The US rate of profit 1964–2017 and the turnover of fixed and circulating capital. by William Jefferies. A CRITIQUE.

> *In this provocative article, Jefferies claims every other Marxist but himself has provided the wrong estimates for the rate of profit, the equivalent of blasphemy. Anyone making that statement needs to be on firm ground, which unfortunately William Jefferies PhD, is not.*

I am not altogether unsympathetic to Dr Jefferies' observation that between 2002 and 2015, the heyday of globalisation, there was a hump in the rate of profit in the imperialist countries. I do consider this period one of prosperity for the imperialist economy punctuated by the financial crash of 2008. In this sense I am perhaps closer to him than to say Michael Roberts and his prognosis of the long depression after 2008. I also endorse the effort, though flawed, to include circulating capital alongside fixed capital in the denominator forming the rate of profit.

What I object to is the methodologies he employs to firstly determine turnover and secondly to estimate fixed capital. I will proceed by first critiquing his approach to turnover and then his estimation of the stock of fixed capital. To make my points the reader will find two attached spreadsheets where all the data and formulae used in this article can be found.

The turnover formula.

For the historical record, though I unearthed the turnover formula and the formula to derive circulating capital, it is doubtful that I would have embarked on this endeavour without the knowledge imparted to me by Bill. It was he who informed me that the SNA (System of National Accounts), via the agency of Kuznets and Leontief, had its origins in Volume 2 of Das Kapital. It was this knowledge that sparked my enquiry at a time when I was investigating the Gross Output (GO) Tables in the SNA and their relation to the Gross Value Added (GVA) Tables which form National Income and GDP. In that sense therefore I consider the emergence of these formulae to be a collaborative effort which makes my disappointment with his recent efforts all the more acute.

Marx identified for the first time that if duplication was avoided, then the value of the final sale would be equal to all the fractions of value added by the various links in the production chain. From this it should have been obvious that a such formula did exist, but as Bill said, if there was such a formula it would have already been unearthed in the 70-year existence of the SNA. That it did not surface (and Dr Jefferies in his article quotes at length all the earlier Marxists who either derived partial measures or claimed it was impossible to calculate) is due to the complexity of the equation.

The reason being that the final sale itself adds the final fraction of value as it completes the transformation of the commodity into its final form or locates it at is final destination. This has to be seen to be understood.

Producer (Step)	**Intermediate Inputs**	**Value added**	**Sales Value**
Farmer (1)	0	10	10
Miller (2)	10	10	20
Baker (3)	20	10	30
Sandwich maker (4)	30	10	40
	60 = Intermediate Sales	**40 = Gross Value Added**	**100 = Gross Output**

The farmer begins the chain of production producing his or her own inputs to grow wheat. The farmer is reimbursed for their labour when they sell the wheat for 10 to the Miller. In turn the Miller expends labour milling the wheat before selling the milled wheat for 20, thereby being repaid for his or her labour as well as the money of 10 spent on buying the wheat from the farmer. The farmer then sells the milled wheat to the baker who bakes bread with it before selling the bread on to the sandwich maker. In all cases each producer is paid for their labour as well as any inputs. This is similar to the BEA primer on GDP.

There are four sales (10, 20, 30 & 40) and by adding them up we arrive at the total value of the sales which is 100. However it is clear when looking at the table that the value of the sales exceeds the value actually added by the producers which amounts to only 40. There is duplication in the form of the intermediate sales. If it was the case that a single large sandwich-maker did everything from scratch, they farmed, milled, baked, and buttered the bread themselves from beginning to end, then the total value of sales would reduce to 40 which would equal the value added internally of 40 because there would be no intermediate sales. Private property does confuse things by fragmenting production.

Now the question at hand was this. If the gross output represented total sales while value added represent only the single final sale, was it possible to derive a formula yielding 4 sales. First the formula GO/GVA was tried, but 100/40 only yielded 2.5 sales instead of 4. It was applying the second part which had defeated so many, which provided the right answer.

$$\frac{GO}{GVA} + \frac{(GO - GVA)}{GVA} = \frac{100}{40} + \frac{60}{40} = 2.5 + 1.5 = 4$$

(all rates of turnover used here is from the goods producing sector found in GDP-by-industry KLEMS.)

Here at last was the Marxian Rosetta Stone enabling us to convert annual renumeration into variable capital thereby converting the rate of surplus value into a rate based on variable capital not remuneration, a value composition of capital based on variable capital not annual renumeration and finally allowing us to obtain a proper rate of profit because the formula allowed us to distil circulating capital and therefore the total capital forming the rate. No longer did the rate of return need to masquerade as the rate of profit.

Now Mr Jefferies knew full well that GO/GVA would not do. And yet as we shall see, one of the steps he takes in his ornate article is to fall into just this trap. He correctly identifies the three phases of the production and circulation process which Marx describes thus:

	[M……..C]	[…….P……]	[C^+……..M^+]
Phases	[1]	[2]	[3]

Phase one is the purchase when money is used to acquire the factors of production – productive inputs plus labour power. Phase 2 is the production process itself. Phase 3 is the sale of the resulting commodities and eventual payment. So the circuit begins with a purchase and ends with a sale, money is paid out and money is received back and in this way the capitalist system overcomes the contradiction between private production and social consumption.

I will refer to the purchase as a reverse sale because each purchase forms a sale from the opposing side. Thus the bookends of the circuit of capital are two sales which surround the production process itself. To capture these two sale periods beginning with the first one, Dr Jefferies utilises bills payable. This is quite legitimate because as Marx observed, commodities are circulated within production and commerce by

trade credit. To capture the second sale Dr Jefferies utilises bills receivable. Bills payable represents a debt incurred by the buyer in this case the producer, while bills receivable is a credit given to the customer.

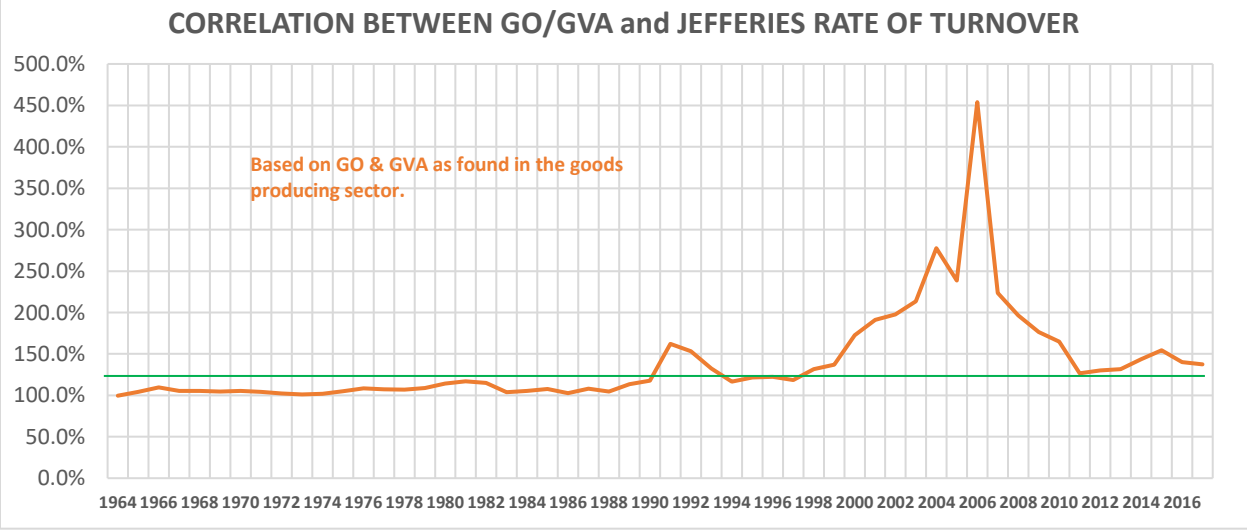
To calculate part of the working or circulating capital, Jefferies subtracts the money due (bills receivable) from the money owing (bills payable). So far so good. He quotes that the maturity of these bills are normally 37 days which I endorse as it conforms to the Dunn & Bradstreet data I am prone to use. So Phase 1 extends for 37 days, and Phase 3 extends for 37 days as well. What about the middle phase, the production phase. This can be determined by the inventory turnover cycle or how many times inventory is produced and sold each year. Using this cycle we can calculate the period of production which is currently about 40 days.

Like the speed of light, the inventory cycle is the limiting factor in turnover. What has not been produced cannot be sold, and therefore no trade bills will emerge. (There are exceptional cases, for example in the sphere of bespoke production where payment is required in advance.) Setting that aside how does Jefferies calculate the period between purchase and production and the period from sale to payment. He deducts the bills-payable from the bills-receivable. The value of bills-receivable will always exceed the value of bills-payable because bills-receivable are attached to the selling price which is always higher than the input prices to which the bills-payable are attached. The difference being of course the value added by production.

By doing so he has inadvertently reinstated the selling price back into inventory turnover. Input prices plus value added equals selling price, or input prices plus wages equals cost price, while cost price plus the profit margin also equals selling price. Dr Jefferies is thus arriving at a turnover rate based on selling prices rather than cost prices which the capitalist use to estimate the turnover of their stock of inventory. The reason; the capitalists are wise enough not to count their chickens before they are hatched (sold) so they exclude their profit until such time as the inventory is sold and they can pocket the profit. Inventories represent the paid costs of production as far as capitalism goes, no more no less. By adding back the profit margin to cost price, Dr Jefferies necessarily slows down the inventory turnover ratio.

I abandoned this approach years ago because it produced results inconsistent with the formula. On closer examination I realised this was because this approach actually yielded GO/GVA.

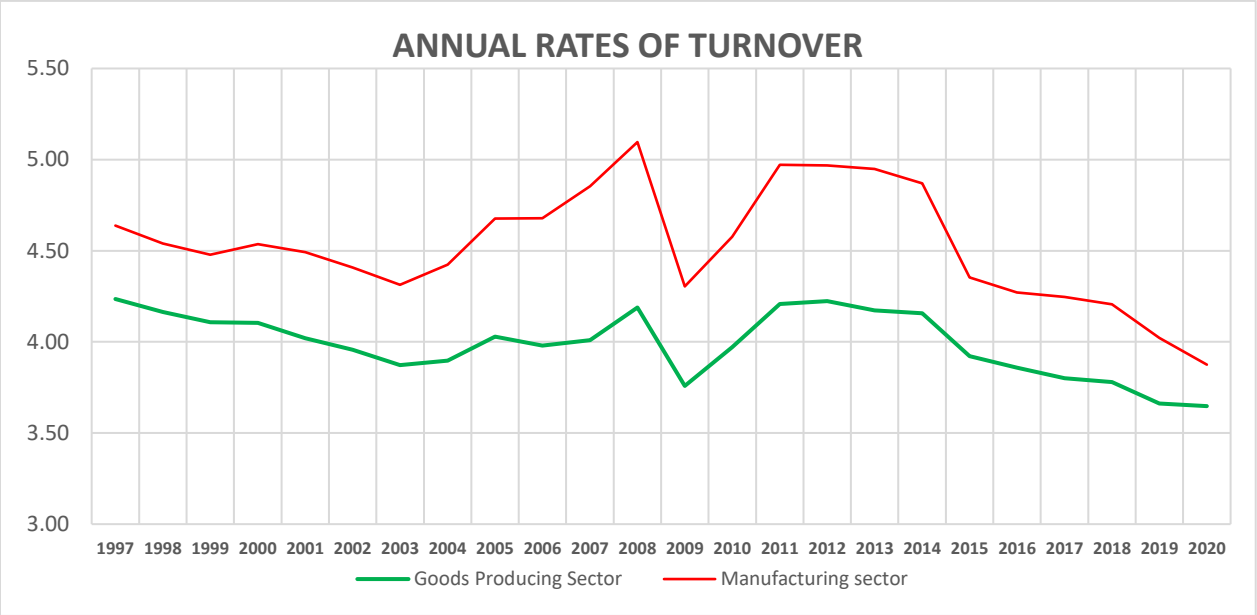
Graph 1.



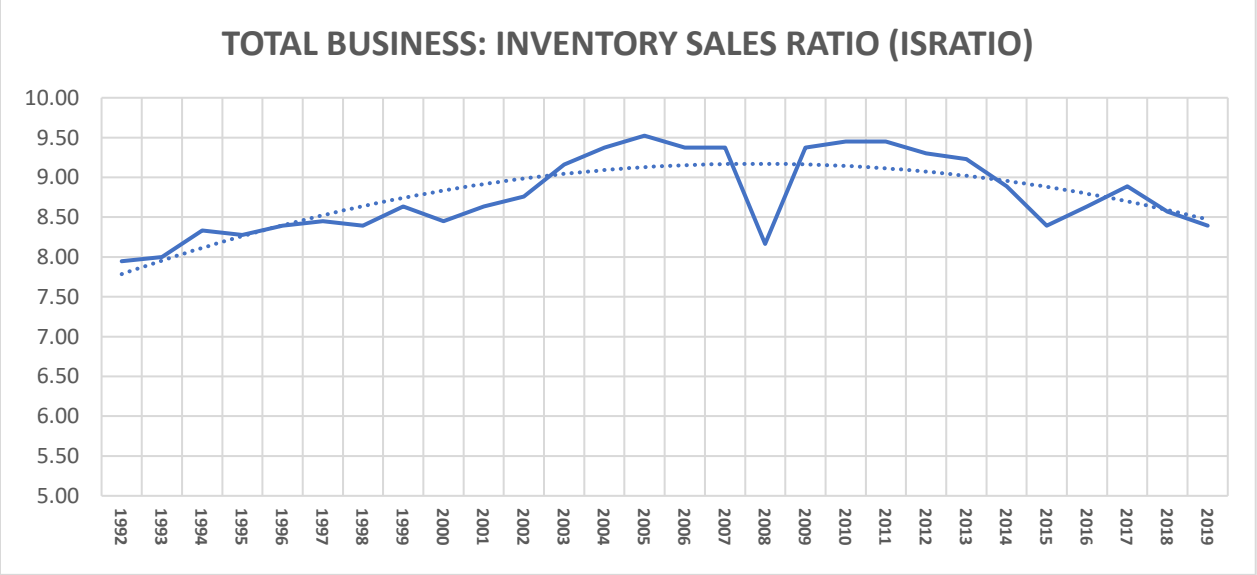
In the graph above there is a strong association between GO/GVA for most of the period. During 35 of the 57 years or 60% of the period there is a strong association (a deviation under 25%) and a looser association for another 10%. There are only two aberrant periods, a minor one at the beginning of the 1990s and a major one this century which coincides with the elevation in the rate of profit identified by Dr Jefferies.

This observation of an increase in the rate of turnover is not baseless. The rate of turnover as measured by the formula also increased, as Graph 2 below shows, as did the inventory cycle in Graph 3. There are clear humps to be seen. In the case of Graph 2, turnover accelerates from 2003 onwards. As a result, the difference in total circulation times in Graph 2 (manufacturing) falls by 13 days between 2003 and 2008. Within a year, due to the financial crash, that is wiped out by 2009. Interestingly enough, Dr Jefferies rate shows little or no recovery after 2009, despite the fact his rate of profit remains elevated at this time.

Graph 2.

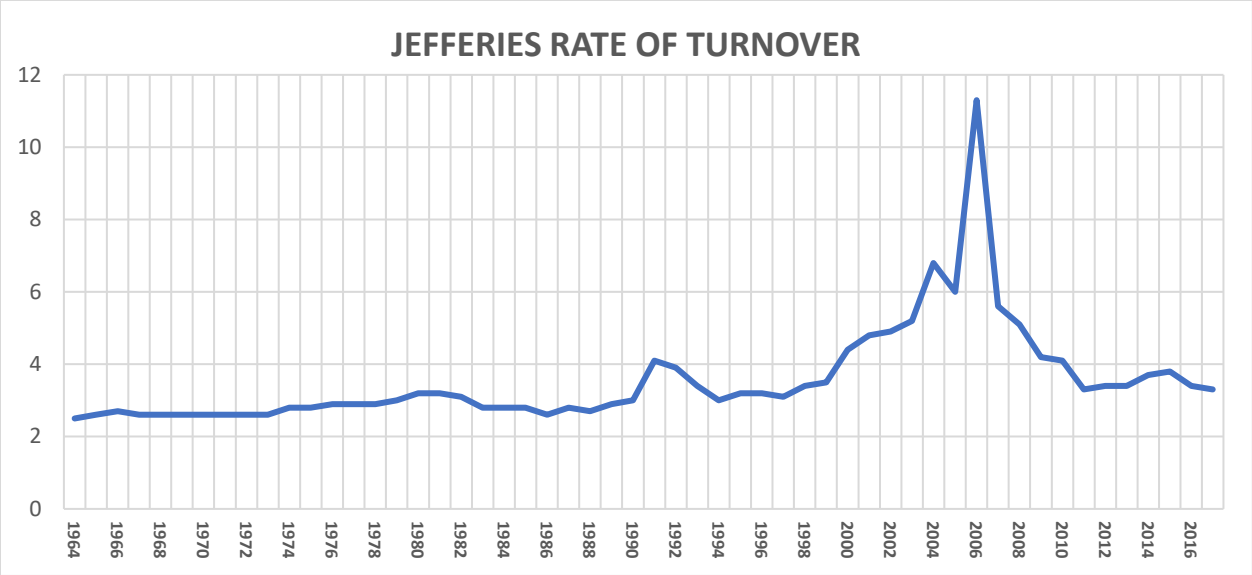


Graph 3.



Dr Jefferies series is however exaggerated as can be seen in Graph 4.

Graph 4.



Whereas the changes in the previous graphs were measured in terms of percentages, here it is in multiples. I cannot account for this exaggerated movement as I am unfamiliar with the IRS data used by Dr Jefferies. Some of it can be explained by outsourcing which became prevalent at this time. I am not sure whether or not Dr Jefferies separated inputs into inputs to be worked up plus energy, and inputs which were really expenses relating to clerical functions such as payroll, advertising, accounting etc. The former is paid out of capital (past labour) and appears in the production accounts while the latter is paid for out of revenue (current labour) and appears in the profit and loss account. Despite being expenses, these inputs attract bills payable, so bills payable would have increased relative to bills receivable thereby reducing working capital, and by doing it would have accelerated the rate of turnover.

What is also difficult to interpret is why it was only from 2001 to 2010 that Jefferies rate of turnover exceeded the actual rate of turnover as measured by the formula and why it's rise thereafter was so miniscule compared to the rate of profit provided by Dr Jefferies to be examined further on.

Clearly the data that Dr Jefferies and I have produced describes a fundamental restructuring of the world economy through globalisation. I believe this disordered Dr Jefferies data and he needs to account for it. On the other hand, while the turnover formula also captured these changes it did so in an orderly manner.

Jefferies rate of profit.

"Generally, Marxist economists have used neoclassical fixed capital estimates of opportunity cost, as applied most notably, in the US system of national accounts. These Hulten and Wyckoff measures aggregate the lifetime revenues (both costs and profits) of fixed assets and so grossly overestimate the value of the fixed capital stock." and "*Fabricant (1938) developed the neoclassical method underpinning the valuations of the US Bureau of Economic Analysis (BEA) today. Fabricant's valuation of fixed capital is a multiple of the expected revenues the fixed capital yields. It is necessarily higher than the actual purchase price or replacement cost of the capital, except in the imaginary world of perfect competition where there*

are no profits and so the notional revenues generated by the asset equal costs…" So every Marxist 'economist' has a split personality, neo-classical on the inside, Marxist on the outside, leading us to double count the assets which form the fixed capital used to model the rate of profit.

Immediately, an analogy springs to mind – homeopathy. Hulten, Wyckoff and Fabricant have been so diluted by 80 years of continuous investment and depreciation, that they exist only as a memory in the data. The point being that both investment and depreciation are largely real. The BEA goes to great length to ensure that what is being counted is a product produced within a given period, which is why they deduct inventories brought forward from a previous period, while adding in inventories carried forward to the next period. If gross fixed investment was a number which included value imported from other periods, say discounted cash flows from the future, then the T accounts that form the SNA would be disrupted. Production, expenditures, and final sales would be torn apart. Yet that is exactly what Dr Jefferies implies. If the means of production grows faster than the value applied to it, because value from the future in its fictitious form has been added to it, then the production side would overwhelm the expenditure side.

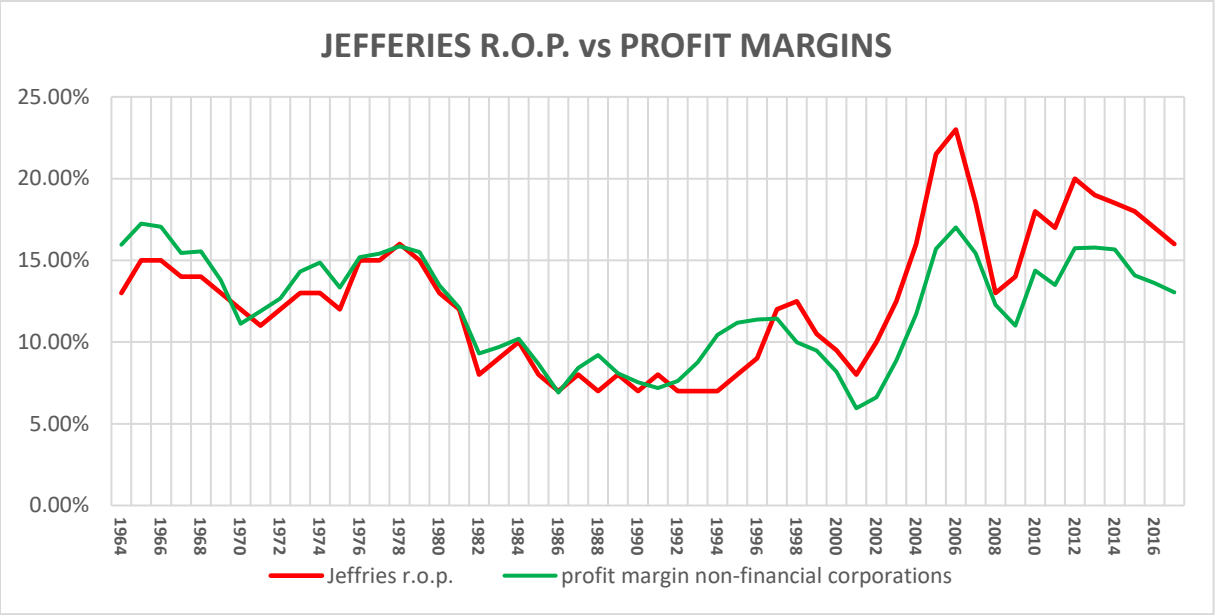
This does not apply to the realm of 'financial assets' where all is fictitious and all is conjured up, and if not conjured up, then leveraged. It is precisely for this reason, that the statistical bureaus exclude this capitalist Garden of Eden whose branches hang heavy with unproduced capital gains. Instead the bureaus only focus on that which is produced nationally and within a given period, hence the term **product** in gross domestic **product**.

Let us now turn to the issue of depreciation. Is it a real number or are the bureaus hoodwinked by the accountants and lawyers? I am not sure if Dr Jefferies is aware of NIPA Table 7.13. If not let me introduce it to him. In this Table the BEA reconciles its capital consumption allowances with that of the IRS, the source of Dr Jefferies data as well as the BEA's. Interestingly enough, the capital consumption allowances used to deflate the stock of produced assets by the BEA is larger than the figure the IRS uses. The largest element governing this difference is the depreciation of Intellectual Property undertaken by the BEA (line 6) but not by the IRS which amounted to $560 billion in 2017. (incidentally at 2.9% this equates to the increase in GDP caused by the capitalisation of I.P. so the depreciation of $560 billion contras the increase in fixed investment also of $560 billion keeping both sides of the T accounts in balance.) (Notes 1 & 2)

Dr Jefferies eulogises over his treatment of depreciation. It is immaculate, never before trialled. Such wondrous results. He has achieved the impossible. Profit rates which exceed profit margins - a world first. With both the profit margin and the rate of profit, the numerator is the same, pre-tax profits. What differs are the denominators, revenue and capital advanced. For profit rates to exceed profit margins therefore, the amount of capital advanced, that is past labour, must be less than the labour currently being added in the form of revenue. In 2006 for example, when both the rate of turnover and that of profit were at their maximum, the amount of capital advanced would have only been 74% compared to the amount of revenue generated. In other words the capital to output ratio here is negative, or -24. Equally importantly, the period where his rate of profit significantly exceeds profit margins begins in 2001, the period during which he criticises the rest of us Marxist economics for our deflated rates of profit.

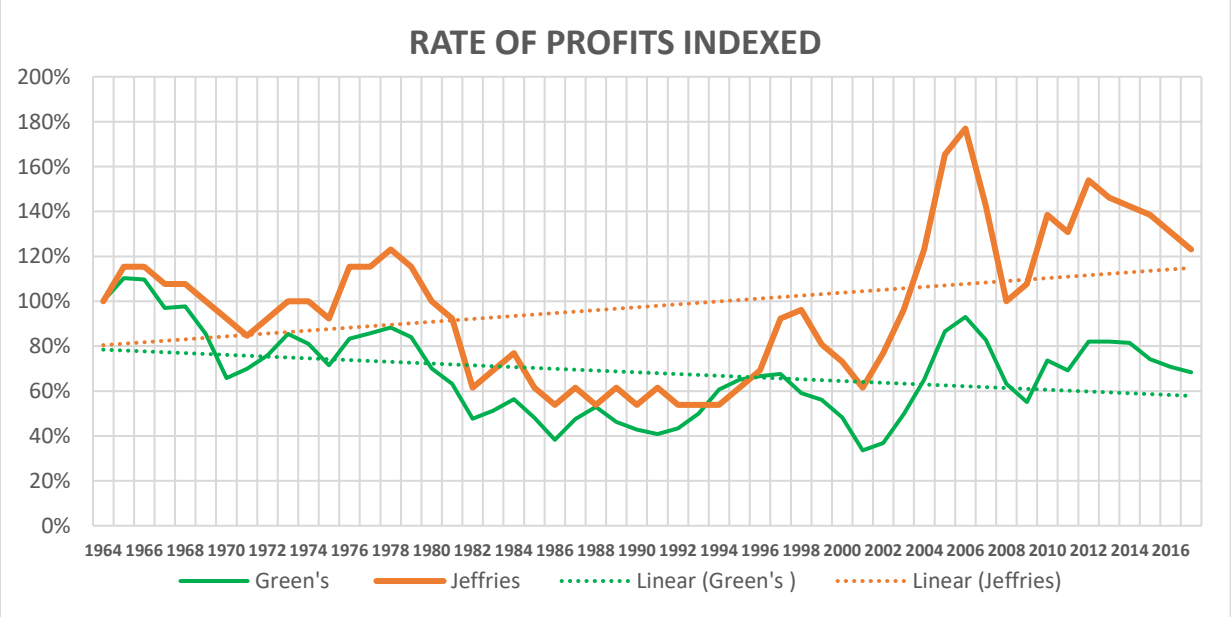
Dr Jefferies has criticised every other Marxist for miscalculating the rate of profit, which is contestable, but what is categoric is that Dr Jefferies is the only Marxist ever to posit a negative capital to output ratio and this after 300 years of capital accumulation. (The profit margin for non-financial corporations has been determined by dividing unadjusted pre tax profits line 37 by GVA line 17 in NIPA Table 1.14 attached. Jefferies rate of profit has been estimated from his graph as no table for profits were found.)

Graph 5.



The BEA does sample the balance sheets of corporations to verify its data on Fixed Capital as does the Federal Reserve Bank with its own series of profit rates. Yes it is true imputations (fictitious sales) blight the SNA data including as we have seen with depreciation or fixed capital formation, but it does so in a way that does not give any support to Dr Jefferies assumptions. (Note 2.) If both depreciation and investment are both overstated but in a manner which is proportionate, this will have no affect on net new investment and therefore the growth in the stock of fixed capital. The only affect it will have is to overstate actual new investment, meaning that despite the explosion in the rate of profit according to Dr Jefferies, real investment has actually been weaker than previously thought.

Graph 6.



In conclusion the last graph above compares Jefferies Rate of profit to Brian Green's rate based on the turnover formula and the formula for circulating capital. Green's profit rate is drawn from Table 1.14 and applies only to non-financial corporations and uses a rate of turnover derived from the goods producing sector which includes farms, mining, construction and manufacturing. Both rates show a relative symmetry but an absolute variance. Both Jefferies and Green's rates show a final peak around 2014.

Both Jefferies and Green's rates show a fall from 2014. Jefferies series ends unavoidably in 2017 but Green's continues to the present period in other articles. What is indisputable, the period of plenty (prosperity) driven by globalisation which began in 2002 ended in 2015 and everything that is happening today, all the intensification of inter-imperialist rivalries date from then. By 2019, at least in the USA, profitability, turnover, investment and other key economic conditions had reverted back to the 1990s. For that reason, Dr Jefferies is quite wrong to infer that the US government was able to withstand the pandemic and find the funds to do so because capitalism was in a healthy place. No it was not; it was as unhealthy as the population it had sucked dry since the 1970s.

Note 1. Table 7.13 confirms my view that the capitalisation of IP and its subsequent depreciation results in the double counting of depreciation. However, how much of this over-counting is tax deductible is difficult to assess. These are murky waters, ideal for accountants and lawyers to swim in.

Note 2. The turnover formula is sensitive to disturbances in the data on which it is based. When the 2012 revisions were introduced it had the effect of slowing down the rate of turnover because of the inflation of GVA it brought about. In 2017 the Gross Output of the goods producing sector was $8287 billion and the Gross Value Added was $3453 billion (BEA GDP-by-industry, KLEMS, Composition of Industry Tables). This yielded a turnover rate of 3.8. Now we know from NIPA Table 7.13 that GVA was inflated by $560 billion via the depreciation of IP not recognised by the IRS. We can reasonably assume that of this $560 billion, $400 billion can be applied to the Goods Producing Sector. Thus both GO and GDP would be reduced by this $400 billion if the 2012 revisions were reversed. The net effect of this adjustment would be to increase the rate of turnover to 4.2. Thus the 2012 revisions had the effect of reducing the rate of turnover as measured by the formula by around 10%. This in turn had the effect of increasing circulating capital, but its effect on the rate of profit is marginal, or not nearly enough to account for the difference between Jeffries and Green's rates of profit.

Brian Green, 18th April 2022.