employment levels, rising demand, prices and interest rates, increasing interest-bearing loans to companies, expansion of fictitious capital, overaccumulation culminating in a speculative frenzy and, finally, a crisis in which values return suddenly to highest quality money and an attendant violent devaluation of capital.

Phases of the capitalist cycle
As we have seen, the crisis or crash phase of the cycle is followed by a phase in which production
stagnates. Outputs are drastically reduced and profit rates will typically be low. Clearance of existing stock at low prices and rising unemployment will push prices and wages down; demand for consumer goods and capital will be greatly curtailed?including demand for credit. After the traumatic devaluations of the preceding phase, capitalists will make cautious changes to their technological and organisational systems, impacting directly on costs and prices. The way is cleared for the resumption of expanded accumulation in a recovery phase.

The recovery sees capitalists take advantage of the opportunities presented by low wages and cheap widely available credit. The organic composition of capital will have fallen (relative to the earlier phase at the height of the preceding boom, though not necessarily in relation to analogous recovery phases of past cycles), and therefore profit rates will begin to revive. Surplus labour drawn from the unemployed?reserve army of labour?can be hired cheaply. Constant capital (including fixed capital like machinery and circulating capital like raw materials) can be bought up at low prices. As discussed above, conditions are optimal for large-scale investment in long term fixed capital. This conditions both the timescale of the cycle and, because employment will expand earlier and more extensively at this stage in?Department 1?, introduces an element of disequilibrium between Departments 1 and 2 as demand in the consumer and wage goods sectors will expand faster than supply.

In this recovery phase, many capitalists, having reverted to the most dependable forms of cash in the crisis and recession, will have plenty of money and demand for bank loans will be relatively low, keeping interest rates down. Once stocks accumulated in the crisis and stagnation phase have been sold off, production resumes and prices can once again begin to rise. Profits begin to grow. Those investments which are financed by loan capital will expand real capital accumulation over the years ahead and leave no shortfall in returns for the lenders. Profit rates will tend to vary more between enterprises at this stage of the cycle, as the power of the bank lenders and stock holders to equalise profit rates is not yet deployed as forcefully as at later stages in the cycle.

As income from circulating commodity sales picks up, demand both for goods and money revive; supply expands in consumer and wage goods to meet strengthening demand; the stage is now set for a new phase of expansion based on credit.

As profits, rent and interest are now rising, and as consumer goods production is now expanding, confidence begins to be restored across the economy. Investors and manufacturers alike anticipate further expansion of profit. Expansion occurs, but in conditions in which the absence of overall economic planning in the capitalist mode of production is starkly exposed. Surplus stocks and indeed surplus productive capacity near exhaustion?further large scale investment is needed, circulation time and lock up of capital must be reduced as far as possible, new supply lines of fixed and circulating constant capital must be established. Prices rise; surplus cash in companies comes under pressure.

So bank lending takes off and the credit system comes once again to the fore. Confidence is so high, and the expectation of future rises in profit is so great, that the income stream from revenues that have increased in price over the last years?like mortgage payments, rent, loans and so on?can themselves be circulated as forms of credit (?collateralisation? or ?securitisation?). Fictitious capital begins to expand apace, faster than the real values on which it is based. Now the hand of the lenders has been strengthened sufficiently for a major impulse to be given to the equalisation of the rate of profit. Competition for loans rises sharply, so every intended borrower has to show the best possible conditions for profit maximisation and realisation. But the reserve army of labour is contracting and labour shortages arise. Demand for migrant labour increases; wages of skilled and organised workers rise. A massive expansion of fixed capital occurs as new workplaces spring up?so do new forms of credit and
speculation. A new phase opens, the last phase of the upswing: a phase of speculative frenzy.

There is in this phase far more money and other measures of value in circulation than there is underlying real value, i.e. real labour time embodied in real goods and services. Frauds, swindles and scandals multiply. Wages rise to historic highs and the economy comes close to full employment; though the mass of profit is vast, profit rates come under increasing pressure ? especially for new investments ? and threaten to impact on the mass of profit itself. Overaccumulation of capital drives huge volumes of surplus capital into shares, export of capital, real estate, complex instruments of every type. Clear signs start to emerge of serious disequilibria in the fabric of the system: disproportions between the rate of development of different countries through the system of world trade; balance of payments crises; disproportions between the two departments of production; rising prices of key raw materials; labour shortages; soaring rental values; a mass of credit-backed instruments circulating out of all proportion to real value; volatility in stock prices; intense anxiety over the rate of interest. The system appears to be trying to slake its thirst with salt water. The credit bubble seems set to burst ? the system can prescribe only further credit expansion as the remedy.

As Marx explains:

?After the reproduction process has again reached that state of prosperity which precedes that of over-exertion, commercial credit becomes very much extended; this forms, indeed, the ?sound? basis again for a ready flow of returns and extended production. In this state the rate of interest is still low, although it rises above its minimum. This is, in fact, the only time that it can be said a low rate of interest, and consequently a relative abundance of loanable capital, coincides with a real expansion of industrial capital. The ready flow and regularity of the returns, linked with extensive commercial credit, ensures the supply of loan capital in spite of the increased demand for it, and prevents the level of the rate of interest from rising. On the other hand, those cavaliers who work without any reserve capital or without any capital at all and who thus operate completely on a money credit basis begin to appear for the first time in considerable numbers. To this is now added the great expansion of fixed capital in all forms, and the opening of new enterprises on a vast and far-reaching scale. The interest now rises to its average level. It reaches its maximum again as soon as the new crisis sets in. Credit suddenly stops then, payments are suspended, the reproduction process is paralysed, and with the previously mentioned exceptions, a superabundance of idle industrial capital appears side by side with an almost absolute absence of loan capital.?30

This crisis phase of the cycle is long predicted, inevitable and yet a terrible surprise both to the beneficiaries and the victims of the system. Marx recorded how:

?Business always appears almost excessively sound right on the eve of a crash. The best proof of this is furnished, for instance, by the Reports on Bank Acts of 1857 and 1858, in which all bank directors, merchants, in short all the invited experts with Lord Overstone at their head, congratulated one another on the prosperity and soundness of business ? just one month before the outbreak of the crisis in August 1857?Business is always thoroughly sound and the campaign in full swing, until suddenly the debacle takes place.?31

We can add to this how president Calvin Coolidge declared the US economy to be in its best condition ever in December 1928 (!), and how the first quarter of 2007 saw business confidence at an unrivalled high in the USA and Britain, with every journalist singing the praises of the new paradigm of crisis free development, with ?Chinamania? everywhere, and with even some on the left succumbing to this model of a new long boom, free of significant cyclical disturbance.32

The onset of crisis is sudden only in its form of appearance. Though its physiognomy and dynamic have
emerged directly from the historically constituted unfolding of the preceding phases, a dramatic event brings it into the popular consciousness of the social classes: a currency run, a banking crisis, the collapse of a bank, a stock exchange meltdown or some such incident. That "irrational exuberance" which is the inevitable and organically determined psychology of the preceding phase is transformed into its opposite as surely as a drunken euphoria becomes a violent hangover. As credit lines break, bankers charge ever more for loan capital or withdraw it altogether. Suddenly the fictitious nature of untold investments is sickeningly clear. There is a dash for real money.

Marx sums up the overall pattern of the cycle in a passage in Volume Three of Capital. He starts by demonstrating how the main underlying driver of the crisis lies in production, and then shows that, because the crisis is expressed first in the finance system, it appears as if it is in essence a crisis of credit and money rather than of the "underlying economy":

The industrial cycle is of such a nature that the same circuit must periodically reproduce itself, once the first impulse has been given. During a period of slack, production sinks below the level which it had attained in the preceding cycle and for which the technical basis has now been laid. During prosperity ? the middle period ? it continues to develop on this basis. In the period of over-production and swindle, it strains the productive forces to the utmost, until it exceeds the capitalistic limits of the production process.

It is clear that there is a shortage of means of payment during a period of crisis. The convertibility of bills of exchange replaces the metamorphosis of commodities themselves, and so much more so exactly at such times the more a portion of the firms operates on pure credit. Ignorant and mistaken bank legislation, such as that of 1844-45, can intensify this money crisis. But no kind of bank legislation can eliminate a crisis. In a system of production, where the entire continuity of the reproduction process rests upon credit, a crisis must obviously occur ? a tremendous rush for means of payment ? when credit suddenly ceases and only cash payments have validity. At first glance, therefore, the whole crisis seems to be merely a credit and money crisis. And in fact it is only a question of the convertibility of bills of exchange into money. But the majority of these bills represent actual sales and purchases, whose extension far beyond the needs of society is, after all, the basis of the whole crisis. At the same time, an enormous quantity of these bills of exchange represents plain swindle, which now reaches the light of day and collapses; furthermore, unsuccessful speculation with the capital of other people; finally, commodity-capital which has depreciated or is completely unsaleable, or returns that can never more be realised again. The entire artificial system of forced expansion of the reproduction process cannot, of course, be remedied by having some bank, like the Bank of England, give to all the swindlers the deficient capital by means of its paper and having it buy up all the depreciated commodities at their old nominal values. Incidentally, everything here appears distorted, since in this paper world, the real price and its real basis appear nowhere, but only bullion, metal coin, notes, bills of exchange, securities. Particularly in centres where the entire money business of the country is concentrated, like London, does this distortion become apparent; the entire process becomes incomprehensible; it is less so in centres of production.33

This is sufficient to explain both why George W. Bush and the Governor of the Bank of England persistently sought to assure the markets and the public that "the fundamentals are sound" during the summer 2007 credit crunch, and why various revisionists, seeking to avoid the consequences of Marx's theory of overaccumulation and breakdown, insist even now that the credit crisis of 2007 is not rooted in underlying weaknesses in production.36

The crisis phase may at first appear to be nothing more than a crisis of money and credit, but it is a direct product of overaccumulation of capital. It directly impacts on real production because it compels the bourgeois to withdraw value from circulation. On the eve of the crisis, Marx reminds us in Volume 1 of
Capital:
?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 pants the hart after fresh water, so pants his soul after money, the only wealth.?

This sudden dash for cash and withdrawal of value from circulation is in and of itself a form of devaluation.

To understand this, let?s take a moment to ask ourselves how capital can be devalued? in the first place. After all, if in Marx?s labour theory of value the value of a commodity is based on the socially necessary labour time expended in its production, then how can a commodity be devalued?? The answer is that it can happen if, despite the measure of its value, something ceases to act as value. This can only be understood if we remember that to be a commodity a thing must have a use value as well as an exchange value. A factory may have taken years of socially necessary labour time to build, but if it is abandoned in a recession, it ceases to act as capital. The same is true for all ruptures in the circuit of capital.

This is another reason why it is essential to remember that capital is a relation, a flow, rather than a thing?. So the dash for cash and withdrawal of value from circulation is a means by which capital is devalued. What is more, it has the direct effect of interrupting returns, leading to stocks being dumped on glutted markets, closure and scrapping of factories and machinery, rotting of raw materials and mass job losses. This insanity is the inevitable outcome of the inherent disequilibrium of capital accumulation. Its source is not the underconsumption of the masses or the disproportional development of departments of production, critical as these are in aggravating crisis and unfolding discrete phases of the cycle. Its deepest origin is in the contradiction lodged within production. The wage-labour capital relation itself bears the seeds of crisis:

?The growing incompatibility between the productive development of society and its hitherto existing relations of production expresses itself in bitter contradictions, crises, spasms. The violent destruction of capital not by relations external to it, but rather as a condition of its self-preservation, is the most striking form in which advice is given it to be gone and to give room to a higher state of social production.?

Conclusion
Marx?s theory therefore identifies the fundamental source of capital?s instability and crises as lying not in external factors but within capital itself. It provides a uniquely coherent explanation not only of the timescale and pattern of economic cycles, but of the deep causes of crises of devaluation. As we have seen, the phase of uncontrolled expansion immediately preceding each crisis brings with it a bourgeois ideology of over-exuberance, in which the systemic roots of crisis are denied and capital declares the cycle and its instability to be things of the past, the product of external policy causes or social immaturities that it has itself cured. And every time its overconfident claims are dashed.

Yet the crisis itself by no means spells the doom of bourgeois ideology. Both inflation and deflation (recession) carry with them the bourgeoisie?s own multifarious ?explanations?. Neo-Mathusians claim that crises are caused by overpopulation ? too many proletarians and peasants. All bourgeois agree that inflation is caused by wages being too high?; all agree that unemployment is caused by too many employed workers driving enterprises into unprofitability.

All these theories invert reality ? all focus on the supposed overaccumulation of labour rather than the overaccumulation of capital. Yet all are rational, from the standpoint of capital. Their irrationality attests to the irrationality of capital itself. It is the abolition of capital that Marx?s theory points towards: as a necessity for labour, and as the logical outcome of the unfolding of capital?s inner contradictions.
This abolition may be determined by historical necessity but it will only be effected as a conscious act of organised labour. It is this historical peculiarity that makes the victory of the class struggle of labour both unprecedentedly difficult and uniquely promising for humanity. The difficulty derives from the simple fact that as an exploited class owning nothing but the commodity labour-power, no alternative proletarian mode of production can grow up within the interstices of capitalism, in the way capitalism could grow up in the trading cities of feudalism in Europe. This fact alone demands of the working class conscious political organisation wholly independent of capital.

Yet it is this fact too that makes the modern proletariat a class objectively struggling for more than its own improvement within the system. Because the working class owns no property, its emancipation carries with it the necessity of the abolition of private property and the establishment of a new mode of production based on associated labour. This implies the emancipation of all humanity from its prehistory. The modern proletariat is thus, in Marx's words, the universal class. Capital's creation of this class in greater numbers and more widely spread across the globe than ever before is therefore both its basic civilising mission, and its doom.

Endnotes
1 K. Marx, Das Kapital, Volume 3, translated from the German edition in Marx Engels Werke (MEW) 25, p. 223 (emphasis in original) 
2 K. Marx, Grundrisse, 1973, p.748
3 ibid
4 ibid
5 ibid
6 ibid
7 ibid
8 ibid, op.cit, pp.749-750
9 ibid op.cit
12 K?Marx, Grundrisse, op.cit, p.750
13 We will not, for example, examine the Okishio Theorem in this article. This, first set out in Japanese economist N. Okishio's 1961 paper 'Technical Change and the Rate of Profit?, and related attempts to disprove? the law logically, are founded on a critique not of Marx's categories but of categories that have been adjusted to conform to bourgeois economic dogma the (equivalence of inputs and outputs, and the assumption of simultaneity of inputs and outputs). The vulgarised formulae are then shown to be incoherent ? and this is supposed to pass for a logical disproof of Marx. As Andrew Kliman ? a leading proponent of the Temporal Single System Interpretation school ? has argued in his compelling recent book Reclaiming Marx?s Capital ? A Refutation of the Myth of Inconsistency, Okishio?s non-critique, various other Sraffian attacks on the LTRPF and all these analogous attempts to introduce bourgeois harmonist assumptions into Marx and then ?prove? his system incoherent originate in L. von Bortkiewicz?s September 1907 article 'Value and Price in the Marxian System?, translated into English in International Economic Papers no. 2, 1952. Other prominent writers who support the TSSI interpretation and rebuttal of Okishio include Alan Freeman and arguably Guglielmo Carchedi, the latter showing how Okishio ?goes no further than the view of the individual capitalist for whom increases in labour?s productivity mean increases in the rate of profit and who cannot understand why, if everybody ?produces more value?, the average rate of profit can fall.? (Frontiers of Political Economy, London 1991, p.140)
14 N Moszkowska, Das Marxcsche System, 1929, p118.
15 Paul Sweezy, Theory of Capitalist Development, p. 104
29 The fact that Marx recognises that wages sometimes rise is lost on generation after generation of bourgeois ideologues, who lazily claim that Marx believed wages always fall. Disproof of this so-called 'Marxist Theory' is used by one common economics textbook as a reason why Marx should not even be studied on economics courses. The textbook's name is perhaps revealing: Economics for Dummies.

30 Capital, vol 3, p.488
31 Ibid p.485
32 I cannot help but raise a dissenting voice to statements that we are living in a fool's paradise, and that prosperity in this country must necessarily diminish and recede in the near future. E. H. H. Simmons, President, New York Stock Exchange, January 12, 1928
33 There will be no interruption of our permanent prosperity. Myron E. Forbes, President, Pierce Arrow Motor Car Co., January 12, 1928
34 No Congress of the United States ever assembled, on surveying the state of the Union, has met with a more pleasing prospect than that which appears at the present time. In the domestic field there is tranquility and contentment; and the highest record of years of prosperity. In the foreign field there is peace, the goodwill which comes from mutual understanding.
35 Calvin Coolidge December 4, 1928
36 When the financial and business history of 1929 is finally written, developments of the past fortnight will occupy a prominent place in what will doubtless be the chronicle of an exceptionally brilliant twelve month period.
37 New York Times, July 1929
38 It becomes increasingly evident that, in many respects, 1929 will be written into the commercial history of the country as the most remarkable year since the World War in point of sustained demand for goods and services.
39 New York Times, August 1929
40 Keith Harvey, for example, writes on permanentrevolution.net that: Banks have not speculated in this form of lending because there were no profitable outlets in productive industries. On the contrary, US corporations have been enjoying historic levels of profits this century. (Emphasis added) Of course this is a non sequitur. The growth of the mass of corporate profit in no way negates the notion that pressure on profit rates in productive industry drives the banks into ever more rarified forms of credit and speculation. For more see http://www.permanentrevolution.net/?view=entry&entry=1889 [1]
41 K. Marx, Capital, Volume 3 p483
42 K. Marx, Grundrisse p750
Links: