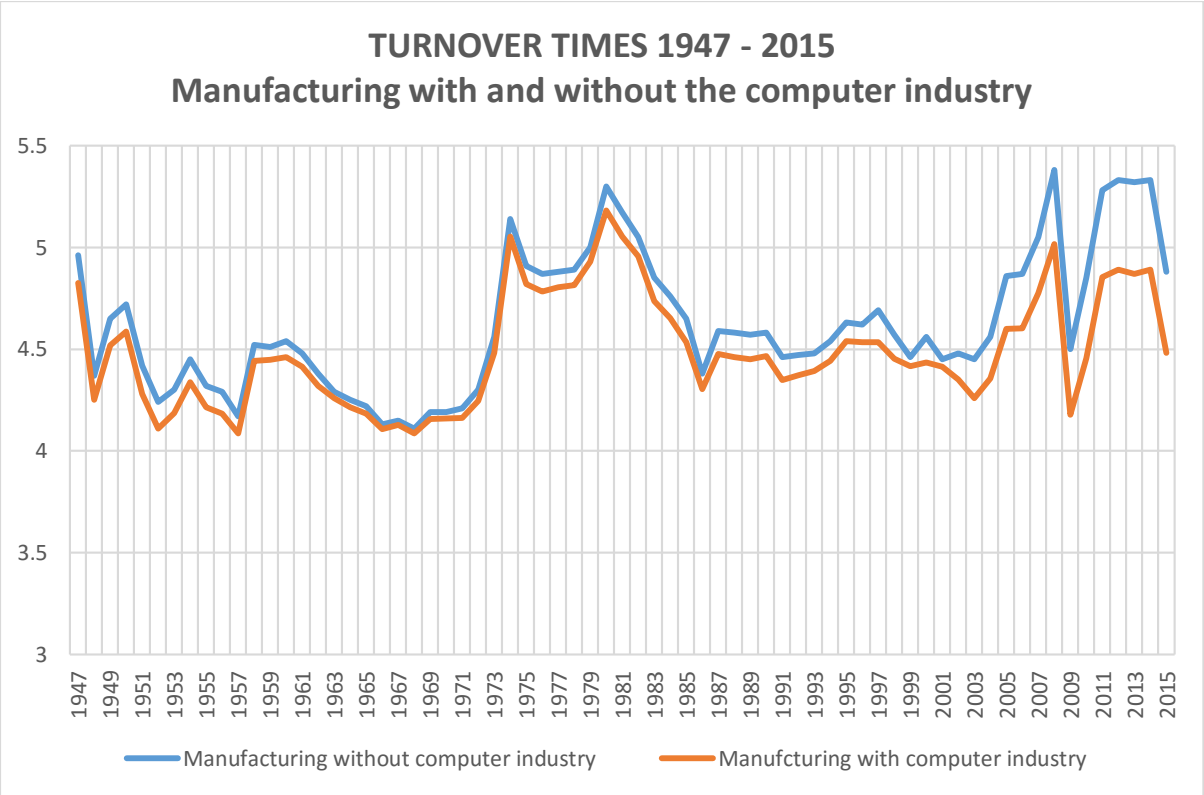
TWO LONG WAVES COMPARED.

There has been a growing interest in Gross Output (G.O.) and its relevance to the economy amongst bourgeois economists. As a result, the BEA, which had previously extended G.V.A. back to the 1940s has now extended the G.O. series back to 1947 as well. As a result, and for the first time, it is possible to apply the turnover formula and calculate turnover times for a number of industries all the way back to 1947, a period of nearly seventy years. This has been done in the graph below for manufacturing.

Graph 1.



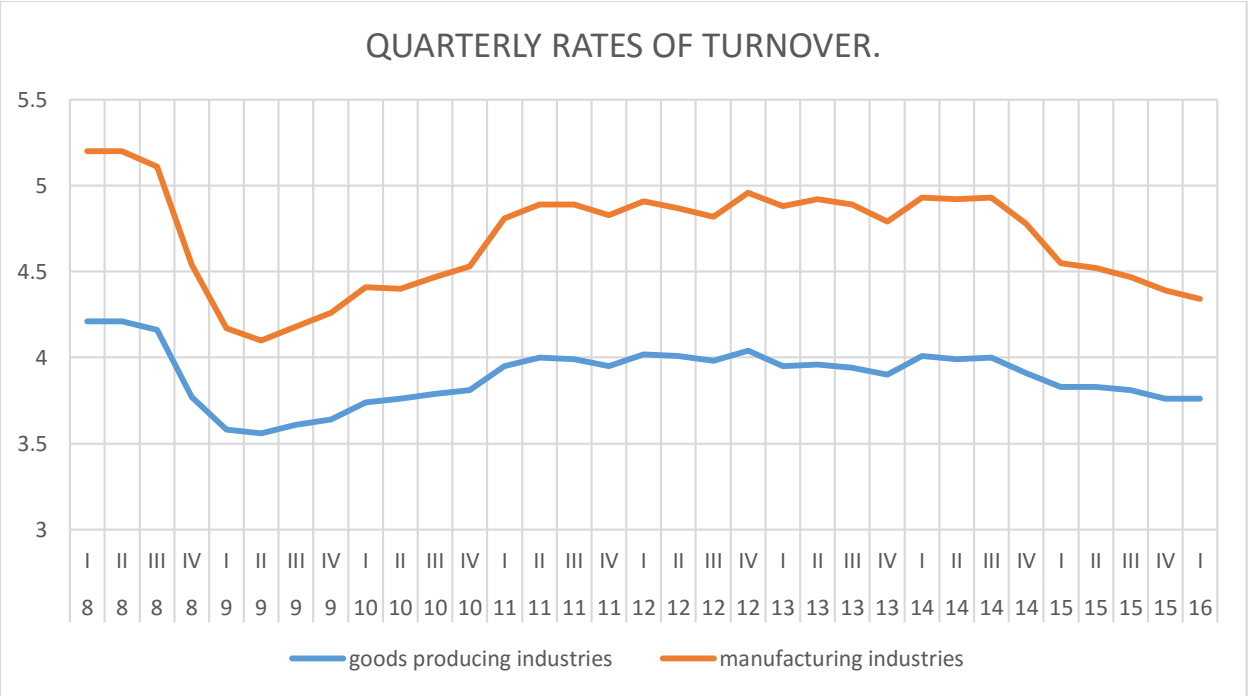
(Source: bea.gov/industry/gdpbyind-data.htm)

Two graphs have been prepared for manufacturing. The brown graph which includes the large computer industry and the blue graph which excludes it. The reason for providing both graphs is that unlike the rest of manufacturing, turnovers have declined within the computer industry. This aberration has resulted from the conversion of both Research and Development as well as in-house software from revenue to capital. As this forms an above average component within the computer industry, it has significantly reduced its turnovers as measured by the turnover formula. The graph without computers with its higher rate of turnover, peaked in 2007 at 5.4 compared to 5 when it is included.

A number of general observations are in order. The fall in turnovers up to the end of the 1960s is consistent with the fall in the rate of profit which is reproduced in Graph 3 below. The surge in turnovers up to 1973 is replicated by the surge of turnovers leading up to 2008. This is suggestive that turnovers could mark end of periods. Finally, the maintenance of high turnovers post-1974 is indicative of the collapse of the dollar which appreciated intermediate sales (such as oil and other raw materials) while depreciating final sales. Measured in gold, which would have excluded inflation as well, an additional but subsidiary consideration, turnovers may not have been so elevated.

Finally, the sharp fall in turnovers in 2015 of 13% is associated with the contraction in the rate of profit at this time. This is examined in greater detail in Graph 2 below. This graph on turnover has now been extended to the first quarter of 2016 due to the recent release of data by the BEA. In order to maintain continuity with previous postings, manufacturing here includes computers. Turnovers continued to fall in manufacturing but it stabilised in the goods producing industries. On the current data, especially sales data, it is expected that the second quarter may not have experienced any further falls in turnover.

Graph 2.



(Source: BEA Interactive Data, GDP-by-industry, Value Added, Gross Output tables, release date July 21st)

Turnovers are now back to their 2010 levels. It will be interesting to see how higher wages effect the turnover rates in these industries in 2016/2. The hypothesis is that they should be positive for turnover rates but negative for the rate of exploitation. There will be a more detailed discussion regarding the effect of higher wages at the end of this posting.

THE RATE OF SURPLUS VALUE

The fall in the rate of turnover is usually accompanied by the fall in the rate of surplus value as it and the rate of exploitation constitute the rate of surplus value. Graph 3 shows that the fall in the rate of surplus value has fallen more moderately in line with a more subdued fall in the rate of turnover. Once again the reader is reminded that this is the crude rate as it is based on wages and salaries rather than compensation as these figures are not currently available. Nor was it found to be advisable to convert wages and salaries into compensation by adding benefits as their fluctuations significantly affect the resulting rate of surplus value. The continued fall in the rate of surplus value explains the minor fall in corporate profits in 2016/1 once the additional profits generated by higher oil prices are stripped out.

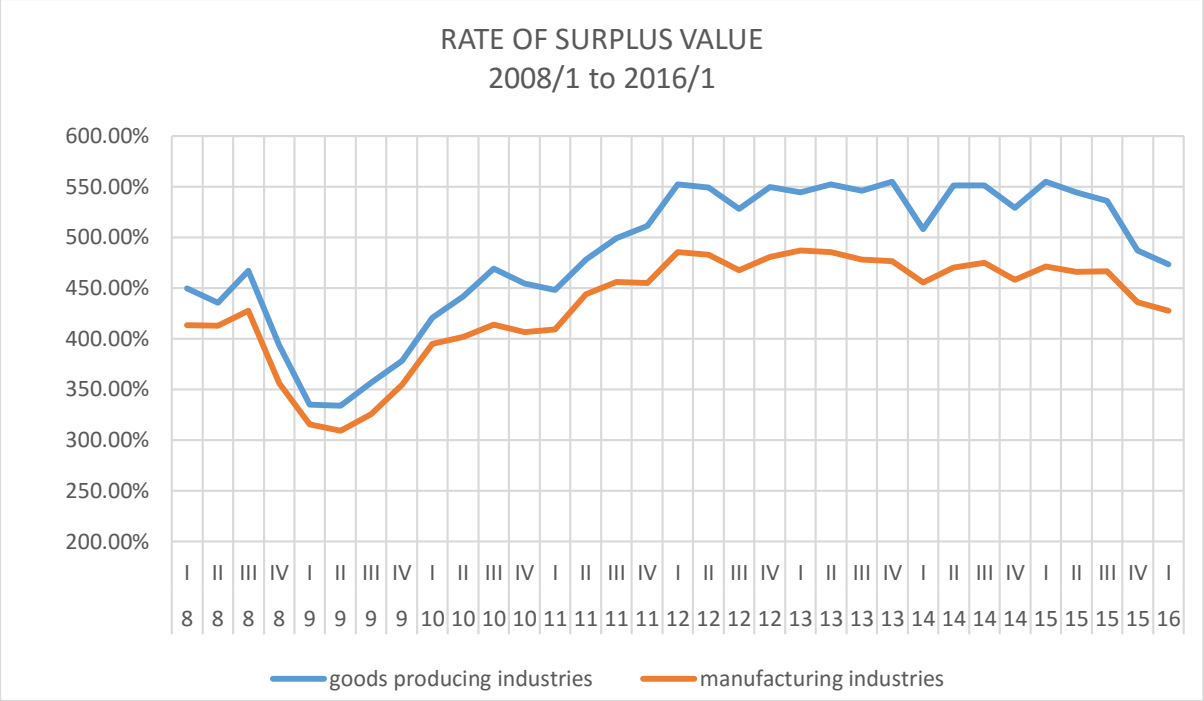


Table 6.1D for value added. Table 2.2B for wages and salaries.
Value added less wages equals surplus over variable capital. Variable Capital equals wages divided by turnover).

CONFUSING THE RATE OF PROFIT WITH THE RATE OF RETURN.

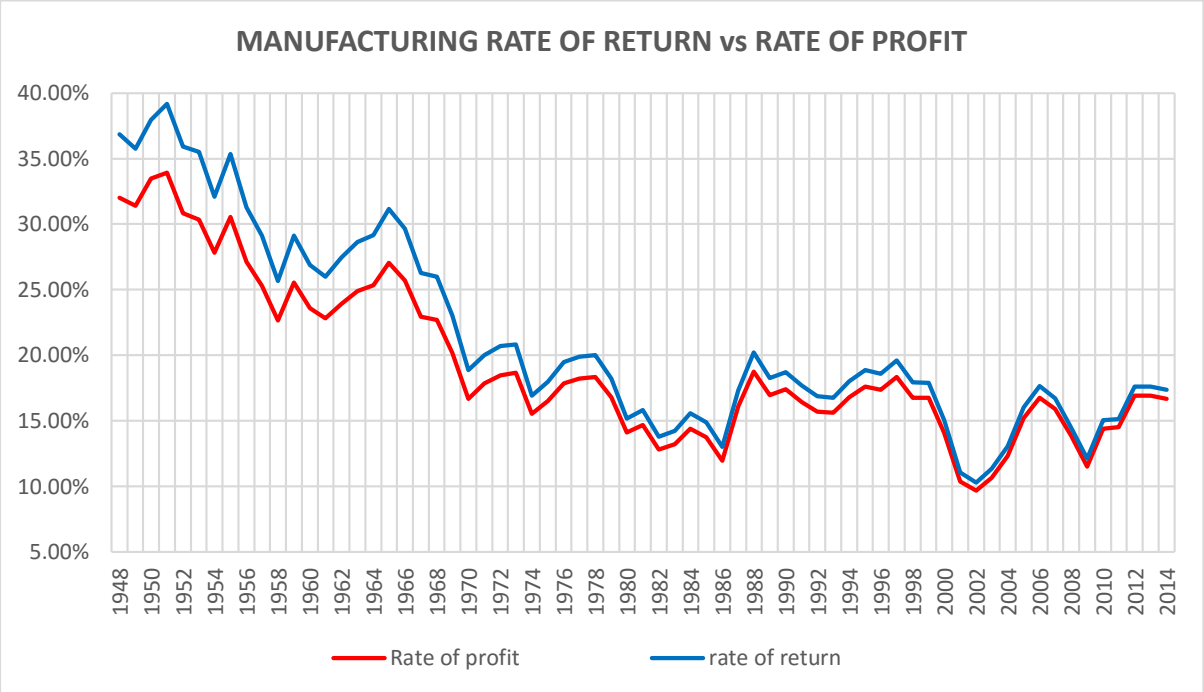
Graph 3 below is the classic rate of profit used by those who seek to present Capitalism as moribund over the last two decades or at least from 2009 onwards. Firstly, what they have presented is not the rate of profit but the rate of return as it has excluded variable capital (which together with constant capital converts the rate of return into the actual rate of profit). As a result, they have produced a graph which overstates the rate of profit in 1951 (blue graph) by 15.4% and which subsequently overstates its fall by 10% (1973). Notwithstanding these criticisms the two graphs do track each other. There is clearly a fall in the rate of profit with the deepest trough appearing in 2002. However, we shall see shortly, that comparing the long wave of expansion post 1982 to the long wave post war, is not comparing like with like.

Equally important is the convergence of the rate of profit with the rate of return over these 70 years. The gap in the rates fall from 15.4% in 1951 to 7.5% in 1982 to only 4.2% in 2014. This was due to a fall in the weight of variable capital relative to constant capital owing to the increase in the technical composition of capital. Variable capital restrains the growth of Total Capital over which profits are measured because its growth lags that of constant capital. However, over time, this restraining role is diminished by the decline in the weight of variable capital in total capital. This decline undermines one of the key counter-vailing factors propping up the rate of profit. This graph vindicates Marx's assumption of the inter-relationship between the composition of capital and the rate of profit.

It would be an error however to assume that the increased proximity between the two rates robs their distinction of any significance. This is an average for manufacturing as a whole. Within manufacturing certain industries, such as the machine building industry (see posting *'HOW THE RATE OF EXPLOITATION, SURPLUS VALUE AND TURNOVER INTERACT TO DETERMINE THE RATE OF PROFIT'*) has seen its turnover sharply improved due to the introduction of computer aided design, computerised cutting, milling, shaping etc. And of course, in productive "service" industries the gap between the two rates remains significant due to the above average labour intensities in these industries. Looking

to the future, given the proximity, even the coming artificial intelligence revolution will only reduce the weighting of variable capital in relation to constant capital by one hundredths.

Graph 3.



THE RATE OF CASH FLOW VERSUS THE RATE OF PROFIT.

In all matters scientific, it is obligatory to explore below the surface. This is doubly true for the rate of profit. At first glance, Graph 3 above creates the impression that the rate of profit collapsed and remained depressed from 1974 onwards. Profit peaks are lower and troughs are deeper.

However, changes to the way the data is presented needs to be included and this has a modifying effect on the rate of profit. Much, but not all of this has to do with Intellectual Property and its effect on depreciation. The last two decades have been called the knowledge based epoch, the information age, a time where intangible investment dominates tangible. How lyrical and how insulting to the inventors, the scientists and the engineers who lived before this time.

In fact, what is being suggested has nothing to do with science but with greed. Prior to globalisation most companies produced the products they invented in-house. With globalisation and international outsourcing, most products are produced by sub-contractors spread around the world in what is now commonly described as the international value chain. This socialisation of production requires strict control by the companies that invent or promote these products. This is where Intellectual Property **(I.P.)** comes in. It allows the likes of Apple to control and police the production of its products by others.

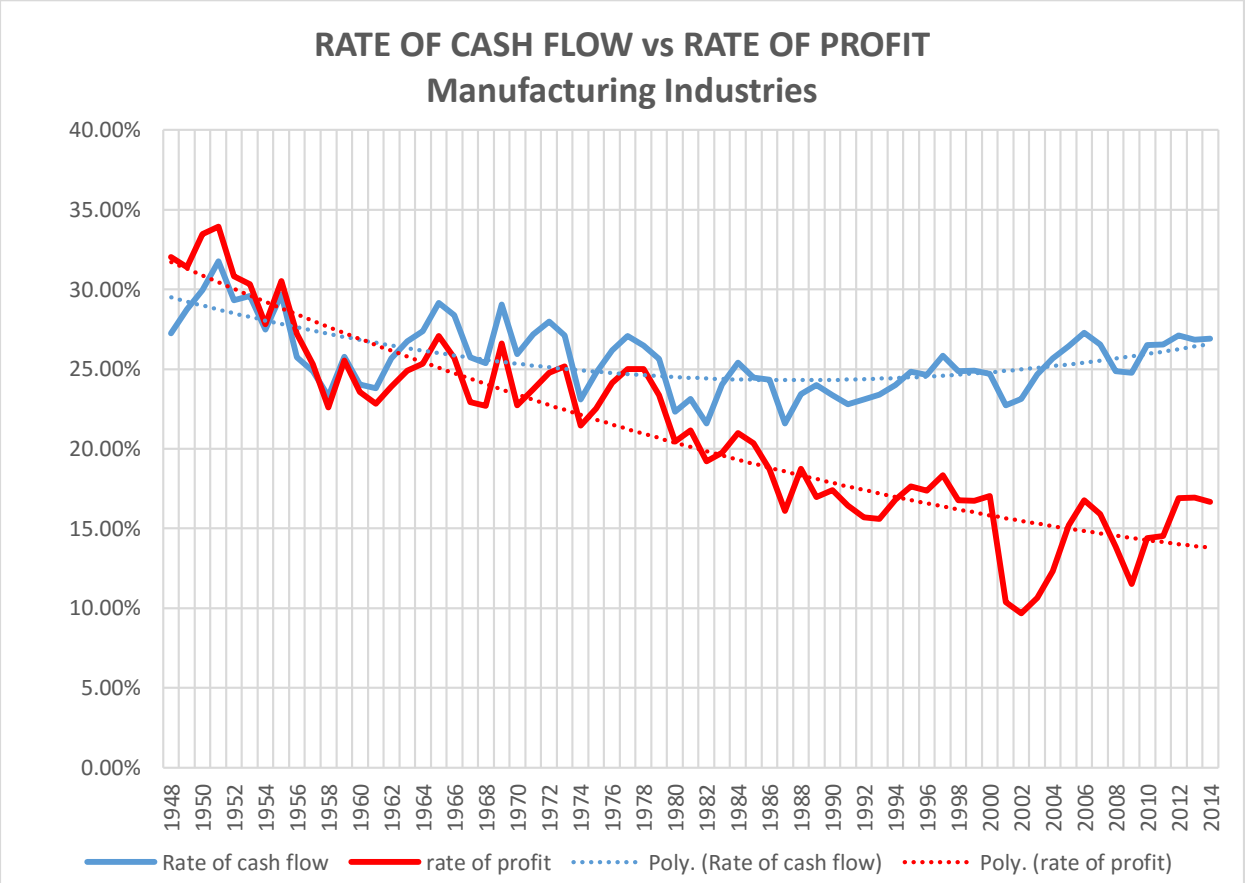
As a result of this monopolisation of the surplus value produced by others, I.P. appears to generate its own revenue stream, just as loan capital for example generates its own interest rate stream. It is this commonality that has led the Statistical Bureaus around the world changing the way they prepare Intellectual Property in the national accounts. It is now treated as capital. As a result, it resides alongside the other two great components of produced assets – equipment and structures.

Intellectual Property also exists in an expanded form through two recent additions, Research and Development together with in-house software. These two "industries" now comprise two thirds of the value of I.P. (up from one third in the 1950s). Of course, where you have capital you have depreciation. I.P. really lends itself to depreciation with its short life. By 2014, in manufacturing, the depreciation of I.P. amounted to 55% of total depreciation.

This has helped transform corporate cash flow which comprises pre-tax profits and depreciation. Depreciation now comprises the largest component of corporate cash flow having overtaken pre-tax corporate profits. (Note 1). Depreciation serves the capitalist class well. It reduces taxation by reducing profits without reducing cash flow. The capitalists are richer not poorer as a result of this rebasing of cash flow. (For the purpose of the graph below we use the **rate of gross cash flow** and not **corporate cash flow.** Gross cash flow less unincorporated business cash flow, less corporate rent paid, less corporate interest paid equals corporate cash flow.)

It is for these reasons that care should be exercised when comparing the rate of profit over these 70 years. This becomes clear when we include the rate of **gross** cash flow, which is surplus and depreciation divided by total capital. This is done without confusing the rate of cash flow with the rate of profit which is distinct. Only the rate of profit measures the surplus value newly added in a given year. However, if depreciation is over-stated, it will reduce profits and thus the rate of profit. This has been the case over the last twenty-five years which is why the two rates deviate sharply. What appeared to be a profit drought turns out to be anything but.

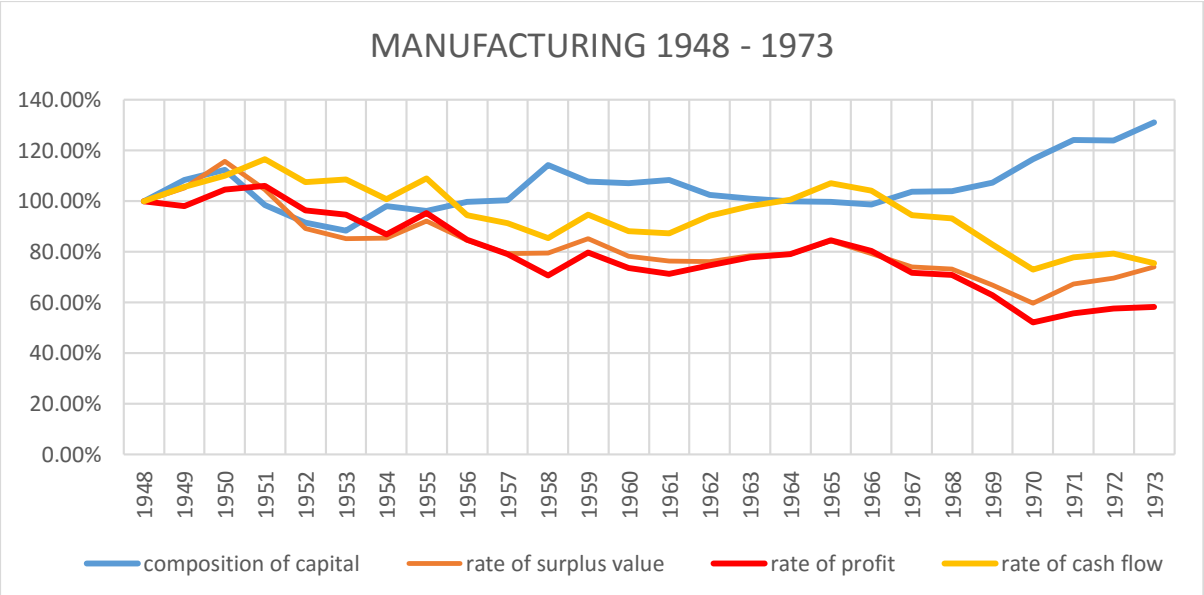
Graph 4.



(rate of profit = value added less compensation divided by constant plus variable capital
rate of cash flow = surplus plus depreciation divided by constant plus variable capital)

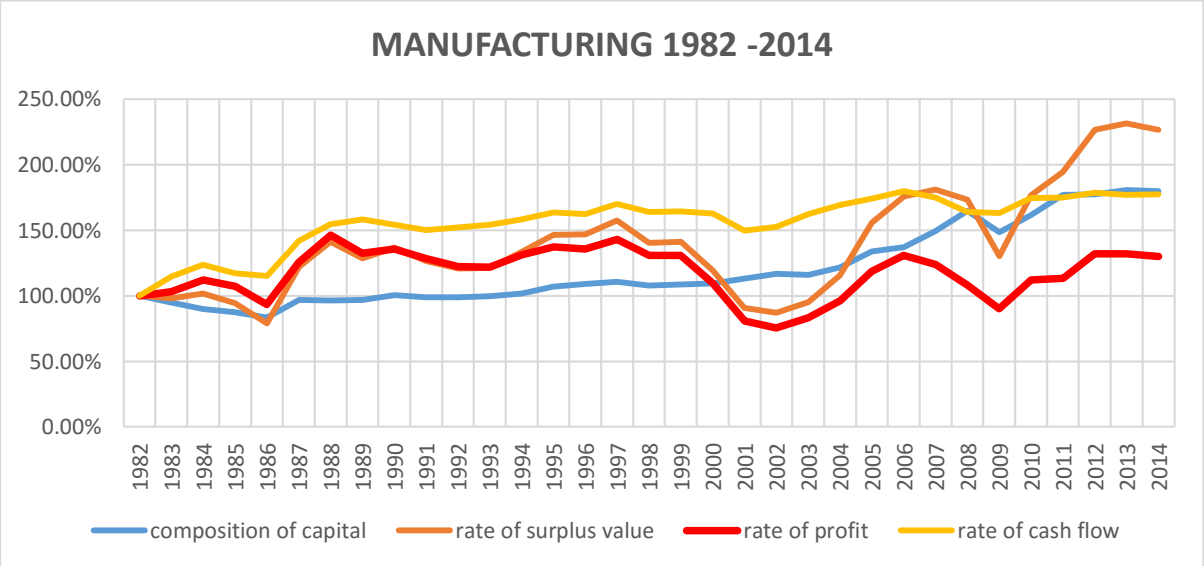
In the graph above, two divergent trends appear. With regard to the rate of profit there is a sustained fall in its rate over these 70 years. However, with the rate of cash flow a fall is replaced by a rise from the 1980s onwards. Indeed, by 2006 and again in 2012 the rate of cash flow achieves a level 90% as high as the 1950s and sustains it over a period of time reminiscent of the 1960s. Hence when we examine the two great periods of expansion, the first following the war up to 1973 and the second from 1982 to 2014, this time from the point of view of cash flow, they are dissimilar. Just how dissimilar requires closer examination which is carried out in Graphs 5a and 5b.

Graph 5a.



This period is classic. It is a period of high rates of investment leading to a rapid rise in the technical composition of capital. It is also a time of organised labour and the cold war, all of which forced the capitalist class to make concessions to their workforce resulting in workers clawing back a significant portion of their growing productivity. The result was a falling rate of surplus value, which when combined with a rising composition of capital, ensured a falling rate of profit. Between 1951 and 1970 the rate of profit had fallen by over 40%. The rate of cash flow fell by 24% as well.

Graph 5b.



On the other hand, Graph 5b describes totally different political, social and economic conditions. 1982 is chosen for a number of reasons. It follows the large scale destruction of heavy industry and its restructuring together with significant defeats of organised labour. Together they are sufficient to convince the capitalist class that their future prospects are so improved it ignites one of the longest most enduring rises in share prices ever seen. It could also be argued that 1986 marks the definitive beginning of this second post war long wave of expansion, for it was in that year that the rate of surplus value and of profit increased qualitatively. Later this period of expansion is consolidated by the collapse of COMECON and the opening up of China which provided international capitalism with a windfall plus a base in which to expand manufacturing. Whatever date is chosen does not detract from the chief characteristic of this period, namely that the rise in the rate of surplus value exceeded the rise in the composition of capital. This compares to the previous period where the composition of capital exceeded the increase in the rate of surplus value.

This was not due to a slower growth in the composition of capital. In the first period it grew by 31% and in the second by 80% (though over a longer period). However, the reasons for the growth were different. In the first period the growth was due primarily to an increase in constant capital while in the latter it was due to a fall in variable capital resulting from rising exploitation, reduced rates of employment and of course, rising turnovers. In the second period, the inability of workers to capture any of their rising productivity, compared to their bosses' ability to capture more surplus value from the international value chain, meant a rapid rise in the rate of surplus value. This helped sustain the rate of profit which showed only a marginal fall from its high point in 1988.

Here lies the importance in analysing the reasons for the growth in the composition of capital. If the composition of capital rises because **v** is falling rather than **c** rising, and **v** is falling because exploitation and turnover is rising, then this rise is less detrimental to the rate of profit. 2015 marks a change. During 2015 the rate of turnover and of surplus value showed significant falls and with it the rate of profit. Should 2016 replicate 2015, that is to say, should the rate of surplus value continue to fall, then in that event 2014 can be declared the end of the second post-war long-wave of expansion.

It has become commonplace to declare that the long wave ended in 2008 after which capitalism has been in depression. This is wrong. The second long-wave was not only characterised by the rate of surplus value rising above the growth in the composition of capital but also by the disparity it gave rise to between corporate cash flow and investment. We are reminded that corporate cash flow is composed of depreciation and pre-tax profits. Depreciation is now larger than pre-tax profits.

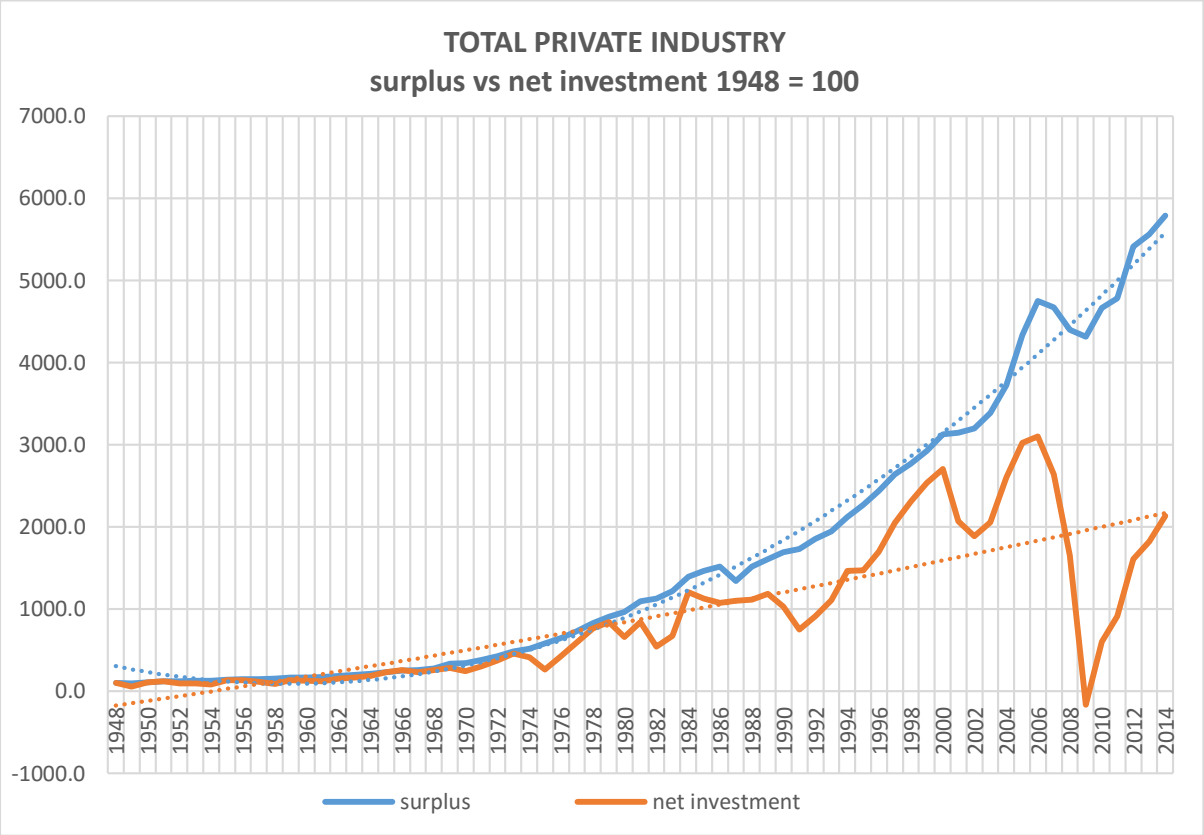
If we now revert to Total Private Industries, rather than manufacturing, in order to get a bigger picture, and focus on the surplus rather than pre-tax corporate profits, depreciation has grown 3.5 times faster than this surplus. As a result, its comparative share increasing from 13.5% in 1948 to 35.2% of **gross** cash flow by 2014. It is also worth mentioning that the growth rate of depreciation was one and a half times faster than the growth rate in the accumulation of capital throughout the economy.

Measured against gross fixed investment, depreciation paid for less than half the outlays on equipment, structures and I.P. in the 1950s. By 2014 it covered over 80% of these outlays or 101% if adjusted I.P is excluded. However, let us humour the capitalists and keep our hands off their I.P. It means the bulk of new investment is now paid for out of depreciation.

Depreciation is found in both cash flow and gross fixed investment. If we subtract it from both sides, then we are left with the surplus on one side and net investment on the other. This allows us to compare how much of the new surplus is being spent on new and additional means of production - what is called net investment. This is done in the graph below. Here we have the two spreading arms

embracing socialism, the one provided by a growing surplus the other by investment. The surplus arm indicates the possibility of socialism, and the investment arm its necessity.

Graph 6.



In relation to profits, investment has fallen relatively. This is not only a function of reduced investment but growing cash flow. Much has been made of gross fixed investment's declining share of GDP. This decline is not as severe as it first appears. This is because GDP is grossly inflated by duplication. The turnover formula suggests that GDP is inflated by double counting in excess of 25% and that two thirds of this excess has occurred in the last thirty years. (Note 2.) If this is so, then investments' share of the real economy has not fallen. Investments 16.5% share of GDP in 2014 now rises to levels matching the peaks of the 1950s and 1960s.

Viewed in this light the surface phenomena present in the period up to 2014 become explicable. This was a period of huge wealth production and is commonly recognised as such. And this happened around the world not only in the USA. It was also a period of the huge squandering of wealth. The gap between cash flow and investment in the USA, Britain, Japan, South Korea and others has led to the piling up of a huge trove of idle capital around the world. Latest estimates show that the cash pile accumulated by the global corporations now amounts to $15.3 billion (Dr K Erasmus). Larry Fink the head of Black Rock, the world's biggest asset manager, told CNBC on July 14th that $55 trillion in cash was currently lying marooned on the shores of the markets. This is on top of a larger amount already invested in shares, bonds, inflated property and derivatives.

The sum of idle and fictitious capital now dwarves anything that has come before. This creation was not due to a shortage of profits but a surfeit of profits (adjusted for depreciation). It is not only responsible for the growth of financialisation and the abnormal level of interest rates but its very existence imperils capitalist production. It represents twenty years of unconsumed surpluses which in

turn has held back economic reproduction. Should the fall in the rate of profit become established, and this quarter's results are crucial, this pile of idle capital will become unstable, what was solid will become liquid and the shock to the capitalist system will far exceed the $3 trillion loss in 2008.

Those who claim the fundamental problem continuous to be indebtedness on a world scale, especially China, miss the point. Of course the unwinding of debt since 2008 especially personal debt, has weakened consumption bringing down economic growth rates. The real point however is the opposite, it is not the shortage of credit, but its abundance caused by the growth in the unconsumed surpluses held by the capitalist class. That is why interest rates have plummeted rather than risen.

A pending debt crisis is precipitated by escalating interest rates as cash becomes king, not rates collapsing into negative territory. However, what is true is that the longer low interest rates prevail, the greater the potential in the future for a debt shock should interest rates recover. And here lies a health warning to all those reformists peddling helicopter money and intense government spending. Low interest rates have produced a time bomb. Should governments succeed in stimulating the economy to the point that interest rates reverse course, this will precipitate a shock to the economy that will overwhelm this stimulation as zombie companies and risky loans collapse because they have been taken off the drip feed of low interest rates. Capitalism has bought time but at the cost to its own future.

The reporting season in the US is now one third complete. The falls in the mass of profits of the S&P 500 is estimated to be in the 4-5% range. Revenue falls are less than in the first quarter. The profit outlook for the third quarter is finely balanced. Should it also fall this will herald an unprecedented 6 quarters of profit falls, something which has never happened outside a recession. However, as long as the expectation remains that profits will actually revive in the final quarter, the stock markets remain complacent and share prices elevated. It is to be noted that these elevated P/E ratios has depressed yields which are now falling faster than interest rates in the USA. The last time this happened was in 1929 and 1959, the former leading to depression and the latter to continued expansion. The difference was that in 1959 it was the rise in interest rates that caused the inversion rather than falling yields on share prices as was the case in 1929 due to rocketing share prices prior to that date. Though the degree of share price increases is shallower in 2016 than in 1929, 2016 is closer to 1929 in its fundamentals than 1959.

The quality of profit reporting remains problematic. Pro-forma rather than GAAP conforming profits continue to command headlines. General Electric issued four different profit statements in its most recent quarterly report which caused its share price to jump, then to see-saw as closer examination revealed a more uncertain outlook. Microsoft's results were warmly greeted despite the frontloading of sales. Away from the markets misstatements increased. The latest criminal investigation by the Justice Department relates to the motor vehicle trade in the US involving Chrysler and BMW who are accused of padding their sales figures. Despite this padding, car sales in June have fallen 5% below last year's rolling average, notwithstanding sharply higher cash incentives. At the same time the rising defaults on sub-prime auto loans are beginning to worry investors. The market welcomed the recovery in job growth in June, but it appears these figures are as accurate as the head count in the Iraq army or in Britain. Both Michael Roberts in his posting (America: Jobs, profits and the stock market) together with David Rosenberg at wealth management firm Gluskin Sheff have revealed that the employee tax take in June, which fell by 17%, contradicted the increase in employment which is associated with an increase and not a decrease in employee withholding tax.

According to Volvo, heavy truck sales will fall by 8% in the US this year and 29% worldwide. At the Farnborough Air Show plane orders were down 21% compared to last year. Boeing is halving the

production of its 747-8 freighter because of concerns about the state of international airfreight. In China retail sales recorded by the top 100 bricks and mortar chains are down on last year (Bloomberg) as incomes fall and better paid factory jobs are wiped out. Private fixed investment is falling not because of being squeezed by the state sector but because of off-shoring as factories move abroad to lower waged countries like Vietnam. In Japan, the outlook has darkened because of the stronger Yen. Europe is on a knife edge because of Brexit, with Britain heading for recession. The future for the world economy continues to hang in the balance.

The only significant change is a growing working class fight back. The capitalist class is now under no illusion that the international working class is growing restless, from China (Wall-mart) through Europe to the United States. The Brexiteers and Trumps of this world may be a deluded expression, but an expression nonetheless, that workers are no longer willing to put up with the old ways. Depending on the outcome of their struggles and the direction it takes, hangs the future of neo-liberalism and its twin pillars – inequality and shrunken state spending.

The reversal in low pay will only have a marginal effect on overall personal consumption. The top 20% are responsible for three quarters of personal consumption expenditures (excluding housing and health) and the bottom 80% for only a quarter (Obama's advisory panel on 'a unitary sales' tax). The top 20% are the only quintile that have improved their living standards since 2008 and it is the only quintile that benefits directly from quantitative easing through their ownership of shares and bonds. It therefore takes a 3% increase in personal consumption spending by the bottom 80% of society to match a 1% increase by the top 20%. As the lowest paid workers reside in the second bottom quintile it takes more than a 3% increase in spend to match a 1% increase in spend by the highest quintile, such is the degree of inequality. Short of a doubling of wages, the impact on personal spending will be marginal as far as GDP growth is concerned.

Nonetheless, the fight against low pay, which is gathering pace around the world, is a sign that our three billion sized class is beginning to stir. No wonder the 1.3 million capitalist families and individuals who own this planet are growing concerned. What was fast frozen and rigid is now molten and moving. The finger of history has moved from the pause button to the forward button, it may soon be on the fast forward button.

Note 1. This has little to do with the rise in the technical composition of capital which theoretically should increase depreciation relative to profits as the amount of means of production rises and the relative mass of labourers diminish. However, the rise in depreciation is not consistent with the rise in the capital to output ratio, nor with a reduction in the average age of produced assets.

Note 2. There are a number of ways to confirm this. Firstly, the growth in Total Private Industry relative to Domestic Industry. Secondly the fall in turnovers for Total Private industry of 13% (1947 – 2014) instead of a rise similar to the goods producing sector over the same period.