PROFITABILITY. WAS MARX RIGHT OR WRONG?
Let's turn to the data.

I was going to add this section, which deals with how the rate of surplus value and the composition of capital influences the rate of profit, to the upcoming article on turnover. Alas, the release date for Q2 turnover data (gross output and gross value added) has been extended from the 27th to the 30th September. Additionally, I found that the data and the conclusions presented here are sufficiently important so as to justify an independent article.

The discussion on Marx's laws governing capitalist production swirl back and forth. Much of it is confined to the theoretical level and to argument over interpretation. But Marxism is not a theoretical science, it is above all practical. If it remains trapped in theory it becomes theological. For this reason, I am remined of the parable that Francis Bacon made famous four hundred years ago.

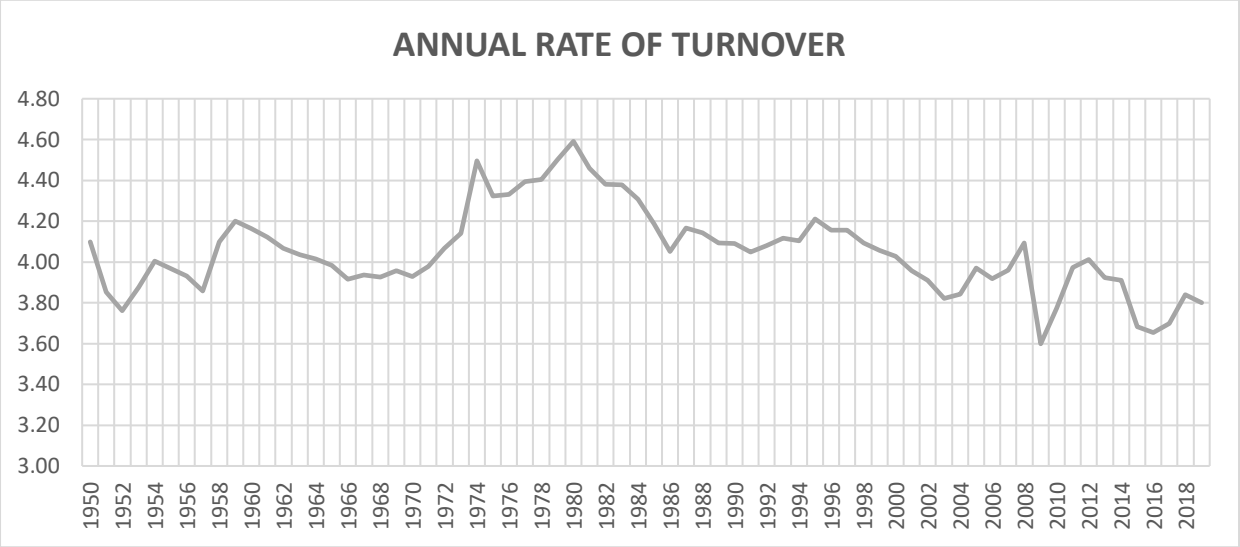
"In the year of our Lord 1432, there arose a grievous quarrel among the brethren over the number of teeth in the mouth of a horse. For thirteen days the disputation raged without ceasing. All the ancient books and chronicles were fetched out, and wonderful and ponderous erudition such as was never before heard of in this region was made manifest. At the beginning of the fourteenth day, a youthful friar of goodly bearing asked his learned superiors for permission to add a word, and straightway, to the wonderment of the disputants, whose deep wisdom he sore vexed, he beseeched them to unbend in a manner coarse and unheard-of and to look in the open mouth of a horse and find answer to their questionings. At this, their dignity being grievously hurt, they waxed exceeding wroth; and, joining in a mighty uproar, they flew upon him and smote him, hip and thigh, and cast him out forthwith. For, said they, surely Satan hath tempted this bold neophyte to declare unholy and unheard-of ways of finding truth, contrary to all the teachings of the fathers. After many days more of grievous strife, the dove of peace sat on the assembly, and they as one man declaring the problem to be an everlasting mystery because of a grievous dearth of historical and theological evidence thereof, so ordered the same writ down."

Well at least we don't have the likes of the unlamented Gerry Healy (WRP) who tended to *smote* those who questioned his estimate of the number of horses' teeth. This article is about taking the time to go down to the stables, to finding a horse, to giving it some sugar and then counting its teeth. In other words, to test Marx's theories in the real world to see if the theory stands up to the test of daylight and time. It uses data from the System of National Accounts (SNA) prepared by the BEA to prove the veracity of Marx's assumption once and for all.

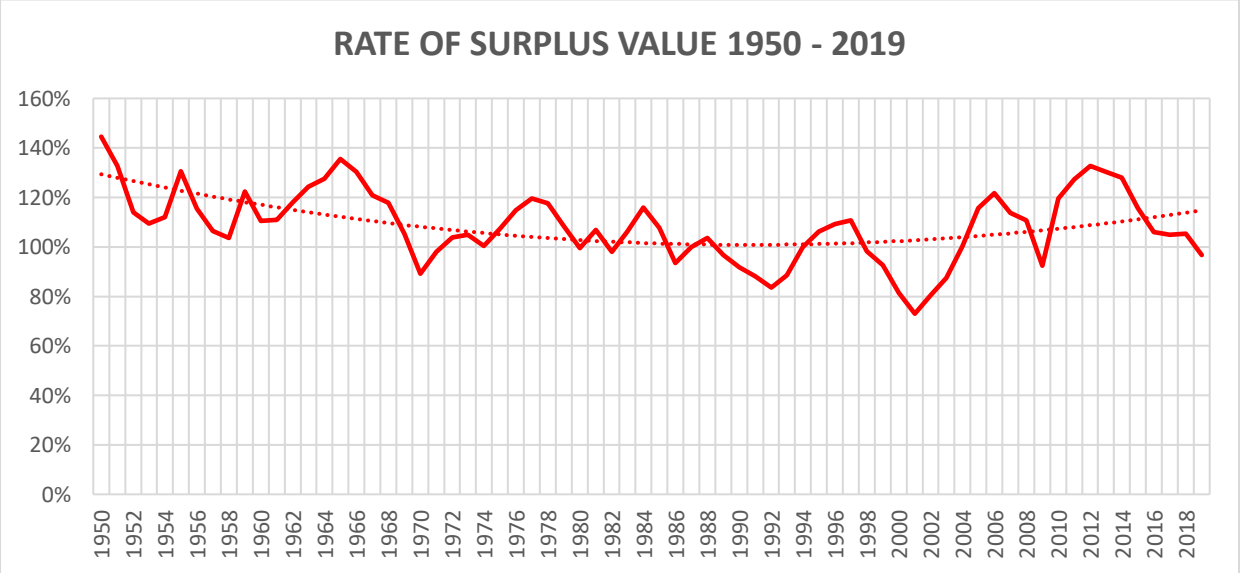
Non-financial corporate is used because it is the largest sector of the economy where duplications do not overwhelm the data. The period covered extends from 1950 to 2019. The attached spreadsheet provides the source data. The rate of turnover used is that of the goods producing sector.

All the graphs are presented in a block for comparison purposes, which is then followed by a discussion section.

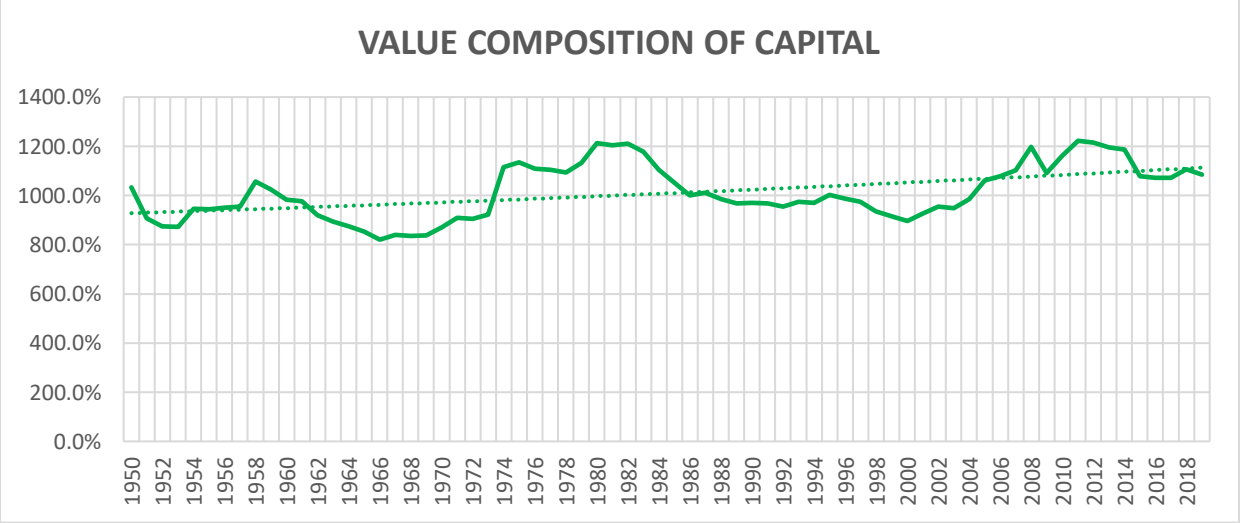
Graph 1.



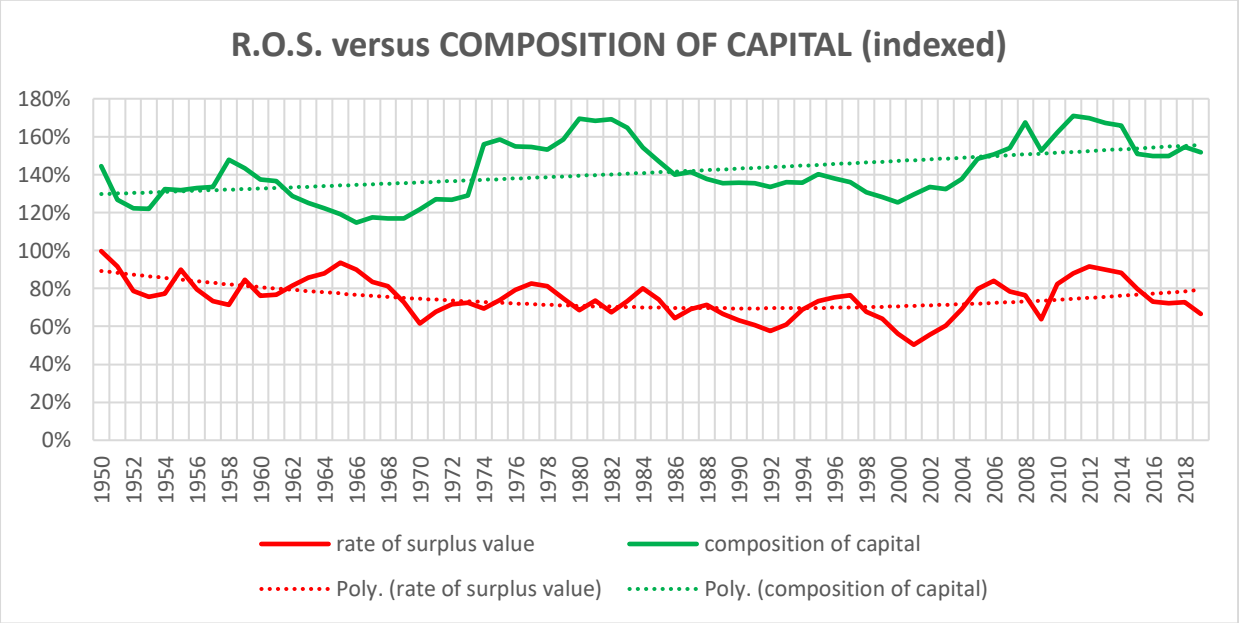
Graph 2.



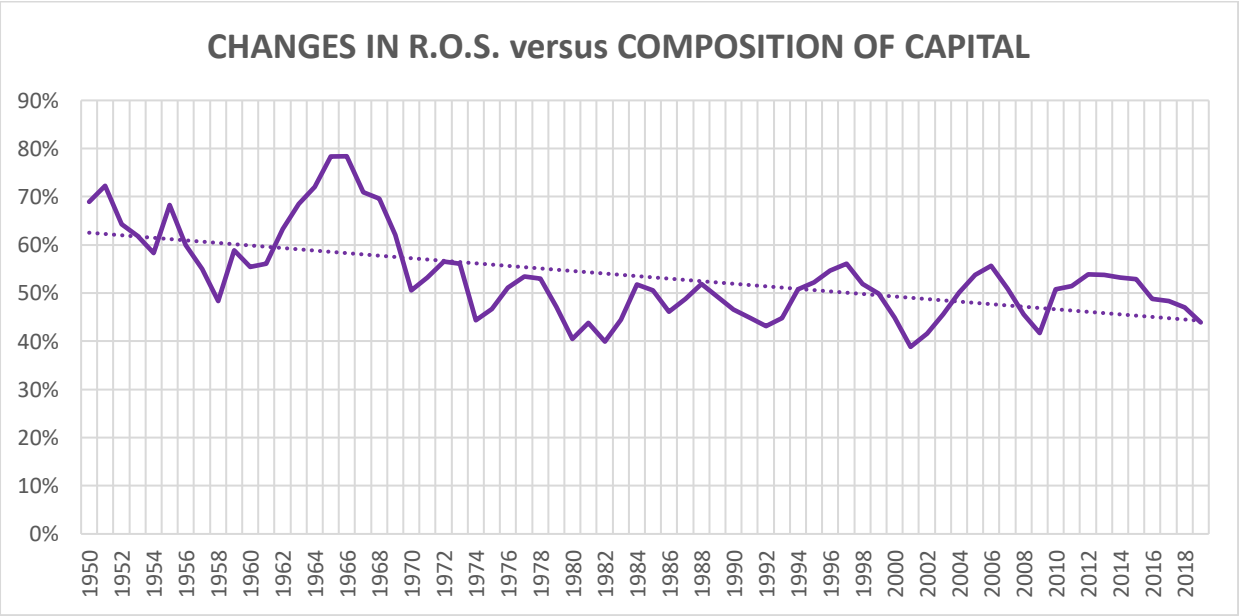
Graph 3.



Graph 4.



Graph 5.



Discussion.

Talking teeth, I have pointed out on innumerable occasions, that one cannot factor for the rate of surplus value and the composition of capital without accounting for turnover. The reason is simple. Variable capital forms the numerator in both equations and one cannot derive variable capital from annual compensation, without dividing the latter by the annual rate of turnover.

Graph 1 therefore appears as a reminder of what is happening in the background. But if we are allowed to digress for a moment, it has one startling feature deserving of comment. Look at the rate in the 1970s which shoots up. That is the result of the abandonment of the gold standard, the collapse of Breton Woods and the sharp devaluation of the Dollar. The twin peaks found their attest to the devaluation of the US economy in global terms. The USA's share of Dollar GVA relative to the Gross Output of the global economy contracted, and this was correctly registered as a surge in turnover. The

US had to pay more in dollar terms for its foreign inputs, especially oil, but received less in real terms from its international sales priced once again in dollars. What bourgeois economists call the terms of trade which went against the US. Notch another insight to the turnover formula.

But we digress. Graph 2 is the rate of surplus value. The formula for this is $s*^{n}$/annual compensation where ^{n} stands for number of turnovers annually. It is derived from dividing compensation by turnover. This division below the line becomes a multiplication above the line yielding the same result. Anyway. Turning to Graph 1 we note how turnover accelerates up to the peaks of the industrial cycle and following the abrupt crises, it then decelerates into the trough of the cycle.

Why is this observation so important? Because an accelerating rate of turnover amplifies the rate of surplus value by reducing variable capital and expanding the annual surplus through its effect on inventory ratios. By way of example, a rate of turnover accelerating from 4 to 4.5 reduces $100 billion of annual compensation from $25 billion down to $22 billion of v. Anything that reduces v relative to the surplus, must increase the rate of surplus value. This effect cannot be seen when using the crude metric of s divided by annual compensation or the rate of exploitation. Conversely, the opposite happens in the downturn when turnover decelerates. It increases v relatively and thus reduces the rate of surplus value more sharply than is found when using s divided by annual compensation.

Turning to Graph 3. Changes to the composition of capital, whilst being less volatile, shows a similar if somewhat more subdued pattern. (See Graph 9 at the end of the article.) The reason being, that it is easier, from a capitalist point of view, to show workers the door, than it is to cancel investments or to scrap them. Some investments take years to gestate and many impose penalties for a failure to complete. Thus, with the exception of the 1966 profit peak where the composition fell before-hand, in all cases it rises up to the peaks of 1974, 1980-81, 1996, 2008 and 2012. Conversely, it falls as the economy troughs after each of these five peaks.

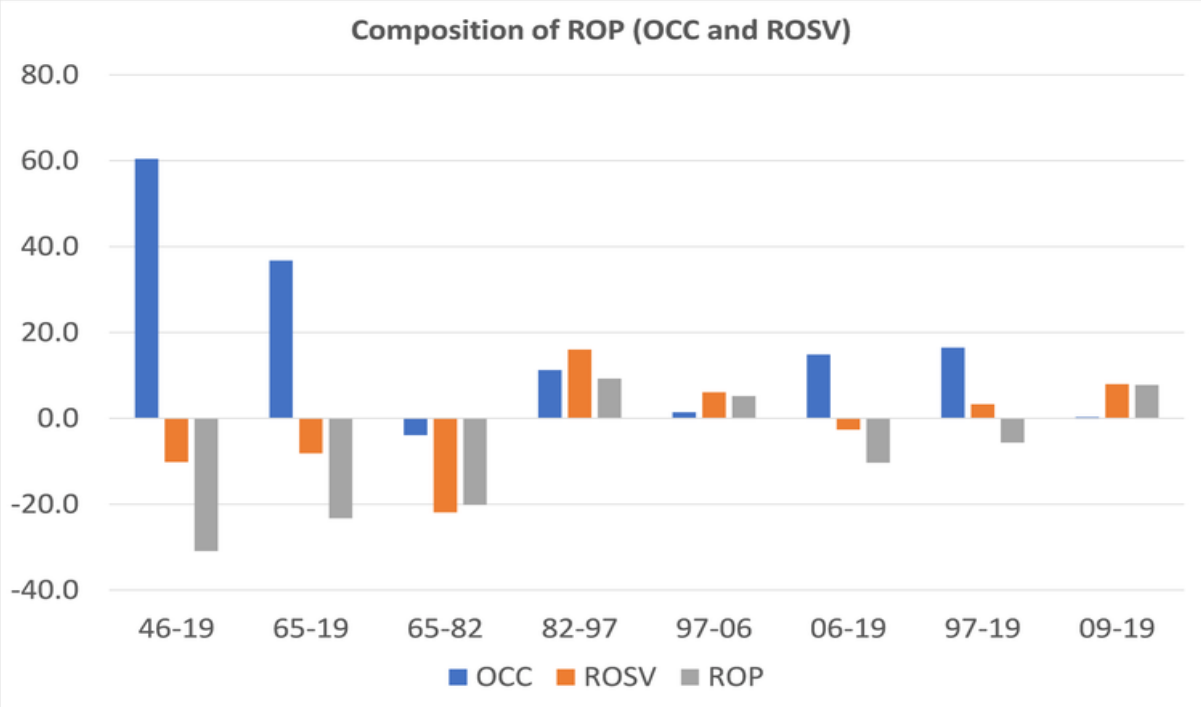
Graph 4 and Graph 5 are the more interesting graphs because they are comparative. The long-term trends in Graph 4 confirms Marx's assumption that the composition of capital outgrows the rate of surplus value simply because machines do not produce profits though the capitalist may swear, they do. If machines did produce profits those trends would be inverted.

The famous and much pointed to, peak in the rate of profit found in 1966, is a unique combination of a falling composition meeting a rising rate of surplus value. This is the opposite of what is found in the peak in the 1973, and subsequently, when both the rate of surplus value as well as composition rise, but where the rise of the former outpaces the rise in the latter.

One of the most notable trends is the one found during the extended phase of globalisation beginning in the first half of the 1990s and ending between 2014 and 2016. The composition of capital rises from 134 in 1992 to 170 in 2012 a jump of 27% while the rate of surplus value rises from 58 in 1992 to 92 in 2012 a jump of 59%. It is this relatively faster expansion in the rate of surplus value that accounts for the profit peaks in 1996, 2006 and 2014.

Graph 5 takes this argument a step further. But first an insight into Michael Roberts who also supports Marx's contention that it is the rising composition of capital which weighs on the rate of profit.

In a recent article on the rate of profit he provides the following graph. The link to the article can be found below the Graph. OCC stands for the organic composition of capital and RSV for the rate of surplus value. Attention is drawn to the fact that variable capital is not the denominator used here, annual compensation is.



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Graph 5 extends, consolidates and concludes the discussion on the interaction between the rate of surplus value and the composition of capital. It divides changes to the indexed rate of surplus value into changes to the indexed composition of capital. It is thus a relative measure. It amalgamates the two graphs found in Graph 4. As v is common to both ratios (s/v and c/v) what this amalgamation does is to reduce the comparison to s and c. (Note 1.) This is none other than the rate of return which is why the contours of the graph mirror the expansion and contraction of the economy.

Where the rate of surplus value rises relatively faster than that of composition, the rate of return rises. Where the rate of return falls faster than that of composition the rate of return falls furthest. Where the rate of surplus value and of composition are closely grouped, the average rate of return for the period is higher. Where they lie furthest apart, as between 1974 and 1986, the average rate of return for the period is lower.

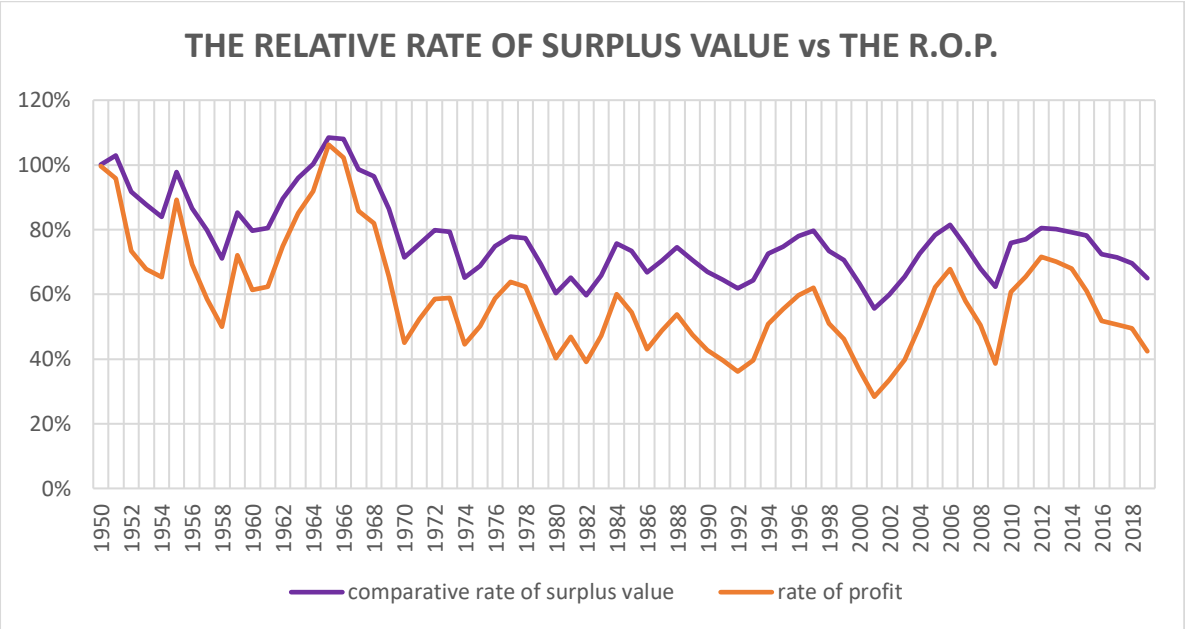
It is often forgotten that v plays a role in the composition of capital. Most attention is fixed on c because it is the dominant factor. But in upturns, v increases slowing down the increase in composition. In downturns a falling v also slows down the decrease in the composition of capital. Thus, c increases faster than is assumed by the composition in upturns and decreases by less than is assumed by the composition in downturns because of the behaviour of v.

That is why I consider Graph 5 to be the coup de grace. It puts a stop to the endless speculation over whether Marx's assumptions were correct or not. These are confirmed fully and completely by the data. The final graph below compares the rate of return (r.o.r.) to the actual rate of profit (r.o.p.) which in this case is the surplus divided by fixed and circulating capital. Because of the inclusion of circulating capital, the rate of profit is smaller.

Not only does the inclusion of circulating capital make the r.o.p. smaller, but it has also caused the r.o.p. to fall further than the r.o.r. since 1950. The r.o.p. has fallen by 58% (2019) compared to 35% for the r.o.r. In addition, while the peaks and troughs align, the gap at the peaks compared to the gap at the troughs, is different. This is due to the alterations in the rates of turnover which by accelerating

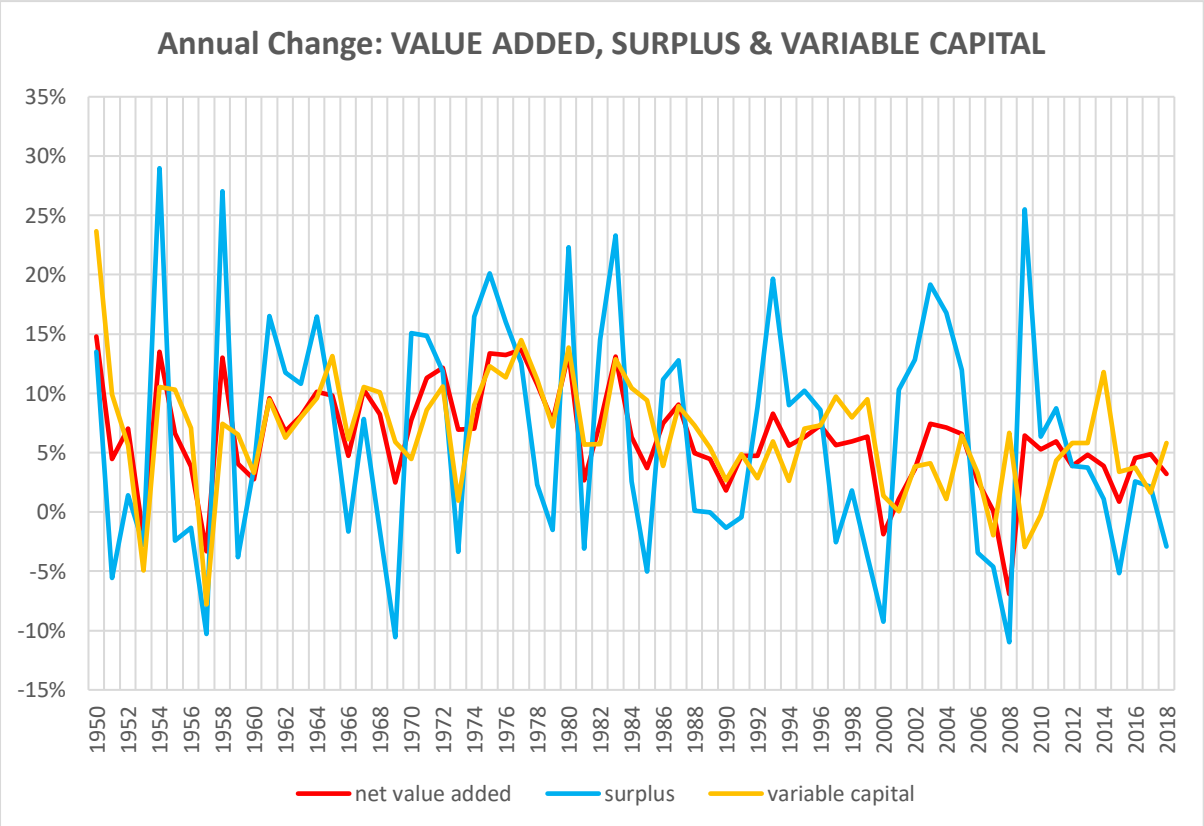
into the peak, decreases circulating capital relatively, as compared to the trough where its deceleration increases circulating capital relatively. Thus in 1996 at peak profit, the difference was 18%, compared to 28% during the 2001 trough, or 13% in 2006 compared to 23% in 2009.

Graph 6.



Finally do the graphs above answer the vexing question as to whether wage rises cause the rate of profit to fall, rather than the rise in constant capital? The following graph does.

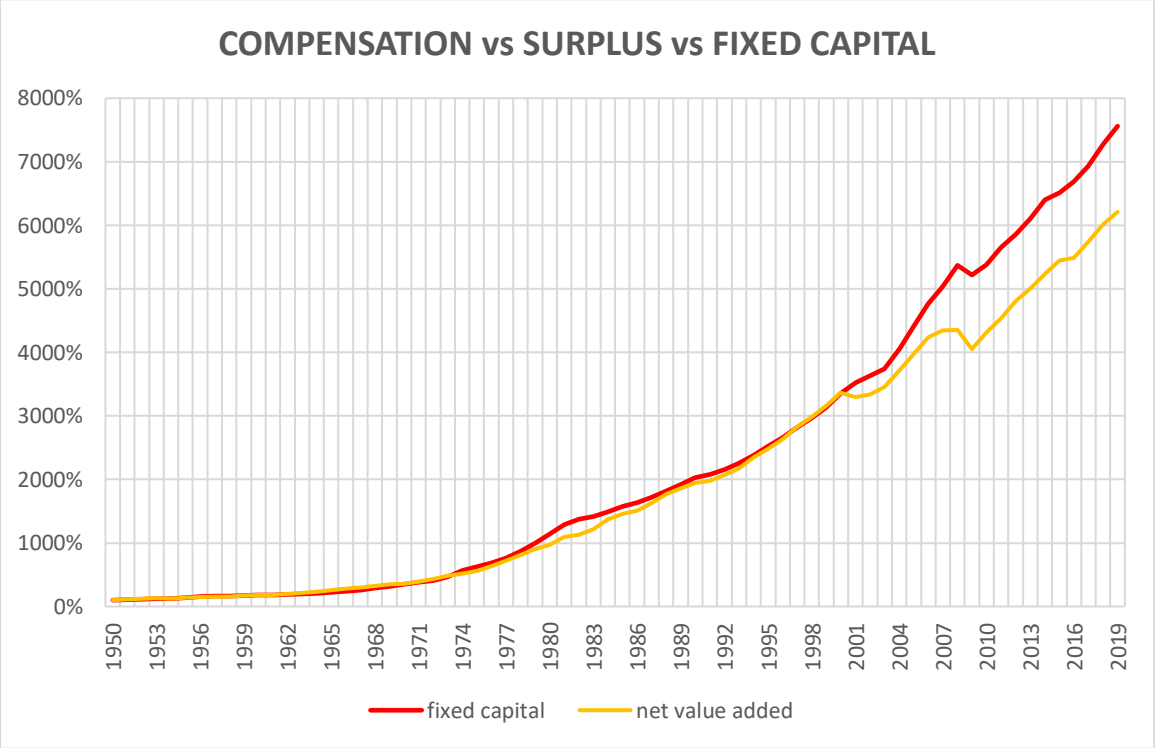
Graph 7.



The question is posed incorrectly. It is not wages versus profits, but variable capital versus profits. There are not two variables in play, wages and profits, but three, wages, profits and turnover. The amount of wages and profits can remain unchanged yet the outcome could change if turnover changes. Generally, everything else being equal, the higher the turnover, the lower will be the ratio of wages to profits despite the two being unchanged, provided there is the usual reduction in the sales/inventory ratio. That is why changes to variable capital is used in Graph 7. Net value added, so to speak, is the cake that is divided between profits and wages. The real question, therefore, is whether the slice of variable capital is growing faster than the cake itself. Is it becoming a proportionately larger slice of the cake, leaving a smaller slice left over for profits? In other words, does the growth in variable capital out accelerate the growth in value added thereby depressing profits. And the answer is no. The graph demonstrates the following general rule; variable capital tends only to peak above value-added, but only after value-added itself has begun to fall.

So, our focus should be on the behaviour of value added itself, on the cake itself and not on the slices. What could be causing value added to contract, why is the whole cake getting smaller, making the struggle over slices more intense? Our final graph below provides the clue.

Graph 8.



If we pay attention to the right-hand side of the graph, where the tracks are clearer, we note that fixed capital tends to outgrow value added. (If we added in inventories the gap would be bigger.) Its' this preponderance of fixed capital, and with it the rising composition of capital, that provides the answer. Because fixed capital grows faster than does value added in the upward phase of the cycle, it begins to increase capital relative to net value. This effect is uneven. It is most intense in those areas where the composition of capital is already above average.

Marx called this the relative fall in the rate of profit, not because profits are falling but because they are rising more slowly than investment. In short, investments in this part of the economy are no longer providing returns matching previous investments.

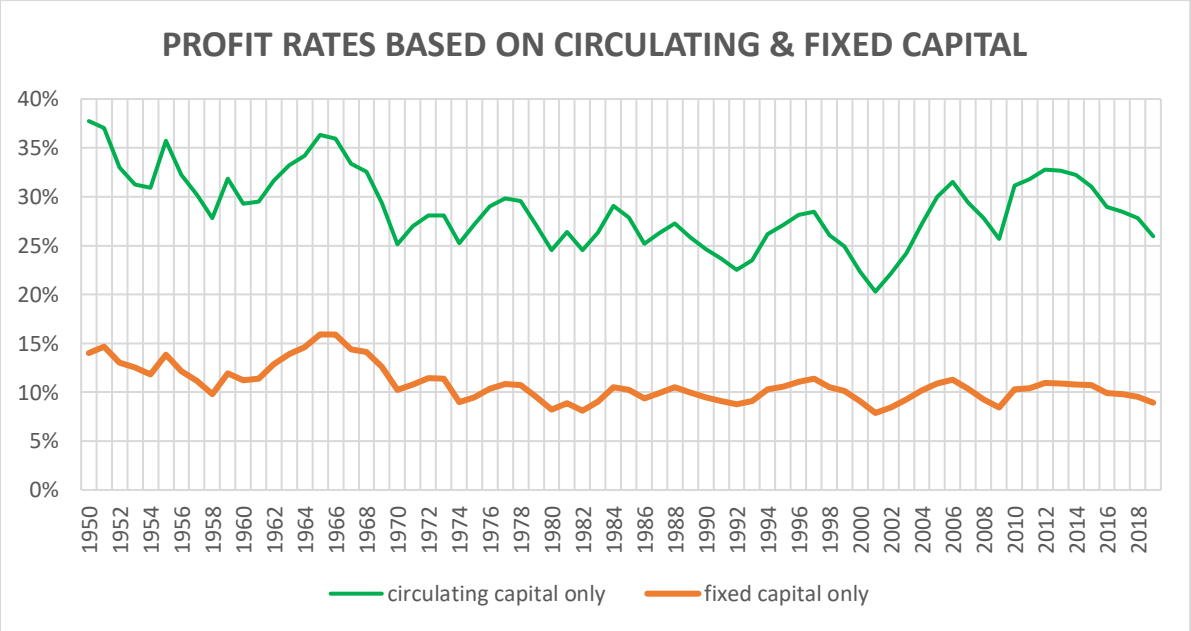
This acts as a disincentive to invest. Investment begins to falter. When it does, it sends ripples through the economy causing the run up in the cycle to stutter. The lack of investment in one part of the economy is experienced as diminished demand in the rest of the economy. (It can also lead to localised price rises on the supply side because specific inputs are now in short supply due to this faltering investment, but that is another matter altogether and not for today.) This diminished demand in turn trips up the rate of turnover. It takes longer to sell. Inventories begin to pile up. Value is locked up in these inventories and impacting net value because this value is based, not on what is produced, but only on what is sold.

There is less income but greater outgoings as more wages are needed, not because of an increase in the number of workers, but because the number of days needed to cover wages increases due to the delay in the sales revenue needed to reimburse employers. The result is an increase in variable capital on the one side, and fewer profits on the other, because of this dearth in sales. Taken in the round, this leads to a slow down in the rate of circulating capital of which v forms part. (Graph 9)

This finally turns the cycle. The rate of profit turns from a relative fall into an absolute fall because the mass of profits previously rising, now falls. This reduces the absolute mass of profits because some of the profits are fossilized in unsold inventories. As this absolute fall in the rate of profit imposes itself, the fall in investment previously sectional, now becomes generalised and production collapses. This is the moment the industrial cycle enters into crisis.

Thus, we can see that the matter is not simply a question of wages versus profits. When capitalists invest in production they invest in relatively fewer workers and relatively more machines and equipment. Fewer workers mean fewer workers to produce profits, more machinery etc, means more capital over which to measure those profits, setting limits to the rise in the rate of profit, and ultimately preparing its fall. That is why mathematically, the trajectory of the rate of profit is always parabolic. And when it falls back to earth, capitalism is paralysed, but only because production is driven by profit. Once we get rid of production based on profit, long overdue, production is no longer hobbled, and the needs and wants of society can be satisfied for all time.

Graph 9.



This graph shows how much more volatile, or should we say fluid, circulating capital is.

Conclusion.

It is time we moved on. Now is not the time for endless debates between communists trapped in orbit around methodology. Capitalism is in crisis. It is facing problems it cannot deal with. Johnson is spluttering and Trump is floundering. Covid is bankrupting the state and catalysing processes which will undermine the future stability of capitalist society by accelerating inter alia the replacement of workers with machine algorithms. The era of mass unemployment is upon us, and it is issues such as these we need to focus on.

By the time an effective vaccine is in place, sufficient damage could be done to the economy, so as to put the question of capitalist survivability, back on the scales of history.

Note 1.

s/v divided by c/v = (s/v)/(v/c) = s/c

Brian Green, 26th September 2020.