Draft document:

What is overproduction?[1]

By Jeppe Druedahl

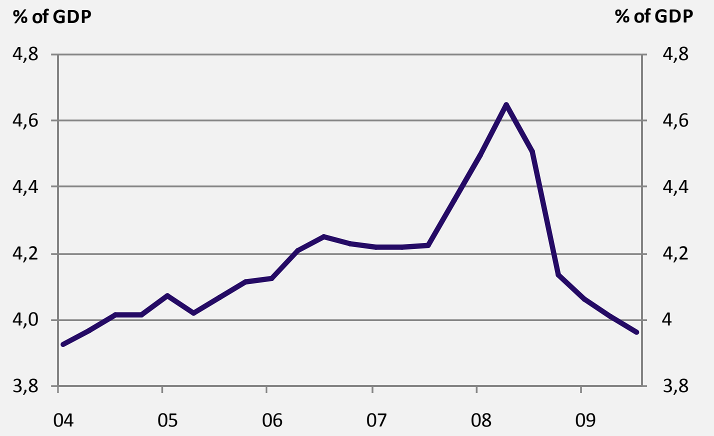
In 1848 Marx and Engels gave a very precise *description* of the nature of capitalist crisis in the Communist Manifesto:

“In these crises, there breaks out an epidemic that, in all earlier epochs, would have seemed an absurdity – the epidemic of over-production. Society suddenly finds itself put back into a state of momentary barbarism; it appears as if a famine, a universal war of devastation, had cut off the supply of every means of subsistence; industry and commerce seem to be destroyed; and why? Because there is too much civilization, too much means of subsistence, too much industry, too much commerce.”

The account of capitalist crisis as crisis of overproduction is as true today as it were in the 19th century. A quick glance at the US economy - the largest capitalist economy ever - shows that overproduction is exactly what we have witnessed in the last couple of years. Overproduction have here appeared both in the form of crammed inventories, massive over-capacity and in an explosion of unemployment.

Figure 1 shows that US private inventories from 2004 to the end of 2007 grew faster than total consumption measured by GDP. The ratio of inventories to GDP rose from just below 4.0 % in the beginning of 2004 to 4.6 % in the end of 2007. Since then the inventories has been reduced by 104 billion dollars’ worth of commodities. In all former societies prior to capitalism crisis were the results of failed harvests, wars or other catastrophes which all resulted in a collapse of production – they were *crisis of underproduction*.

Figure 1. US private inventories in percent of GDP

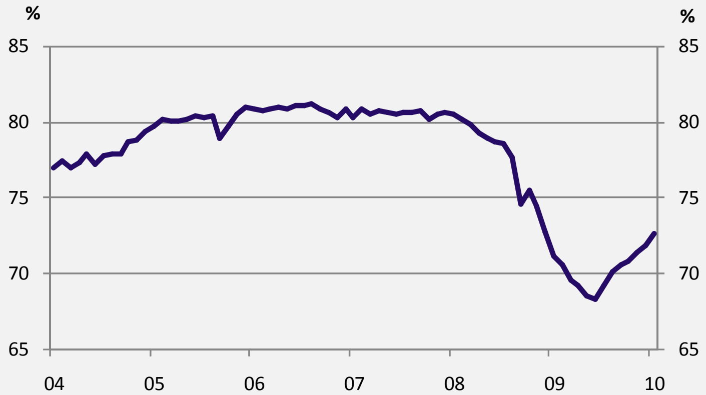


Source: U.S. Bureau of Economic Analysis (BEA)

[1] I owe a lot to Mick Brooks for numerous correspondences. Especially his article “Marxist theory of crisis” (online at http://www.socialist.net/marxist-theory-crisis.htm) is worth mentioning even though the articles differ in at least their angles to the subject. But without Mick’s article this article had not been possible. I am of course the only one responsible for the content of this article – including possible errors and inexactitudes.

Figure 2 shows very clearly that there are too many forces of production for the purpose of *capitalist* production. Today only just above 7 out of 10 machines are used in the American industrial sector. The rest is just left idle. They cannot serve the purpose of capitalist production; to make profit. This is an enormous waste for society. All in all the idle machines are able to produce above 1 trillion worth goods per year.

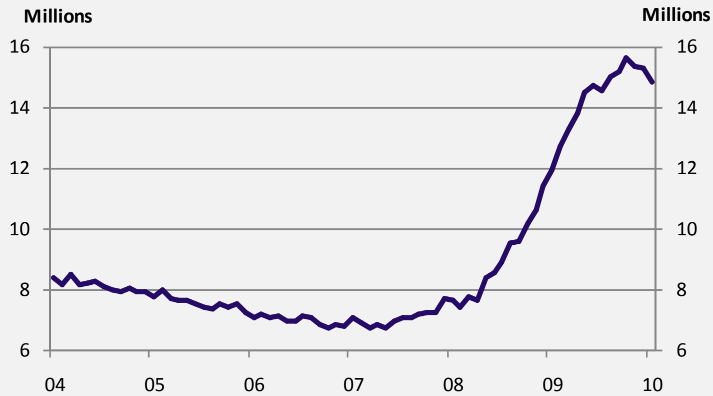
Figure 2. US capacity utilization



Source: The US Federal Reserve Board (FED)

And figure 3 show that there are even enough hands to feed, overview and control the machines. The official level of unemployment has thus jumped by almost 10 million in the last two years.

Figure 3. US official unemployment



Source: U.S. Bureau of Labor Statistics

To talk with Marx; there is too many commodities, too many machines and too many workers.

But Marxists are never satisfied with just "there is", we also want to know "why there is". Over-production has been a part of capitalism since its very inception. But in practice both of the great classical economists Adam Smith and David Ricardo denied its existence. Instead they relied on what is now known as Say's Law. In short Say's Law states that aggregate demand always equals aggregate supply; that the seller is always also a purchaser. Even today the adherents of bourgeois real business cycle theory openly accept Say' Law (clearly "real" here has nothing to do with reality). I return to this question later.

In the mainstream book The Economics of the Great Depression published in 2009, the bourgeois economist Randell E. Parker is totally perplexed by the existence of overcapacity and therefore overproduction:

"The Great Depression was (and in many ways) remains a great puzzle as there were millions of the world's citizens who wanted to consume more housing, food and clothing; and producers by the hundreds of thousands who wanted to manufacture more housing, food and clothing and yet the two sides could not get together. Why? What was preventing these economically improving, mutually beneficial exchanges from taking place? What was it that prevented people from working and producing more? … At this moment, (the answer) remains largely unknown."[2] (Parker, The Economics of the Great Depression)

But actually Marx gave the answer in Capital almost 150 years ago. Actually this was one of his great academic achievements. Let us take a walk in his footpath.

Marx' method in Capital

Marx never lived to write the book on scientific method of which he dreamed. But in a foreword to one of his preparatory works for Capital we find some very interesting material:

"It seems to be correct to begin with the real and the concrete, with the real precondition, thus to begin, in economics, with e.g. the population, which is the foundation and the subject of the entire social act of production. However, on closer examination this proves false. The population is an abstraction if I leave out, for example, the classes of which it is composed. These classes in turn are an empty phrase if I am not familiar with the elements on which they rest. E.g. wage labour, capital, etc. These latter in turn presuppose exchange, division of labour, prices, etc. For example, capital is nothing without wage labour, without value, money, price etc." (Grundrisse, p. 100)

Exactly the same could be said of overproduction. Without a theory behind it is just a chaotic conception no matter how materially real it is. Marx continues:

"Thus, if I were to begin with the population, this would be a chaotic conception of the whole, and I would then, by means of further determination, move analytically towards ever more simple concepts, from the imagined concrete towards ever thinner abstractions until I had arrived at the simplest determinations. From there the journey would have to be retraced until I had finally arrived at the population again, but this time not as the chaotic conception of a whole, but as a rich totality of many determinations and relations. (…) The latter is obviously the scientifically correct method. The concrete is concrete because it is the concentration of many determinations, hence unity of the diverse. It appears in the process of thinking, therefore, as a process of concentration, as a result, not as a point of departure, even though it is the point of departure in reality and hence also the point of departure for observation and conception. (Grundrisse, p. 100-101)

Due to this method where we begin at abstract categories and then ascend towards the concrete reality, Capital take off very far from overproduction and instead focuses on abstract categories of use and exchange values evolving into concepts of variable and constant capital, surplus value

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[2] Thanks to Michael Roberts for making me aware of this quote.

etc.Here we will not trace this development and therefore the following presupposes a basic knowledge of Marxist economic theory[3].

Local and general overproduction

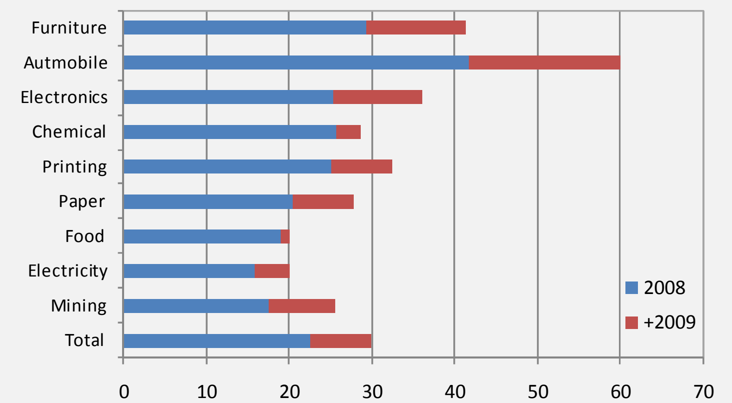
Before we begin our inquiry, however, we have to differentiate between *local* and *general* overproduction. Local overproduction is simply that too much is produced of a specific commodity in a specific market with a specific size. For example that there is produced more cell phones than there is demand for. (By demand and market size I here mean a need supported by purchasing power, i.e. money, some call this effective demand).

Local overproduction (like local underproduction) is possible in every mode of production where production and consumption of products does not directly coincide. Local overproduction is therefore also possible in a planned economy – especially in one ruled by an undemocratic bureaucratic caste as we saw in the Soviet Union. As central planners can misjudge demand, so can individual capitalists. But capitalists are much more likely to do it, because their basic motive is not to satisfy demand, but to attain profit.

The mechanism is simple. If for some reason or another there is a good profit to be made in a branch of production, capital will quickly flow into it (new firms will be created and the former ones will be enlarged) and too much will be produced. Likewise the classical behavior of a capitalist when a market is full is to try to cut prices and expand his share of the market – the motive again being making profit and not fulfilling demand. When all the capitalists competing in a given market do this simultaneously the result is clearly local overproduction.

General overproduction is, however, qualitative different from local overproduction. It is overproduction in every branch of production simultaneously. It is general overproduction that we have been seeing for the last couple years as clearly shown by the magnitudes in figure 1-3 and likewise in figure 4.

Figure 4. Overcapacity in major industrial sectors in US



Source: The US Federal Reserve Board (FED).

[3] See for example part three of “What is Marxism?” which is online at: http://www.marxist.com/what-is-marxism-economics-materialism.htm.

Now it is not possible to use the simple analysis from above. Dialectics teaches us that the whole is not always equal to the sum of its parts. Before we took demand and the market size as something fixed (as a given magnitude). This is not possible now when we look at the whole economy where everything is interrelated. When a commodity is produced this creates more demand from the wages paid to the workers and from the capitalist buying means of production (machines, tools and raw materials) in other branches of production. The market increases as production increases. The theoretical disproof of Says Law is not as simple as it could seem at first. We cannot take the experience of a single firm and then just extrapolate it to the whole economy.

All of his life Marx struggled to find a theoretical waterproof explanation of the necessity of general overproduction. After writing on the subject for more than fifty pages in Grudrisse (one of the unpublished preparatory works for Capital), Marx only concludes that at his level of analysis overproduction is "present only as *possibilities*, and are therefore suspended, again as *possibilities*. Therefore, the product now posited as having been transformed back into money." (Grundrisse, p. 447).The important chapter XVII of Theories of Surplus Value "Ricardo's Theory of Accumulation and a Critique of it. (The Very Nature of Capital Leads to Crises)" on exactly overproduction ends on almost the same lines.

Marx noticed the exact same problems which I have just noted. After having explained local overproduction Marx shows that we cannot directly turn this into a theory of general overproduction, because then we will have to explain why local overproduction is present simultaneously in a number of the leading branches in the economy:

"If over-production has taken place not only in cotton, but also in linen, silk and woollen fabrics, then it can be understood how over-production in these few, but leading articles, calls forth a more or less general (*relative*) over-production on the whole market. On the one hand there is a superabundance of all the means of reproduction and a superabundance of all kinds of unsold commodities on the market. On the other hand bankrupt capitalists and destitute, starving workers.

This however is a two-edged argument. If it is easily understood how over-production of some leading articles of consumption must bring in its wake the phenomenon of a more or less general over-production, it is by no means clear how over-production of these articles can arise. For the phenomenon of general over-production is derived from the interdependence not only of the workers directly employed in these industries, but of all branches of industries which produce the elements of their products, the various stages of their constant capital. In the latter branches of industry, over-production is an effect. But whence does it come in the former? For the latter [branches of industry] continue to produce so long as the former go on producing, and along with this continued production, a general growth in revenue, and therefore in their own consumption, seems assured." (Theories of Surplus, chapter XVII

I will return to the relation between local and general overproduction later on. In the following by overproduction I mean general overproduction unless else is mentioned. It was only in Capital that Marx made the final breakthrough.

The possibility of over-production

In all of volume I it is only in a small section of chapter 3 that Marx deals with overproduction (except by short reference) and this even without mentioning it by name. First of all he refutes Say' Law:

“Nothing can be more childish than the dogma, that because every sale is a purchase, and every purchase a sale, therefore the circulation of commodities necessarily implies an equilibrium of sales and purchases. If this means that the number of actual sales is equal to the number of purchases, it is mere tautology. But its real purpose is to prove that every seller brings his buyer to market with him. Nothing of the kind. The sale and the purchase constitute one identical act, an exchange between a commodity-owner and an owner of money, between two persons as opposed to each other as the two poles of a magnet.” (Capital, vol. I, p. 208)

Symbolically Marx explains that the circulation of capital can be perceived as M-C-M’ (money-commodity-more money). That is: the capitalist purchases means of production and labour power (M-C) and sells the produced commodity with a profit (C-M’). But the capitalist system is a complex whole where everybody depends upon on each other.

If capitalist I does not buy the means of production and does not hire a worker, who can then not buy means of subsistence, then capitalist II cannot sell his means of production to capitalist I and capitalist III cannot sell means of subsistence to the workers of capitalist I. And it continues, because when II and III cannot sell, then they cannot buy. It spread like ripples in a pond. As Marx explains in his final but very simple argument against Says Law: “No one can sell unless someone else purchases. But no one is forthwith bound to purchase, because he has just sold.” (Capital, vol. I, p. 208)

Basically Marx explains that this possibility of overproduction arises because the capitalist economy is not a barter economy, where commodities are exchanged with commodities. Commodities are exchanged with money. And money can be horded.

“If the interval in time between the two complementary phases of the complete metamorphosis of a commodity become too great, if the split between the sale and the purchase become too pronounced, the intimate connexion between them, their oneness, asserts itself by producing — a crisis. The antithesis, use-value and value; the contradictions that private labour is bound to manifest itself as direct social labour, that a particularised concrete kind of labour has to pass for abstract human labour; the contradiction between the personification of objects and the representation of persons by things; all these antitheses and contradictions, which are immanent in commodities, assert themselves, and develop their modes of motion, in the antithetical phases of the metamorphosis of a commodity. These modes therefore imply the possibility, and no more than the possibility, of crises. The conversion of this mere possibility into a reality is the result of a long series of relations, that, from our present standpoint of simple circulation, have as yet no existence.”(Capital, vol. I, p. 209)[4]

But what is this “long series of relations” that we need, to come from the possibility to the necessity and reality of overproduction?

The realization of surplus value

In volume II the subject is briefly touched upon in the discussions of the reproduction schemes, that is how capitalism always leads to localized over- and underproduction because of the anarchic

[4] Marx had already reached this conclusion many years earlier. In Grundrisse we read: “Thus already in the quality of money as a medium in the splitting of exchange into two acts, there lies germ of crises, or at least their possibility, which cannot be realized, except where the fundamental preconditions of classically developed, conceptually adequate circulation are present.” (Grundrisse, p. 198)

nature of the market. But nowhere is the necessity of general (as opposed to local) overproduction explained[5].

For this we have to wait until volume III where we can read the answer in the part on the law of the tendency for the rate of profit to fall in chapter 15 "Exposition of the Internal Contradictions of the Law".

Marx never finished volume III of Capital for publication, so after his death Engels had to patch together unfinished parts and notes. This also applies to chapter 15, which is full of repetitions and unfinished lines of argument. This makes the reading and interpretation of a complex subject even harder. Marx' basic ideas are, however, clear.

In the meantime since volume I Marx has developed his formula for the circulation of capital production to become slightly more complex. $\mathrm{M} - \mathrm{C} - \mathrm{M}'$ becomes

$$\mathrm{M} - \mathrm{C}[\mathrm{c}(\mathrm{pm}) + \mathrm{v}(\mathrm{lp})] \ldots \mathrm{Pr} \ldots \mathrm{C}'[\mathrm{c} + \mathrm{v} + \mathrm{s}] - \mathrm{P}'$$

where "$\mathrm{M} - \mathrm{C}[\mathrm{c}(\mathrm{pm}) + \mathrm{v}(\mathrm{lp})]$" constitutes that the capitalist buys means of production (pm) – he acquires constant capital (c) – and labour power (lp) – he acquires variable capital (v). Then production (Pr) undertakes with these forces of production and the output is then commodities with a total value of $\mathrm{C}' > \mathrm{C}$,which is equal to constant capital + variable capital + surplus value. Finally "$\mathrm{C}'[\mathrm{v} + \mathrm{c} + \mathrm{s}] - \mathrm{M}'$'" is the sale. This last step is the important one for us. Overproduction is exactly that some commodities are produced that cannot be sold, i.e. "$\mathrm{C}'[\mathrm{v} + \mathrm{c} + \mathrm{s}] - \mathrm{M}'$" cannot happen for them.

Marx argues as follows:

"As soon as all the surplus-labour it was possible to squeeze out has been embodied in commodities, surplus-value has been produced. But this production of surplus-value completes but the first act of the capitalist process of production — the direct production process. (…). Now comes the second act of the process. The entire mass of commodities, *i.e.* the total product, including the portion which replaces the constant and variable capital, and that representing surplus-value, must be sold. If this is not done, or done only in part, or only at prices below the prices of production, the labourer has been indeed exploited, but his exploitation is not realized as such for the capitalist, and this can be bound up with a total or partial failure to realize the surplus-value pressed out of him, indeed even with the partial or total loss of the capital." (Capital, vol. III, p.352)[6]

Overproduction can thus be viewed as a problem of realizing the value of the commodities. Overcapacity is in the same when production capacity is not used because the expectation is, that the surplus value in them will be able to be realized. This is what is sometimes called the realization problem (of value or surplus value). But what conditions this realization?

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[5] Actually Marx' most detailed discussion of crisis in volume II is a refutation of the underconsumptionist theory of crisis: It is a pure tautology to say that crises are provoked by a lack of effective demand or effective consumption" (Capital, vol. III, p. 486).

[6] This is the first in a long series of quotes from chapter 15 of Capital, vol. III. I hope that my text ease their understanding, but I recommend for everybody to read all of chapter 15 as it is in Capital. Many of the quotes are directly after each other, but I have divided them to make it easier to follow Marx' line of thought.

“The conditions of direct exploitation, and those of realizing it, are not identical. They diverge not only in place and time, but also logically. The first are only limited by the productive power of society, the latter by the proportional relation of the various branches of production and the consumer power of society.” (Capital, vol. III, p.352)

That is:

- The ***production of surplusvalue*** is only limited by how much there can be produced (“the productive power of society”)
- The ***realization of surplus value*** is limited by income, distribution and property, i.e. demand (“the proportional relation of the various branches of production and the consumer power of society”)

Marx further explains:

“But this last-named is not determined either by the absolute productive power, or by the absolute consumer power, but by the consumer power based on antagonistic conditions of distribution, which reduce the consumption of the bulk of society to a minimum varying within more or less narrow limits.“ (Capital, vol. III, p.352)

What Marx concludes here is simply that the wages of the workers (which equals the variable capital) and therefore the consumption of the workers (nothing is saved) are smaller than the value of the total product. That is $v<C'$. Or said in another way: the workers cannot buy back all that which they produce.

But the constant capital and surplus value (that is c+v) belongs to the capitalists, can they consume the remaining commodities?

“It [the realization of surplus value] is furthermore restricted by the tendency to accumulate, the drive to expand capital and produce surplus-value on an extended scale. This is law for capitalist production, imposed by incessant revolutions in the methods of production themselves, by the depreciation of existing capital always bound up with them, by the general competitive struggle and the need to improve production and expand its scale merely as a means of self-preservation and under penalty of ruin. (Capital, vol. III, p.352-353)

At first we can conclude from this that the private consumption of the capitalists (let us call this magnitude b) is smaller than the sum of the constant capital and the surplus value, i.e. $b<c+v$. Otherwise the capitalist would perish as a capitalist due to the competitive struggle. Secondly we can now conclude that if overproduction is to be avoided capitalist must make investments equal the value of the commodities which have not been privately consumed by either the workers or the capitalists.

Algebraically the required level of investment, if we call this I^*, is:

$$I^* = C' - v - b = (m - b) + c > 0.$$

If we leave the assumption that workers spend all their wages immediately and save absolutely nothing this has to be even higher.

The incentive for investment
But can we be sure that capitalists will invest for this required amount? Just before the paragraph we quoted above Marx notes something very important:

"It must never be forgotten that the production of this surplus-value — and the reconversion of a portion of it into capital, or the accumulation, forms an integrate part of this production of surplus-value — is the immediate purpose and compelling motive of capitalist production. It will never do, therefore, to represent capitalist production as something which it is not, namely as production whose immediate purpose is enjoyment or the manufacture of the means of enjoyment for the capitalist. This would be overlooking its specific character, which is revealed in all its inner essence." (Capital, vol. III, p.351-352)

Later on it is even clearer: "The rate of profit is the motive power of capitalist production. Things are produced only so long as they can be produced with a profit." (Capital, vol. III, p.368)

Or said in another way: Capitalists will not initiate production - they will not invest - if they are not getting a big enough reward in form of a high enough rate of profit. Overproduction is thus the direct result of the capitalist's greed for profit. It is because capitalism is a mode of production which is based on private property of the increasingly socialized forces of production that we have overproduction. This is the reason why capitalists stops to invest even though it in the interest of society.

Marx explains this brilliantly:

"If it is said that over-production is only relative, this is quite correct; but the entire capitalist mode of production is only a relative one, whose barriers are not absolute. They are absolute only for this mode, *i.e.*, on its basis. How could there otherwise be a shortage of demand for the very commodities which the mass of the people lack, and how would it be possible for this demand to be sought abroad, in foreign markets, to pay the labourers at home the average amount of necessities of life? This is possible only because in this specific capitalist interrelation the surplus-product assumes a form in which its owner cannot offer it for consumption, unless it first reconverts itself into capital for him. If it is finally said that the capitalists have only to exchange and consume their commodities among themselves, then the entire nature of the capitalist mode of production is lost sight of; and also forgotten is the fact that it is a matter of expanding the value of the capital, not consuming it. In short, all these objections to the obvious phenomena of over-production (phenomena which pay no heed to these objections) amount to the contention that the barriers of *capitalist* production are not barriers of *production generally,* and therefore not barriers of this specific, capitalist mode of production. The contradiction of the capitalist mode of production, however, lies precisely in its tendency towards an absolute development of the productive forces, which continually come into conflict with the specific *conditions* of production in which capital moves, and alone can move." (Capita, vol. III, p. 366)[7].

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[7] See also: "The *real barrier* of capitalist production is *capital itself.* It is that capital and its self-expansion appear as the starting and the closing point, the motive and the purpose of production; that production is only production for *capital* and not vice versa, the means of production are not mere means for a constant expansion of the living process of the *society* of producers. The limits within which the preservation and self-expansion of the value of capital resting on the expropriation and pauperisation of the great mass of producers can alone move — these limits come continually into conflict with the methods of production employed by capital for its purposes, which drive towards unlimited extension of production, towards production as an end in itself, towards unconditional development of the social productivity of labour. The means — unconditional development of the productive forces of society — comes continually into conflict

That overproduction is due to a lack of profit is clearly stated in Theories of Surplus Value:

"The word overproduction in itself leads to error. So long as a large part of the needs of society are not satisfied, or only the most immediate needs are satisfied there can of course be no talk of an overproduction of products, in the sense that the amount of products is excessive in relation to the need for them… The limits to production are set by the profit of the capitalist and in no way by the needs of the producers." (Theories of Surplus Value, p. 527)

Remembering this basic feature of capitalist society there is absolutely no reason why capitalists should want to investment an amount equal to$(m - b) + c$. There a no reason why overproduction should not arise at some point.

The limited solution of new markets

The only hope for the capitalist class is to find new markets for their goods. Marx explains this just after the series of quotes on the realization of surplus value I gave above:

"The market must, therefore, be continually extended, so that its interrelations and the conditions regulating them assume more and more the form of a natural law working independently of the producer, and become ever more uncontrollable. This internal contradiction seeks to resolve itself through expansion of the outlying field of production. But the more productiveness develops, the more it finds itself at variance with the narrow basis on which the conditions of consumption rest." (Capital, vol. III, p.352)

But this will always be a limited solution: An extended market for one capitalist is a contracted market for another. Of course there is always the possibility of sending commodities abroad to non-capitalist areas of the world, receiving money and thus solving the realization problem. But if you do not use this money to buy commodities from the area in question, whereby the two transactions in total will not have eased the realization problem of surplus value, then this area will quickly end up having no money at all. The solution is limited.

Marx therefore concludes:

"It is no contradiction at all on this self-contradictory basis that there should be an excess of capital simultaneously with a growing surplus of population. For while a combination of these two would, indeed, increase the mass of produced surplus-value, it would at the same time intensify the contradiction between the conditions under which this surplus-value is produced and those under which it is realized." (Capital, vol. III, p.352)

The tendency for the rate of profit to fall

We are, however, still lacking a piece in our puzzle. We need to show why profits must over and over again become too low for the taste of the capitalists and they therefore stop investing. And the piece is within reach. Chapter 15, as the only chapter in Capital which deals with overproduction in

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with the limited purpose, the self-expansion of the existing capital. The capitalist mode of production is, for this reason, a historical means of developing the material forces of production and creating an appropriate world-market and is, at the same time, a continual conflict between this its historical task and its own corresponding relations of social production." (Capital, vol. III, p.358) detail, is not located just anywhere in Capital. It is located in the part on the law of the tendency for the rate of profit to fall.

In short this law goes: As capitalism develops the amount of constant capital rises in relation to variable capital. Because labour power purchased with variable capital is the only part of capital which produce surplus value, the amount of surplus value falls in relation to the cost of the capitalists, this depresses the rate of profit unless there is an accelerating increase in the rate of surplus value. The law has many counteracting features (cheapening of the means of production is one of the most important ones) which we will not discuss here, but Marx proves in chapter 13 and 14 that it will assert itself sooner a later as concrete reality.

Marx links this directly with the idea of overproduction:

“The so-called plethora of capital always applies essentially to a plethora of the capital for which the fall in the rate of profit is not compensated through the mass of profit — this is always true of newly developing fresh offshoots of capital — or to a plethora which places capitals incapable of action on their own at the disposal of the managers of large enterprises in the form of credit. This plethora of capital arises from the same causes as those which call forth relative over-population, and is, therefore, a phenomenon supplementing the latter, although they stand at opposite poles — unemployed capital at one pole, and unemployed worker population at the other.

Over-production of capital, not of individual commodities — although over-production of capital always includes over-production of commodities — is therefore simply over-accumulation of capital. “(Capital, vol. III, p.359)

Marx continues: “There would be absolute over-production of capital as soon as additional capital for purposes of capitalist production = 0.” (Capital, vol. III, p.360) This may be a bit cryptic, but it is solved easily. The mass of profit is equal to the total capital multiplied by the rate of profit, ie. $p = Cp'$. By then it seems to be impossible for the mass of profit to fall if C is raised (because the rate of profit is always positive). But this is the fallacy of mathematics, where it can easily be forgotten that everything is interconnected. We can rewrite the mass of profit (p) in the following way:

$$p = Cp' = C\frac{m}{c+v} = C\frac{\frac{1}{v}}{\frac{1}{v}}\frac{m}{c+v} = C\frac{\frac{m}{v}}{\frac{c+v}{v}} = C\frac{m'}{o+1} =$$

where the rate of surplus value is $m' = \frac{m}{v}$ and the organic composition of capital $o = \frac{c}{v}$.

Additional capital will typically be capital-intensive and thus raise the organic composition of capital, which in turn lowers the rate of profit and therefore affect the mass of profit negatively, making the total effect indeterminate[8].

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[8] Mathematically this can be presented a bit more clearly: If we assume that a certain part (α_t) of the mass of profit is reinvested each period, we can derive the mass of profit in period t as: $p_t = C_t p'_t = (C_{t-1} + \alpha_{t-1}p_{t-1})p'_t = C_{t-1}(1 + \alpha_{t-1}p'_{t-1})p'_t = C_{t-1}(1 + \alpha_{t-1}p'_{t-1})(p'_t + \Delta p'_{t-1,t})$. We can now calculate the condition for when the mass of profit falls: $p_t < p_{t-1} \leftrightarrow C_{t-1}(1 + \alpha_{t-1}p'_{t-1})(p'_t + \Delta p'_{t-1,t}) < C_{t-1}p'_{t-1} \leftrightarrow 1 + \alpha_{t-1}p'_{t-1} + \frac{\Delta p'_{t-1,t}}{p'_{t-1}} + \alpha_{t-1}\Delta p'_{t-1,t} < 1 \leftrightarrow \Delta p'_{t-1,t} < -\frac{\alpha_{t-1}p'_{t-1}}{\left(\frac{1}{p'_{t-1}} + \alpha_{t-1}\right)}$. If we look at the right hand side of this

The overproduction is absolute if the effect on the mass of profit is really 0. But there can still be relative over-production if the effect on the mass of profit is just really small. This is due to the fact, that the total capitals consists of many capitals, all approximately earning the average rate of profit, but fluctuating up and down around it, which can make the effect for the individual capital to differ from the social average, thus making overproduction absolute for it.

"How much the individual capitalist must bear of the loss, *i.e.*, to what extent he must share in it at all, is decided by strength and cunning, and competition then becomes a fight among hostile brothers. The antagonism between each individual capitalist's interests and those of the capitalist class as a whole, then comes to the surface, just as previously the identity of these interests operated in practice through competition." (Capital, vol. III, p.362)

If three capitalists are to share a total mass of profit of 100 $ in one year and 101 $ in the second year, the amount of profit a single individual capitalist get, can fall from the first to the second year if the other capitalists gets a larger share.

The normal rate of profit
This can also be explained a little bit differently. The rising organic composition of capital can simply push the rate of profit below its normal level. Marx explains this:

"However, even under the extreme conditions assumed by us this absolute over-production of capital is not absolute overproduction, not absolute over-production of means of production. It is over-production of means of production only in so far as the latter serve *as capital,* and consequently include a self-expansion of value, must produce an additional value in proportion to the increased mass.

Yet it would still be over-production, because capital would be unable to exploit labour to the degree required by a "sound", "normal" development of the process of capitalist production, to a degree which would at least increase the mass of profit along with the growing mass of the employed capital; to a degree which would, therefore, prevent the rate of profit from falling as much as the capital grows, or even more rapidly.

Over-production of capital is never anything more than overproduction of means of production — of means of labour and necessities of life — which may serve as capital, *i.e.*, may serve to exploit labour at a given degree of exploitation; a fall in the intensity of exploitation below a certain point, however, calls forth disturbances, and stoppages in the capitalist production process, crises, and destruction of capital." (Capital, vol. III, p.362)

Finally the spiraling character of overproduction must be noted. Overproduction leads to the sackings of workers in bundles. But this lowers effective demand enhancing the problem of realizing surplus value. But it also simultaneously lowers the production of surplus value. The result is a collapse in the mass of profit and enormous overproduction. Metaphysically it can be concluded

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equality it is easy to this that it will be falling in time given the tendency for the rate of profit to fall. Or said in another way: We need a smaller and smaller absolute fall in rate of profit to cause a fall in the mass of profit.

from this that crisis are the cause of the falling rate of profit, when in reality there is a dialectical interaction between the two as shown above.

Credit

At the point of chapter 15 Marx has not yet introduced the credit system properly. But it can actually play a very important role in solving the realization problem temporarily. A fall in the rate of profit promotes speculation. If the capitalists cannot make enough profit producing commodities they will try making money betting on the stock exchange or buying various other financial instruments.

The capitalists all experience the falling rate of profit almost simultaneously so they all start to buy these stocks and assets at the same time driving prices up. But when stocks and assets prices are rising everybody wants to buy them – this is the beginning of bubble on exactly the lines which we have seen them again and again since the Tulipan Crisis of 1637.

If for example the speculation takes place in housing this creates an option for workers to loan and spend more than they earn (more than the capitalists have lain out as variable capital) and in this way the realization problem is solved.

But sooner or later bubbles burst when investors realize that the assets are not worth what they are paying for them. The realization problem reoccurs in an expanded form compared with before the bubble: now the workers have to pay back their loans and this with interest, they have to spend less than they earn. The result is even greater overproduction than was avoided temporally in the first place. While bconsumer credit only increases demand, producer credit also increases supply.

But it is important to remember that the basic problem is still the fallen rate of profit which depresses investment demand. If the underlying economy were healthy an imploding bubble needs not cause a crisis, or at least only a short one. When workers and capitalists pay interests on their loans, these money does not just disappear, some finance capitalist collect them. If the total economy is healthy and the rate of profit is high then the revenue generated from interest payments will in one way or another be reinvested in production.

Or to take it all the way back to the basics. The basic problem is that we have a capitalist society where the consumption of the masses is restricted and overproduction can only be avoided as long as the thirst of capitalists for profit can be quenched. Marx explains this in chapter 30 "Money Capital and Real Capital": "The ultimate reason for all real crises always remains the poverty and restricted consumption of the masses, in the face of the drive of capitalist production to develop the productive forces as if only the absolute consumption capacity of society set a limit to them" (Capital, vol. III, p.615)

Movements in the rate of profit

Marx' law of the tendency for the rate of profit to fall is not just some abstract law – it can be proved empirically. This is shown clearly in figure 5A[9]. Here we see that the tendency for the rate

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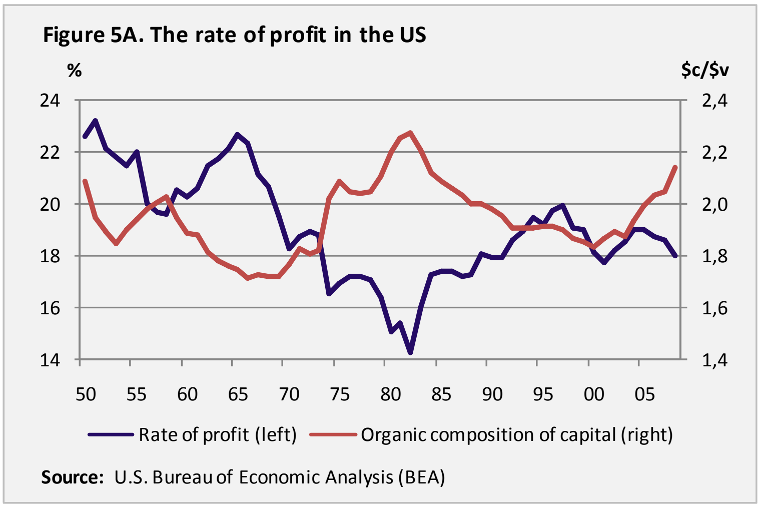
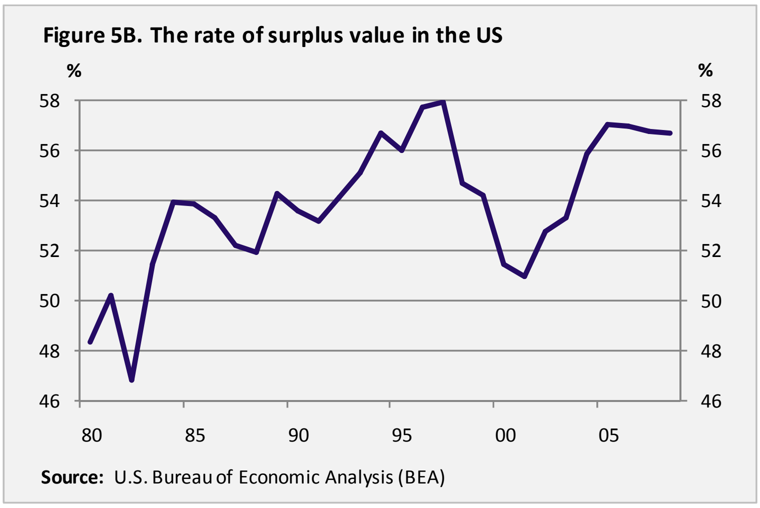
[9] There is no agreement among Marxist academic economists on how to measure the rate of profit. Here I have chosen the simplest possible way. Constant capital is measured as the amount of private fixed non-residental assets (table 2.1). Variable capital is measured as total compensation of employees (table 60200A-D Ann) and then surplus value is derived by subtracting this from total value added measured by the net domestic product (table 10905 Ann). I am in debt to Michael Roberts for this method. It is however not unproblematic in relation to questions of unproductive

of profit to fall expresses itself as a cycle with up- and downturns in the rate of profit. We will not track the complete historical trajectory of the rate of profit, but it is clearly seen that all the major crisis of overproduction in 1957-8, 1973-5,1980-2, 1990-91, 2001-3 and finally 2007 onwards is associated with a falling or stagnant rate of profit.



At the same time it is also clear that there as predicted by Marx is an inverse relationship between the rate of profit and the organic composition of capital. When the organic composition of capital goes up the profit rate goes down and vice versa (formerly the correlation between the two is -0.67, where -1 is perfect negative correlation).

But let us focus on the current crisis. From 1980 onwards until its peak in 1997 the rate of profit went from 14 % to almost 20 %. Behind this was both a falling organic composition (see the part on capital destruction below) and rising rate of surplus value (see figure 5B). The rate of surplus increased from 47 % to 58 % in this period.



The real driving forces behind all of this were many and complex. The basis was the defeat of the working class in the class struggle of the 1980s and the collapse of the Soviet Union. The last

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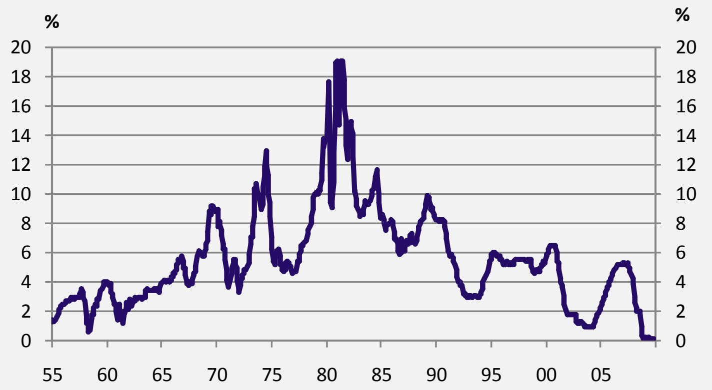
labour, turnover of capital, speculative bubbles and so on. But it is a good first approximation to Marxist value categories.

created huge new markets in Russia and at the same time new markets opened up in Asia – especially China and India. Globalization was thus an important factor. This also provided the capitalists firms with huge amounts of cheap labor. As a secondary point the revolution in information technology must also be mentioned even though its importance is often overestimated. See for example “On a Knif’s Edge: Perspectives for the world economy” and “The class struggle and the economic cycle (Once again on the World Economy)” by Alan Woods and Ted Grant for a more detail account of these factors.

The boom of credit
In the end, however, all the contributions of these factors exhausted themselves and as the fall in the organic composition of capital stopped by around 1992-3 the pressure on the rate of profit began to gain strengthened. All was ready for a huge economic crisis of overproduction in the end of the 1990s. This was clearly seen in the developing world with the crisis of the Southeast Asia, Russia, Argentina and Brazil. But a worldwide recession was avoided. How? By the introduction of enormous amounts of credit.

The falling rate of profit created waste amount of free speculative capital. Again exactly as Marx predicted. The historical low interest rates as seen in figure 6 only strengthened this.

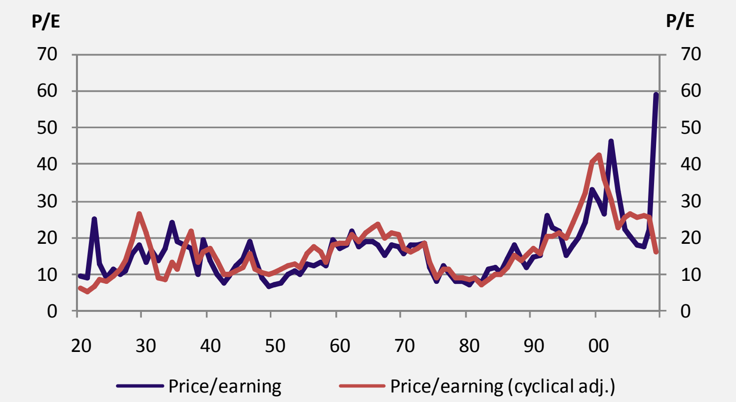
Figure 6. US federal fund rate



Source: The US Federal Reserve Board (FED).

The result was a speculative bubble on the stock market. In figure 7A it is clearly seen how the stock market has been and properly still is seriously overvalued if you look at historical price-earnings ratios (that is the ratio between the price of a stock of a company and the profits of the company).

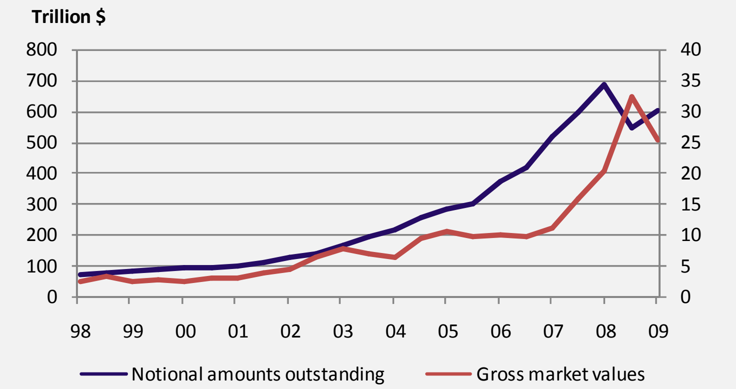
Figure 7A. Historical price/earnings ratio



Source: Robert Shiller, Yale University

The derivative market has also exploded as shown in figure 7B.

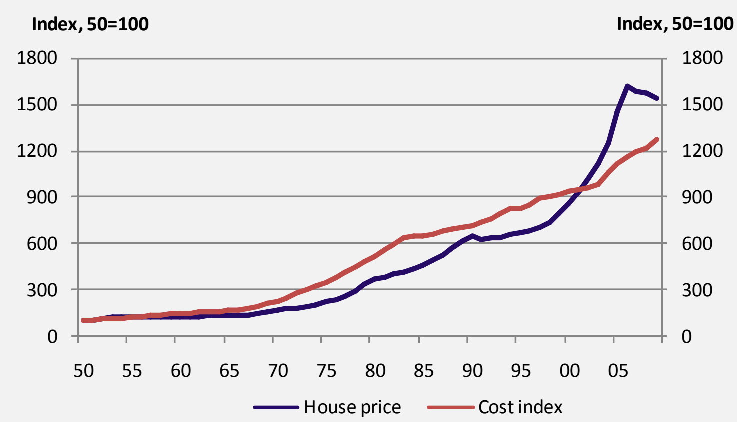
Figure 7B. Over-the-counter derivatives



Source: Bank of International Settlements.

In total this increased the possibility for the firms to invest for debt, thus easing the problem realization surplus value. Likewise the house market was hit by a speculative bubble. This is seen from figure 7C where it is shown that house prices for a whole period rose significantly more than construction costs.

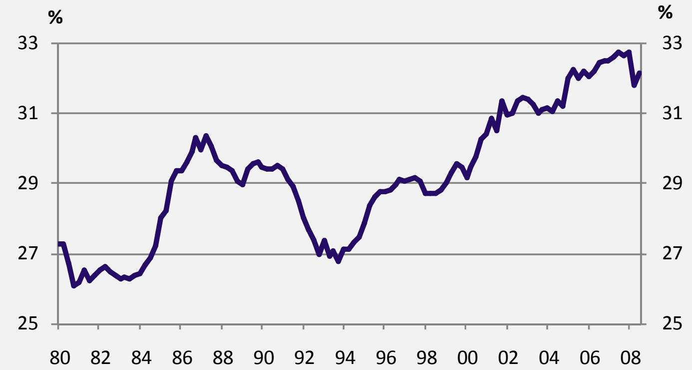
Figur 7C. US house prices



Source: Robert Shiller, Yale University.

Again this made the realization of surplus value easier, because the workers could take loans in the houses and just generally expand credit. This is seen from figure 7D where it is seen that the financial and debt obligations of the US households has risen from 27 % of disposable income in 1993-94 to almost 33 % in 2007.

Figure 7D. US household debt obligation ratio



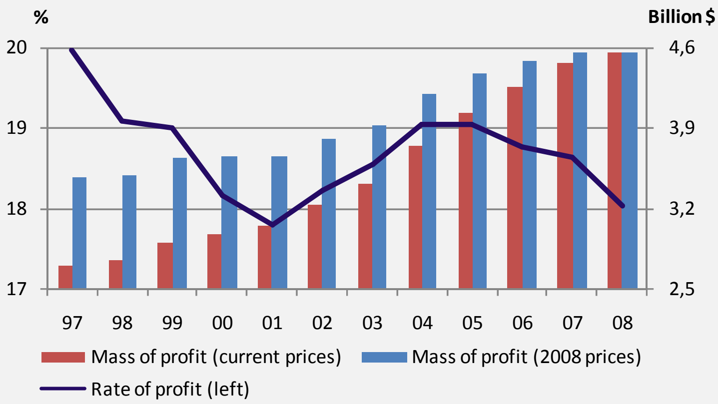
Source: The US Federal Reserve Board (FED).
Method: Finanancial and debt obligations relative to disposable income.

In conclusion the credit boom caused the recession of 2001-3 to be relatively mild. But none of the central contradictions of capital had been solved.

The great recession

Therefore the great recession beginning in December 2007 (according to NBER) was unavoidable sooner or later. In the aftermath of the recession of 2001-3 the rate of profit climbed a bit as seen in figure 5C below until it hit a new peak in 2004-05. Credit could not rise fast enough to prevent the profit rate from falling beginning in 2005. When the speculative bubbles of the house and stock markets began to burst in 2007 this only accelerated the process. Had they burst later the process would had been delayed.

Figure 5C. The rate and mass of profit in the US



Source: U.S. Bureau of Economic Analysis (BEA)

By 2006 the falling rate of profit had almost put a brake on the increasing mass of profit. From 2006 to 2007 the mass of profit increased by a mere 1.8 % (adjusted for inflation). From 2007 to 2008 it increased by a minuscule 0.02 %. The crisis of overproduction with all its devastating effects in the form of rising unemployment, increase poverty and the reoccurrence of barbarism had come.

From this we can conclude that the great recession was crisis of capitalist production, not just a financial crisis as have so often been said in the media. Marx explained this in Neue Rhenische Zeitung Revenue in 1850:

"The crisis itself first breaks out in the area of speculation; only later does it hit production. What appears to the superficial observer to be the cause of the crisis is not overproduction but excess speculation, but this is itself only a symptom of overproduction." (Marx and Engels, Collected Works, vol. 10, p. 490).

A caution on predictions
The above shown relationship between the rate of profit and crisis of overproduction has led some to believe that they can predict crisis before they happen. This is a very dangerous strategy with many pitfalls. When the rate of profit began to fall in late 2005 and the mass of profit stagnated this were good indications that a crisis was on its way. But to actually predict the date of crisis you would have to predict the rate of profit and how the capitalists will react to it, this is impossible. There are simply too many factors determining it.

In chapter 14 Marx mentions six counteracting factors to the underlying tendency for the rate of profit to fall:

- More intense exploitation of labour
- Reduction of wages below their value
- Cheapening of the elements of constant capital
- The relative surplus population
- Foreign trade
- The increase in share capital

To this we can add changes in competition, raw material prices, exchange rates, and changes in inventories, financial conditions and finally expectations. The rate of profit which the capitalists is interested in is not the current but the future rate of profit. In his discussion of the post war boom Ted Grant mentions 11 different factors:

1. "The political failure of the Stalinists and the social democrats, in Britain and Western Europe, created the *political* climate for a recovery of capitalism.
2. The effects of the war, in the destruction of consumer and capital goods, created a big market (war has effects similar to, but deeper than, a slump in the destruction of capital). These effects, according to United Nations' statisticians, only disappeared in 1958.
3. The Marshall Plan and other economic aid assisted the recovery of Western Europe.
4. The enormously increased investment in industry.
5. The growth of new industry - plastics, aluminium, rockets, electronics, atomic energy and by-products.
6. The increasing output of the newer industries - chemicals, artificial fibres, synthetic rubber, plastics, rapid rise in light metals, aluminium, magnesium, electric household equipment, natural gas, electric energy, building activity.
7. The enormous amounts of fictitious capital, created by the armaments expenditure, which amount to 10 per cent of the national income in Britain and America.

8. The new market for capital and engineering products, created by the weakening of imperialism in the undeveloped countries, which has given the local bourgeoisie the increased opportunity to develop industry on a greater scale than ever before.
9. All these factors interact on one another. The increased demand for raw materials, through the development of industry in the metropolitan countries in its turn, reacts on the undeveloped countries and vice-versa.
10. The increasing trade, especially in capital goods and engineering products, between the capitalist countries, consequent on the increased economic investment, in its turn acts as a spur.
11. The role of state intervention in stimulating economic activity."

But even though the accumulation process of capital is very complex it is not chaotic. There are laws and up to some point we can use generalizations. All of these factors above are important because they affect the rate of profit in one way or another. Ted Grant concludes his 11 factors with the sentence: "But the decisive factor has been the increased scope for capital investment, which is the main engine of capitalist development."

The interesting political question for Marxists is not to determine the exact date of crisis, but the necessity of the capitalist mode of production expressing itself in a serious of cycles of boom and crisis. It is important whether and why crisis is inevitable, or whether some change of policy can root out crisis as for example Keynesians believe. Likewise the interesting thing for a natural scientist is not to explain the precise date of spring, what is interesting is the laws governing the changing of season. This explanation begins with the rotation of the Earth around the sound and is then modified to extreme by geographical and climatologically circumstances.

Likewise there is a difference between the necessity of crisis, their cause, and what triggers specific crisis. There are an infinite number of possible triggers for the crisis. A speculative bubble can bust. Exports can be squeezed by an external crisis. Expectation of the future can change, for example a war means usability, which also lowers investment. Raw material prices can rise explosively. Etc. Etc. But if there is no powder in gun, then the trigger is of no use.

Disproportionality and overproduction

The above is clearly just an introduction to the concept of overproduction. We have thus treated it merely from its quantitative side. But the qualitative side is also important. For all the produced surplus value to be realized not only is the right amount of demand is need, also the right amount of demand for the right amount of goods are needed. Marx notes this:

"The periodical depreciation of existing capital — one of the means immanent in capitalist production to check the fall of the rate of profit and hasten accumulation of capital — value through formation of new capital — disturbs the given conditions, within which the process of circulation and reproduction of capital takes place, and is therefore accompanied by sudden stoppages and crises in the production process." (Capital, vol. III, p. 358).

But we must not exaggerate this effect. Local overproduction is just as likely as local underproduction. Local overproduction results in market prices below prices of production (only a part of the surplus value is realized), local underproduction results in market prices above prices of production (more surplus value than averagely is realized). Marx explains:

"Furthermore, capital consists of commodities, and therefore over-production of capital implies over-production of commodities. Hence the peculiar phenomenon of economists who deny overproduction of commodities, admitting over-production of capital. To say that there is no general over-production, but rather a disproportion within the various branches of production, is no more than to say that under capitalist production the proportionality of the individual branches of production springs as a continual process from disproportionality, because the cohesion of the aggregate production imposes itself as a blind law upon the agents of production, and not as a law which, being understood and hence controlled by their common mind, brings the productive process under their joint control." (Capital, vol. III, p. 365)

The reproduction schemas and crisis

Marx typically operates with two different branches or departments of production. Department I is the capital goods sector producing machines, tools etc. Department II is the consumption goods sector producing consumption goods for the workers and capitalists. Now and then he introduces department III which is the luxury consumption goods sector who produce consumption goods for the capitalists.

Sometimes capitalist crisis are explained from the following schema:

1) The market for the products of department II is restricted by the restricted consumption of the masses.
2) All the capitalists have to invest in department I instead.
3) At a certain point this investment in capital goods will emerge as a mass of consumption goods.
4) Thus the contradiction reappears and crisis is the result.

This schema is very problematic for a number of reasons. First of all it is problematic to try and analyze capitalism in terms of use value and thus actually forget that exchange value (and surplus value) is what matters for the capitalist. Secondly the idea that at "a certain point the investment in the capital goods sector will emerge as a mass of consumption goods" is very deceptive. Let me try to show this as simply as possible.

In part three of volume II of Capital Marx discusses the condition for expanded reproduction of the capitalist economy. But to discuss this in relation to crisis we have to combine them with the prices of production introduced in the beginning of volume III. The price of production of a commodity is its cost price (constant and variable capital) plus the average rate of profit multiplied by the invested capital. That is:

$$\mathrm{pr} = \mathrm{v} + \mathrm{c} + \mathrm{p}'\mathrm{C}$$

Profit is now defined as $\mathrm{p}'\mathrm{C}$ which can be either higher or lower than the amount of surplus value. Marx however shows that for the total economy $\mathrm{s} = \mathrm{p}'\mathrm{C}$. If we for a moment disregard fixed capital, we get:

The total price of production of goods in department I are: $\mathrm{pr}_\mathrm{I} = \mathrm{c}_\mathrm{I} + \mathrm{v}_\mathrm{I} + \mathrm{p}'(\mathrm{c}_\mathrm{I} + \mathrm{v}_\mathrm{I})$.
The total price of production of goods in department II are: $\mathrm{pr}_\mathrm{I} = \mathrm{c}_\mathrm{II} + \mathrm{v}_\mathrm{II} + \mathrm{p}'(\mathrm{c}_\mathrm{II} + \mathrm{v}_\mathrm{II})$.

Let a be the share of surplus value accumulated in each department and let q be the share of the new investments going into capital goods. The demand by new investment for capital goods is then: $\mathrm{I}_\mathrm{c} = \mathrm{qas}$. The conditions for successful reproduction are then:

Demand for *capital* goods equals supply: $\mathrm{c}_\mathrm{I} + \mathrm{c}_\mathrm{II} + \mathrm{I}_\mathrm{c} = \mathrm{pr}_\mathrm{I}$

Demand for *consumption* goods equals supply: $v_I + s_I + v_{II} + s_{II} - I_c = pr_{II}$

These are the important conditions for expanded reproduction. In these there are no restrictions on the size of market for consumption goods (so it can without problem be constant through time).

Let us take an example. Assume specifically that $a = 0.5$, that is half of the profit is reinvested and that all of this is invested in constant capital, i.e. $q = 1$. An example of an economy satisfying these conditions is:

Example A

	c	v	s	p'	pr	π
Department I	100	100	100	50%	300	100
Department II	100	100	100	50%	300	100
Total	200	200	200	50%	600	200

	Demand	Supply	Difference
Capital goods	300	300	0
Consumption goods	300	300	0

However it is also possible to construct another example where the total price of department II (that is the total price of consumptions goods) is the same:

Example B

	c	v	s	p'	pr	π
Department I	225	150	100	33%	500	125
Department II	175	50	100	33%	300	75
Total	400	200	200	33%	800	200

	Demand	Supply	Difference
Capital goods	500	500	0
Consumption goods	300	300	0

These examples are not plausible in many aspects, but what they show is that the size of the capital goods sector is not determined by the level of consumption demand. Therefore the schematic explanation of crisis given about has no explanation power at all.

If we shall really appreciate the concept of disproportionalities we have to remember two things: 1) In an actually economy there are not 2 or 3 branches but rather tens of thousands. 2) Marx' reproduction schemas and the above example just show the possibility of expanded reproduction, but it also needs be feasible meaning that it must correspond with the restless hunger of the capitalists for profit.

Just to note this contradiction is, however, no theory of crisis. It is as best a hutch. If supply does deviate from demand, then market prices will deviate from prices of production, thus creating incentives for the capitalist to migrate and emigrate from branches until the balance is restored. It is clear that this disruptive process can play a role in crisis and deepening them, but how it can be the cause of years and years of crisis are not obvious in any way. The question however is very very complex and if we introduce fixed capital, which cannot move as quickly (if at all) from branch to branch, then we have even more reasons why the realization problem cannot be solved due to disproportionalities.

This is not the place to follow this line of thought any further. It must be noted, however, that the problems of disproportions will be aggravated by a falling rate of profit, because this decreases the mobility of capital. Furthermore Marx clearly saw this possibility of crisis theory based exclusively on disproportions, but he thought that the necessity of crisis could be explained based on much deeper contradiction of capitalism than the anarchy of the market. This can be seen in this rather lengthy quote from Theories of Surplus Value:

"It goes without saying that, in the whole of this observation. it is not denied that too much may be produced in individual spheres and *therefore* too little in others; partial crises can thus arise from *disproportionate production* (proportionate production is, however, always only the result of disproportionate production on the basis of competition) and a general form of this disproportionate production may be over-production of fixed capital, or on the other hand, over-production of circulating capital. Just as it is a condition for the sale of commodities at their value, that they contain only the socially necessary labour-time, so it is for an entire sphere of production of capital, that only the necessary part of the total labour-time of society is used in the particular sphere, only the labour-time which is required for the satisfaction of social need (demand). If more is used, then, even if each individual commodity only contains the necessary labour-time, the total contains more than the socially necessary labour-time; in the same way, although the individual commodity has use-value, the total sum of commodities loses some of its use-value under the conditions assumed.

However, we are not speaking of crisis here in so far as it arises from disproportionate production, that is to say, the disproportion in the distribution of social labour between the individual spheres of production. This can only be dealt with in connection with the competition of capitals. In that context it has already been stated that the rise or fall of market-value which is caused by this disproportion, results in the withdrawal of capital from one branch of production and its transfer to another, the migration of capital from one branch of production to another. This equalisation itself however already implies as a precondition the opposite of equalisation and may therefore comprise *crisis;* the crisis itself may be a form of equalisation. Ricardo etc. admit this form of crisis." (Teories of Surplus Value, vol. II, p. 523)

When capitalist crisis is shown to be necessary due to the falling rate of profit, the basis of the crisis theory is not just "the anarchy of the market", but rather "the anarchy of production", or said in another way: It is based on the central contradiction of capitalism, that the mode of production is social, but the appropriation is private.

In the end the discussion of whether underconsumptionism, disproportionality or the rate of profit is the cause of capitalist crisis is not very interesting if it is not related to the basic laws of capitalist society in general and the realization problem in particular. Underconsumption is clearly the basis (or ultimate cause as Marx called it) for crisis, the tendency for the rate of profit to fall proves the inevitability of crisis beyond doubt, while disproportionality likewise without doubt is important for all concrete capitalist crisis (and that is the only sort we know of). To single one aspect out is not true to the dialectical method of Marx.

Exogenous shocks and underconsumption

Today bourgeois economists accept overproduction and normally term it overcapacity. But they do this in a very peculiar way. This is not the time or place for a more formal evaluation of modern neoclassical and Keynesian economics, but it must be said that it does really not explain why overproduction is a recurrent phenomenon of capitalism.

Both Keynes and the neoclassicists derive the existence of overproduction from exogenous shocks to the economy or misspecified (unfulfilled) expectations. In this way they explain overproduction only by either a fall in demand (do an exogenously elevated amount of saving) or a fall in investment (due to a worsening of the expectations of the future). That is by chance and psychology.

Marxists surely agrees that these factors play are role as already mentioned above. It is easily seen that the problem of realizing surplus value, and therefore the risk of overproduction, worsen if for example the workers stop demanding goods for some reason or another. But overproduction has been a regularly reoccurring phenomenon for almost 200 years and cannot simply be explained chance and psychology.

In a matter of fact the bourgeois economists do not have a theory of overproduction, but only a theory of underconsumption. Overproduction is caused by inefficient demand, not by private property and the capitalist system as such.

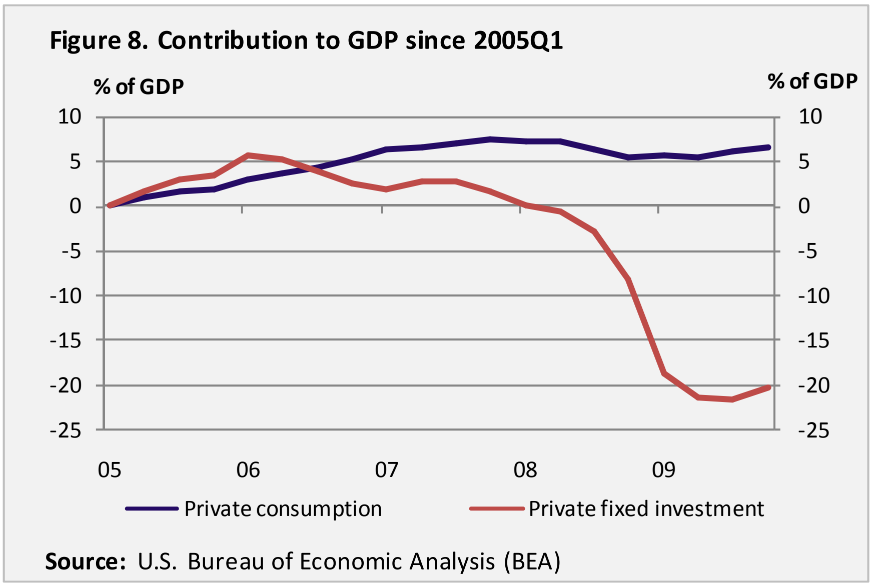
Besides this "overproduction" caused only by an exogenously created fall in demand can easily be remedied if there is a high rate of profit: the state can just borrow from the people who won't spend their money right now. This will make the capitalists invest to meet this demand and most of the overproduction can be avoided, because the exogenous shock will disappear again.

The situation is different if the overproduction is caused by a fall in the rate of profit. No matter how much money the government spends it cannot improve the rate of profit (which is basically determined in production by the exploitation of the workers). And therefore it cannot induce the capitalists to investment. The government must continuously spend larger and larger amounts to solve the realization problem of surplus value. This is what was we saw in the 1970s. This is the fallacy of Keynesianism.

Marx already underlined this in vol. II of Capital:

"It is sheer tautology to say that crisis are caused by the scarcity of effective consumption, or of effective consumers. The capitalist system does not know any other modes of consumption than effective ones, except that of sub forma pauperis or of the swindler. That commodities are unsaleable means only that no effective purchasers have been found for them, i.e. consumers (since commodities are bought in the final analysis for productive or individual consumption). But if one were to attempt to give this tautology the semblance of a profounder justification by saying that the working-class receives too small a portion of its own product and the evil would be remedied as soon as it receives a larger share of it and its wages increase in consequence, one could only remark that crisis are always prepared by precisely a period in which wages rise generally and the working-class actually gets a larger share of that part of the annual product which is intended for consumption." (Capital, vol. p. 486-7).

From figure 8 we can conclude that it is the falling investments beginning from early 2005 that caused the great recession, while falling demand only played a role during the crisis itself. From this we are assured that it was correct to focus on the investment behavior of the capitalists (i.e. on the rate of profit).



Destruction of capital
There is only one "solution" to the problem of overproduction. That is capital destruction.

"How is this conflict [overproduction leading to a competitive struggle] settled and the conditions restored which correspond to the "sound" operation of capitalist production? The mode of settlement is already indicated in the very emergence of the conflict whose settlement is under discussion. It implies the withdrawal and even the partial destruction of capital amounting to the full value of additional capital ΔC, or at least a part of it." (Capital, vol. III, p. 362)

This is most clearly seen in the physical destruction of commodities. This can even happen indirectly in the form of stoppages: "Although, in this respect, time attacks and worsens all means of production (except land), the stoppage would in reality cause far greater damage to the means of production. However, the main effect in this case would be that these means of production would cease to function as such, that their function as means of production would be disturbed for a shorter or longer period." (Capital, vol. III, p. 362)

Most important are however the destruction of capital values:

"The main damage, and that of the most acute nature, would occur in respect to capital, and in so far as the latter possesses the characteristic of value it would occur in respect to the *values* of capitals. That portion of the value of a capital which exists only in the form of claims on prospective shares of surplus-value, *i.e.*, profit, in fact in the form of promissory notes on production in various forms, is immediately depreciated by the reduction of the receipts on which it is calculated. (…) Part of the commodities on the market can complete their process of circulation and reproduction only through an immense contraction of their prices, hence through a depreciation of the capital which they represent. The elements of fixed capital are depreciated to a greater or lesser degree in just the same way." (Capital, vol. III, p. 362-3)

This is the consequence of overproduction under capitalism. This shows clearly how the socialized forces of production come into contradiction with the capitalist relations of productions. When crisis and softened as when the governments pour out amounts of money then capital destruction are avoided. This sounds great but actually it is only preparing and worsening the next crisis. Roosevelt's New Deal I 1934 helped stop the Great Depression but recession was back again in

1937-38 because capital destruction had been interrupted. It was only by the war preparations and the enormous physical destruction of capital in Europe and Japan in World War 2 that the ground was prepared for the postwar boom.

We have just left the last recession but a coming one is already being prepared. When it will strike and how hard it will be cannot be said. There a many unknown factors. How do the central banks act? Will the threat of a collapse of the dollar be turned into reality? Will a full blown trade war develop between the US and China? etc. etc. We cannot know. But it is clear that none of the basic contradictions of capitalism has been solved. Turbulence is the basic condition of the economic situation.

As we began our understanding of the concept of overproduction by the lines of the Communist Manifesto this is also an obvious place to end:

“The conditions of bourgeois society are too narrow to comprise the wealth created by them. And how does the bourgeoisie get over these crises? On the one hand by enforced destruction of a mass of productive forces; on the other, by the conquest of new markets, and by the more thorough exploitation of the old ones. That is to say, by paving the way for more extensive and more destructive crises, and by diminishing the means whereby crises are prevented.

The weapons with which the bourgeoisie felled feudalism to the ground are now turned against the bourgeoisie itself.

But not only has the bourgeoisie forged the weapons that bring death to itself; it has also called into existence the men who are to wield those weapons — the modern working class — the proletarians.” (Marx and Engels, Communist Manifesto).

Copenhagen
March 2010

Appendix: The discussion in the IMT of capitalist crisis
In the IMT we have written very very good documents and articles describing both overproduction and its consequences. Likewise we have given the working the class the tools for fighting overproduction; a democratic socialist planned economy. We have not done this as “prophets in the desserts”, but in perfect accordance with Trotsky’s principle of a transitional program. In my point of view the gem in this crown is the Crisis Manifesto of the IMT.

But I don’t think we have offered a theoretical explanation of capitalist crisis. This is not important at all in agitation work (that there was a crisis is obvious to everybody) and it is also far from the most important issue of propaganda. Even among economic questions it may by more important to study the long term tendencies of capitalism. But especially internally a clear understanding of the accumulation of capital is important or else this can lead to all sorts of mistakes. Thus this short article on overproduction. We talk about overproduction again and again but we haven’t dwelled into for a long time.

The Unfolding Capitalist Crisis
The clearest example of this was the article “The Unfolding Capitalist Crisis – a nightmare for workers everywhere” by Rob Sewell posted on marxist.com on the 31th of August 2009. Most of this article I could sign with my name at any time[10]. But the article also presents itself as a sort of theoretical explanation of the crisis. This is problematic.

The central part of the article is:

“What we are experiencing is a fundamental crisis of capitalism, with collapsing markets and over-production, leading to mass unemployment and cuts in living standards across the world. While there are many secondary causes of capitalist crisis inherent in “the real movement of capitalist production, competition and credit”, Marxists have always explained that in the final analysis real capitalist crisis is always a crisis of over-production. This means general over-production, both of consumer and capital goods for the purposes of capitalist production. This in turn, is caused by the market economy, and the division of society into mutually conflicting classes. Such a phenomenon is peculiar to capitalist society alone. “

Everybody agrees on this even though it is not that illumination just to point in all direction and then collect it all under the heading of overproduction without explaining what this really is. The article continues:

“The ultimate reason for all real crises”, explained Marx, “always remains the poverty and restricted consumption of the masses as opposed to the drive of capitalist production to develop the productive forces as though only the absolute [physical] consuming power of society constituted their limit.” In other words the capitalists are constantly revolutionizing production, throwing enormous amounts of commodities onto the world market, which periodically come into conflict with the limits of consumption caused by the exploitation of the masses who are unable to buy the goods they produce, having been robbed of the full fruits of their labour by the bosses.”

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[10] The lack of citing sources (both for quotation and statistics) and the non-definition of concepts such as “the organic crisis” could also be criticized, but I will leave that aside.

This could also be accepted as a loose and easy way of formulating a theory of overproduction where a lot of more steps are necessary to explain the necessity of crisis as I have shown above. The problem however is clear in the following:

"Capitalists do not simply sell commodities, but aim to sell them at a sufficient profit to accumulate wealth for themselves. In a slump, they cannot continue to sell their commodities at a price that guarantees the necessary average rate of profit for the bosses. Prices are reduced. The surplus-value contained within the commodities cannot be realised as before, resulting in a collapse of profits. Factories are therefore closed and workers made unemployed, further reducing demand for consumer and capital goods in an ever downward spiral."

The causation is clear, it is from falling prices to a falling rate of profit. But actually Marx attacks exactly this idea:

"The rate of profit would not fall under the effect of competition due to over-production of capital. It would rather be the reverse; it would be the competitive struggle which would begin because the fallen rate of profit and over-production of capital originate from the same conditions." (Capital, vol. III, p. 365)[11]

For Marx the fall in the rate of profit and the overproduction cannot be separated ("they originate from the same conditions"). This in strict contradiction with Robs article. Later he even underlines this mistake: "A further contradiction that bears down upon capitalism and aggravates the crisis has been the tendency of the rate of profit to fall." For Marx this is not "a further contradiction" as clearly shown above.

Of course the mechanism Rob describes is correct, but it does not explain the onset of the crisis. It does not explain (even in retrospect) when overproduction and prices fall. He just asserts that they do. I cannot see how Rob can talk of overproduction without relating it to the rate of profit. Let us take a final example where Marx cannot separate the two:

"Not too much wealth is produced. But at times too much wealth is produced in its capitalistic, self-contradictory forms.

The limitations of the capitalist mode of production come to the surface:

1) In that the development of the productivity of labour creates out of the falling rate of profit a law which at a certain point comes into antagonistic conflict with this development and must be overcome constantly through crises.

2) In that the expansion or contraction of production are determined by the appropriation of unpaid labour and the proportion of this unpaid labour to materialised labour in general, or, to speak the language of the capitalists, by profit and the proportion of this profit to the employed capital, thus by a definite rate of profit, rather than the relation of production to social requirements, *i.e.*, to the

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[11] Marx even repeat this later on: "On the other hand, a fall in the rate of profit connected with accumulation necessarily calls forth a competitive struggle. Compensation of a fall in the rate of profit by a rise in the mass of profit applies only to the total social capital and to the big, firmly placed capitalists. The new additional capital operating independently does not enjoy any such compensating conditions. It must still win them, and so it is that a fall in the rate of profit calls forth a competitive struggle among capitalists, not vice versa." (Capital, vol. III, p. 365)

requirements of' socially developed human beings. It is for this reason that the capitalist mode of production meets with barriers at a certain expanded stage of production which, if viewed from the other premise, would reversely have been altogether inadequate. It comes to a standstill at a point fixed by the production and realisation of profit, and not the satisfaction of requirements." (Capital, vol. III, p. 367)

What we have written in past

At the summer school in Barcelona Rob Sewell encouraged everybody to read through the most classical texts of our tendency on the question of economics. Going through our website I consider them to be:

- "Will there by a slump?" (1960)
- "The first tremors – An analysis of the global situation" (1997)
- "On a Knife's Edge: Perspectives for the world economy" (1999)
- "The class struggle and the economic cycle (Once again on the World Economy)" (2000)

In other articles and perspective documents I found that the question of the cause of crisis was dealt with in such shortness that nothing could be gained from a closer reading.

After reading the articles I am not in doubt of their importance for concrete analysis, but I cannot find *one* coherent theory of crisis. Let me go through them one by one. I hope, however, not that this turn into a discussion of what was really written. It is a possibility that I don't analyze the articles correctly, but the best answer would then be a new and clear article on the cause of capitalist crisis, rather than endless quotes of past articles.

Will there by a slump?

In "Will there by a slump?" (1960) Ted Grant is very clear on the relation between the tendency for the rate of profit to fall and the Marxist theory of crisis. For him it is, as I have explained in my article, the falling rate of profit that makes overproduction evitable. We read:

"The continuous expansion of expenditure on constant capital (C) or means of production, in relation to the amount spent on variable capital or wages (V), in its turn produced the *tendency* of the rate of profit to fall. This is confirmed in different language by all serious economists including Keynes. Even the university professors, on studying the data, are compelled to admit the truth of this proposition for the modern epoch, even more than in the past.

The fundamental cause of crisis in capitalist society, a *phenomenon peculiar to capitalist society alone,* lies in the *inevitable over-production* of both consumer and capital goods <u>for the purposes of capitalist production</u>. There can be all sorts of secondary causes of crisis, particularly in a period of capitalist development - partial over-production in only some industries; financial juggling on the stock exchange; inflationary swindles; disproportions in production; and a whole host of others - but the fundamental cause of crisis lies in *over-production.* This in turn, is caused by the *market economy,* and the division of society into mutually conflicting classes." (my underlining)

He, however, never deals with this in more detail instead discussing my more pressing matters like the reasons for the long upturn and Keynesianism.

I have not spoken of overproduction as the cause of crisis because I find this formulation imprecise, because overproduction does not just pop out of the blue – it is itself caused by some more basic tendencies. At the same time overproduction is also the inevitable form of the crisis. If you play pool and you hit a ball with the cue, you can say that the cue moved the ball, but the reason the cue moved the ball, was that you moved the cue. In the end, however, this is a play of words. What is important is the process. That the fall in the rate of profit cause overproduction which then cause and is crisis. Note also that what Grant call "secondary causes of crisis" I have called different triggers of crisis.

The first tremors

In "The first tremors – An analysis of the global situation" (1997) the question of what the cause of crisis is, is likewise not dealt with in detail. But the question is posed in a different manner. We read:

"In Capital vol. 3, (chapt. 30) Marx explains that "The last cause of all real crises always remains the poverty and restricted consumption of the masses as compared to the tendency of capitalist production to develop the productive forces in such a way that only the absolute power of consumption of society would be their limit" Thus, the final cause of the crisis of capitalism is over-production and the limited purchasing power of the masses. But there are crises and crises. That is why Marx refers to "every real crisis." In actual fact, the line of capitalist development can be broken at any number of different places, and there are all kinds of crises, including crises in the stock exchange which are not directly caused by the central contradictions of the mode of production. Moreover, not every crisis on the stock exchange leads directly to recession."

My problem, however, is that the connection between the limited consumption of the masses and overproduction is not dealt with in any way that can explain the cyclical nature of crisis – the workers always produce more than they can buy back. The article brilliantly point out how credit can extend the boom, but that does not explain why the bust was necessary in the first place.

There is a paragraph which a first looks like an explanation:

"As has always happened throughout the history of capitalism, the capitalists invest in order to earn the maximum profits. Where a new and profitable field of investment opens up, first to exploit it can obtain very large profits. But inevitable, as others pile in, the rate of profit tends to average out. Prices and profits begin to fall. The initial investment required to build a high-tech factory or to create a program or a microprocessor is huge, although the cost of actually producing the chips or software for sale is relatively low. Rising demand drives average costs down still further, making it possible to charge lower prices and boosting demand even further.

However, there is a problem with this so-called "virtuous circle". As with any other profitable field of investment, at a certain stage overproduction begins to appear, eventually provoking a crisis. In the last cycle, this could be clearly seen in the field of office construction."

The problem, however, is that this does not explain the connection between local overproduction (in the new field of investment, office construction) and general overproduction, i.e. a crisis. There is no explanation.At first it seem perfectly OK to go from local overproduction to general overproduction, but as shown in the article this would not be true to Marx' dialectical method.

On a Knife's Edge

From the perspective of this appendix "On a Knife's Edge: Perspectives for the world economy" is much more interesting. We have the following two paragraphs:

“Despite appearances to the contrary, in the foundations of the system, the old inescapable laws are quietly but firmly asserting themselves. As capital accumulates, the proportion of constant to variable capital increases, giving rise to a change in the technical composition of capital. In absolute terms, variable capital may increase (more workers may be employed). But the proportion of living labour in relation to constant capital will decline. However, the increase in the productivity of labour is accompanied by a decline in the share of variable capital (wages). And although nominal and real wages may rise, the rate of exploitation increases.

The frantic race after profit inevitably leads to overproduction. Overproduction always makes its appearance at the peak of the boom, preceding the collapse. Firms try to get rid of their unsold stocks of goods. There is a frantic bout of price-cutting, discounting, even selling at prices below the cost of production (dumping). At the same time, production keeps expanding, driven by competition, further aggravating the problem of overproduction. This is particularly the case with the new technology, which relies heavily on the rapid production of new models, more powerful computers, etc. But in a situation where most families already possess at least one computer, this process must eventually reach its limits. The profits obtained by upgrading existing computers do not justify the high costs of research and development, new plant and so on.”

First we have the explanation of why the organic composition of capital rises (“the proportion of constant to variable capital increases). This is then followed up by the comment that: “The frantic race after profit inevitably leads to overproduction.” This could mean something like: The rate of profits go down, investment falls and therefore demand falls and overproduction increases. But this is then connected with the conditions of specific markets where families already “possess at least one computer” hereby again making the fallacy of going from local to general overproduction without explanation.

The argument of what causes crisis is certainly unclear. But a few paragraphs down the explanation is totally clear. Marx’ tendency for the tendency for the rate of profit to fall is explicitly explained and we read: “The increased organic composition of capital inevitably leads to the tendency for the rate of profit to fall. (…) As a matter of fact, the capitalists can put up with a falling rate of profit, as long as the mass of profit is maintained. But at a certain stage the mass of profit starts to fall. At this point there is a collapse of investment and slump commences.”

Then some of the countervailing tendency are discussed which again turn into an excellent discussion on the role of credit. But in the middle of this we suddenly read:

“The central contradiction of capitalism is that the greed for surplus value drives them to develop the produce forces of to a point where the mass of commodities cannot be absorbed by the market. At this point overproduction appears. For a time they can get round this contradiction by investing in what Marx calls department one, that is, the production of means of production, machinery, factories, research and development etc. But the contradictions will always reappear, since at a certain point the investment in plant and machinery must manifest itself as a mass of commodities.”

This is a completely different explanation of crisis. This is basically trying to analyze capitalism as production of use values, rather than exchange values (expressed in use values in a contradictory way). This is also a fallacy as already shown in the article. Marx’ reproduction schemas in the second volume of Capital show that expanded reproduction is possible under Capitalism. If the above should be turned into something like a theory of crisis it must be amended.

When you read the paragraph you get the feeling that “mass of commodities” only refers to consumption goods, but investment goods are just as much commodities as they are. So from an exchange value point of view it is meaningless to talk of that “machinery must manifest itself as a mass of commodities”.

In the end of the article we also have the very interesting comment: “The only way to prolong the boom would be through further substantial increases in productivity.” This can be easily reconciled with the theory of a falling rate of profit causing overproduction and crisis, because increased productivity indirectly increases the rate of profit (by devaluing the price of consumption goods). But how does it relate to a theory of disproportionalities causing crisis of overproduction? This is not clear.

And just one last thing. In a discussion of the Great Depression of the 1930s the Keynesian economist Galbraith is quoted:

“’This weakening can be variously explained. Production of industrial products, for the moment, had outrun consumer and investment demand for them. The most likely reason is that business concerns, in the characteristic enthusiasm of good times, misjudged the prospective increase in demand and acquired larger inventories than they later found they need. As a result they curtailed their buying, and this led to a cutback in production. In short, the summer of 1929 marked the beginning of the familiar inventory recession’” (J. K. Galbraith, The Great Crash, p. 192-92)”

The only comment is: “In other words, it was a crisis of overproduction that caused the stock market crash.”

But how does Galbraith explain this overproduction? By the subjective miscalculations of individual capitalists, by the fallacy of local overproduction. That is not a Marxist explanation, therefore it is something which much be attacked.

Once again

All the analysis of disproportion causing crisis is repeated in “The class struggle and the conomic cycle (Once again on the World Economy)” (2000):

“Investment is the life-blood of the capitalist system. While it continues to flow in such copious quantities, the boom can continue. But in every case, sooner or later, the capitalist's urge to invest for profit bumps its head against the fundamental contradiction of the capitalist system: *the contradiction between the unlimited appetite of the capitalists for surplus value which propels investment and the limited nature of the market and the consuming power of society*. We have already pointed out (See *On a Knife's Edge*) how the process takes place. It happened in every single boom in history. When a new field of investment first appears, the capitalists who go in first make huge fortunes out of it, They make super profits. Bill Gates is the present day example. But the trouble is that the others follow suit: they are compelled to introduce the same technology. This creates a contradiction. The bourgeois saw an opening (and what an opening it seemed to be!) and they piled in. They encouraged a host of small investors to follow them, like so many Lemmings heading for the nearest cliff. Naturally! They all wanted to get in on the act! But then the law begins to operate. The rate of profit which was originally immense falls to normal levels and then keeps on falling.

There is an inherent tendency to over-invest and overproduce. This is the central contradiction of the capitalist system: the contradiction between the unlimited thirst of the capitalist for surplus value and the limited power of consumption of the masses. The capitalists can avoid a crisis for a time by investing in what Marx calls Department One - the production of the means of production. This has been the case in the present boom. In the USA there has been heavy investment in the production of computers. This has been the main motor-force of the boom."

This has the same problems as before. Firstly there is no distinction between local and general overproduction. Secondly capitalism is analyzed as a production of use values rather than of exchange values expressed in use value (in contradictory ways). Thirdly there is no explanation of why the rate of profit in new fields of investment must "keeps on falling" after the "rate of profit which was originally immense falls to normal levels". The only Marxist explanation is a rising organic composition of capital and thus the tendency for the rate of profit to fall.

We also have to raise another question in relation to above quote: We read that: "When a new field of investment first appears, the capitalists who go in first make huge fortunes out of it, They make super profits." But what effect can this has on the total economy? Why does a capitalist in a new branch of production get a super profit? Assuming equal rate of surplus value we have to distinguish between two effects. If there is small competition in a new branch of production this can make it possible for the capitalists to raise their prices above the prices of production thus gaining a rate of profit above the general rate of profit (remember that the price of production is the cost price of the commodities plus the average amount of profit). But for the total economy the lack of competition somewhere in the system does not create extra profit as such, because it does not create extra surplus value (the capitalist can set a higher price, but he cannot set a higher value), so the super profit of the capitalists in the new branches must come from somewhere else – they must be deducted from the profits of the other capitalists. The reason why new branches of production can strengthen an upswing is if they increase overall productivity or decreases the level of the organic composition of capital. Super profits in themselves play no role in a Marxist theory of crises.

On the following page, however, the process of investment in department one is connected with the tendency for the rate of profit to fall:

"Sooner or later, however, this process itself produces new contradictions. Marx explains that it is impossible to obtain surplus value from machinery. All that machinery can do is to add to the final product the value stored up in itself - that is, the socially necessary labour expended on its production."

Directly after this we read:

"This value imparted by machinery is discounted by the capitalist as the cost of depreciation. Incidentally, depreciation is not only physical (rusting, wear and tear etc.) but also what Marx calls "moral depreciation", that is, obsolescence. The speed with which, for example, computers become obsolete, is phenomenal. Since the sums of money involved in this technology are very large, the first necessity of the capitalist is to get back the capital he has invested initially. As we shall see, this is sometimes easier said than done. As the cycle advances, and an ever-growing number of capitalists pile into the market, there is a tendency to *over-invest* and consequently to *over-produce."*

This of course raises the question of what is later said on "this is sometimes easier said than done". At first the explanation seems again to rest on the basic fallacy between local and general overproduction:

“Sooner or later the new technology will come up against the barriers of capitalist production. *Goods are produced to make a profit. In order to make a profit, they must find a market. A market presupposes the existence of purchasing power.* “

But just after this the explanation is based on the tendency for the rate of profit to fall: “It is already clear that the rate of return on capital is not what it was. [See article by Michael Roberts, From Bulls to Bears, http://www.marxist.com........ or attached at the end of this text, for printed version] The so-called law of diminishing returns is a vague and confused way in which bourgeois economists express the law of the tendency of the rate of profit to fall which was explained scientifically by Marx. The capitalists find that their investments in new technology no longer bring the same rate of return as before. At this point their enthusiasm for such investment begins to cool. This is shown, on the one hand, by the increasing reluctance of investors to risk their money on new technology shares, and on the other by the growing doubts about the perspectives of a new round of technological innovation related to the fusion of the Internet with mobile phones.”

And then suddenly if we keep reading we get a third explanation:

“We have often talked about the inevitability of a slump, but perhaps we have not dealt sufficiently with the mechanisms through which this comes about. How is the boom in the USA likely to come to an end? Of course, there are various possible scenarios. It is not possible to foresee every variant. But this is not necessary. It is sufficient to understand the fundamental processes (which were already explained by Marx in Capital, especially the third volume). The main concern at the moment is of "overheating". What does this mean? It means that the present rate of growth is unsustainable and is giving rise to all kinds of inflationary pressures: specifically, the rise in demand and the appearance of labour shortages creates an upward pressure on prices and wages. This in turn puts pressure on profit margins and raises the spectre of a rise in interest rates. We might add that this scenario is precisely what one would expect at the peak of a boom, just before a collapse.

The American economy is already displaying many of the symptoms associated with the peak of a boom. Growth is more than five percent - well above what is considered to be a sustainable rate - while unemployment is at a record low and labour shortages have begun to appear. Commodity prices - notably oil - have started to rise, and wages must inevitably follow.”

But after all rising oli prices and rising wages are not the cause of crisis; they can only by triggers of a crisis. Maybe this is what is mean by “the mechanisms through which this [the slump] comes about.”

The conclusion is also rather different, with a return to the fallacy of local and general overproduction:

“For the moment such a slump in investment is probably not on the horizon (short of a major shock to the world economy). The present boom still has its own momentum. But sooner or later, when the market begins to reach saturation point and returns on capital start to go down, investors will begin to dump this stock, and its value will go into decline. Productive investment - the life-blood of the economy - will dry up. At this point we will be in a slump.”

Summing up

The clearness of the just above 100 pages just analyzed leaves something to be desired. But to sum up let me just present the two very different ways in which the cause of capitalist crisis is explained in these articles:

A. Based on the rate of profit

"The increased organic composition of capital inevitably leads to the tendency for the rate of profit to fall. (…) As a matter of fact, the capitalists can put up with a falling rate of profit, as long as the mass of profit is maintained. But at a certain stage the mass of profit starts to fall. At this point there is a collaps of investment and slump commences." (On a Knife's Edge)

B. Based on disproportionalities and/or unclear connection between local and general overproduction:

"But sooner or later, when the market begins to reach saturation point and returns on capital start to go down, investors will begin to dump this stock, and its value will go into decline. Productive investment - the life-blood of the economy - will dry up. At this point we will be in a slump." (Once again on the World Economy)

I opt for case A. The mechanism of case B has simply never been explained to a degree where I can see how it can be an explanation of capitalist crisis. Disproportionalities and local overproduction can be important in particular crisis, as shown in my article, but they cannot form a theory of crisis as such.

One last point. I have continuously attacked the fallacy of going from local to general overproduction. This is important from a scientific point of view. In agitation articles, however, it is not that important. General overproduction is always expressed in local overproduction, so it is a good and easy way to explain what general overproduction is by numerous examples of local overproduction. But as dialectics teaches us, what is good for everyday life, is not always what is enough for a scientific understanding of the world we live in.