

QUARTER 2. A NOVEL QUARTER, BRIMMING WITH UNANTICIPATED SURPRISES.

Theorists cannot help confronting novel situations hobbled by the pre-conceived ideas formed out of prior experience. Provided they remain open minded and resist tailoring the new disturbing facts to their existing theories, fresh insights are gained. What has transpired this year, economically, because of COVID, is unprecedented in the annals of capitalist production. This article examines the economy from the vantage of circulating capital and turnover, both of which have responded spontaneously to the new paradigm.

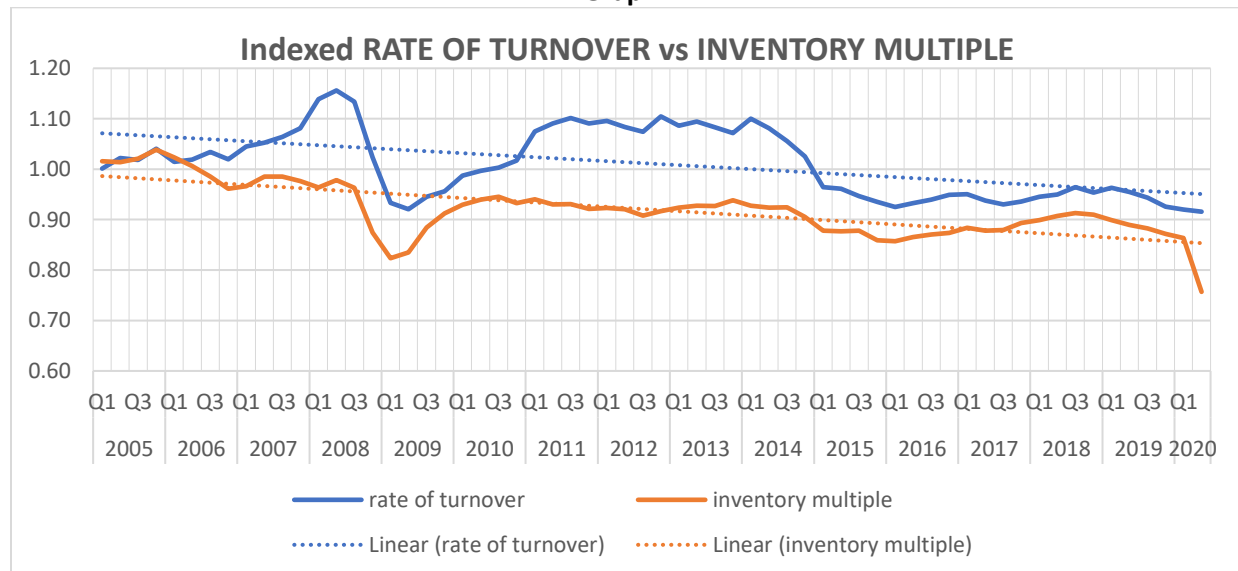
The BEA released data for Gross Output and Gross Value Added in the section GDP-by-industry at the end of September. What a revelation. I had expected turnover to collapse as it did in 2008 when the world economy was paralyzed. It did not. Why this did not take place is the focus of this article. It explains why a collapse in investment yields different results to a collapse in consumption caused by the combination of an epidemic and a lockdown.

First a tutorial.

To grasp this difference, we need to understand how the turnover formula works. The capitalists, particularly FED chairs, consider the industrial cycle or business cycle to be an inventory cycle. When inventories run lean as measured by the inventory to sales ratio, they consider the economy to be on the up. Production expands to ensure there is sufficient inventory ready for sale. On the other hand, when inventory piles up as measured by the inventory to sales ratio, production needs to be cut back to clear the inventory overhang. This phase results in a recession, an actual contraction in production.

Below is the first graph which compares the inventory ratio to the rate of turnover of circulating capital.

Graph 1.



(See attached spreadsheet "Working paper 1. Multiples")

When I first introduced the world to the turnover formula, I proffered a similar graph as proof that the formula was real, accurate and informative. Both graphs follow the same tracks with similar peaks and

troughs, except for the final quarter. (More on this later.) Circulating capital is however more volatile. The reason for this is that circulating capital is more extensive and complex than inventory. Marx's formula for circulating capital has three phases. Phase 1 is the buying in of commodities or M.C., phase 2 is the production process ...P... and the final phase is the selling out of the resulting commodity product pregnant with surplus value $C^+.M^+$.

Inventory relates only to the second phase, the production period, unlike circulating capital which encapsulates all three phases. Thus, if the production period contracts but the other phases expand, for example when it takes longer to be paid for the sale, then circulating capital could expand as more credit is needed. Nonetheless, despite these differences both graphs exhibit the same profile.

The formula is based on three variables. Total sales (G.O.); inputs or intermediate sales (I.S.); and final sales (G.V.A.). GO is equal to GVA plus IS, or the sum of intermediate sales plus final sales. We shall see that total sales or GO is always greater than the value of final sales or GVA. The reason why this happens, is the key to understanding the formula. Total sales are greater than final sales because they include duplicated sales, where value is counted more than once. All that the reader needs to know is that duplication is represented by the value of intermediates sales, sales that form inputs.

That is why, if we deduct the value of intermediate sales from total sales, we arrive at the value of the final sale, which happens to be equal to all the unduplicated value expended producing that product. Final sales are the mosaic made up of all the fragments of labour, expended in different private firms, which constitute the individual links in the production chain. This was Marx's big discovery in Volume 2 which became the basis of input-output analysis, making possible the System of National Accounts.

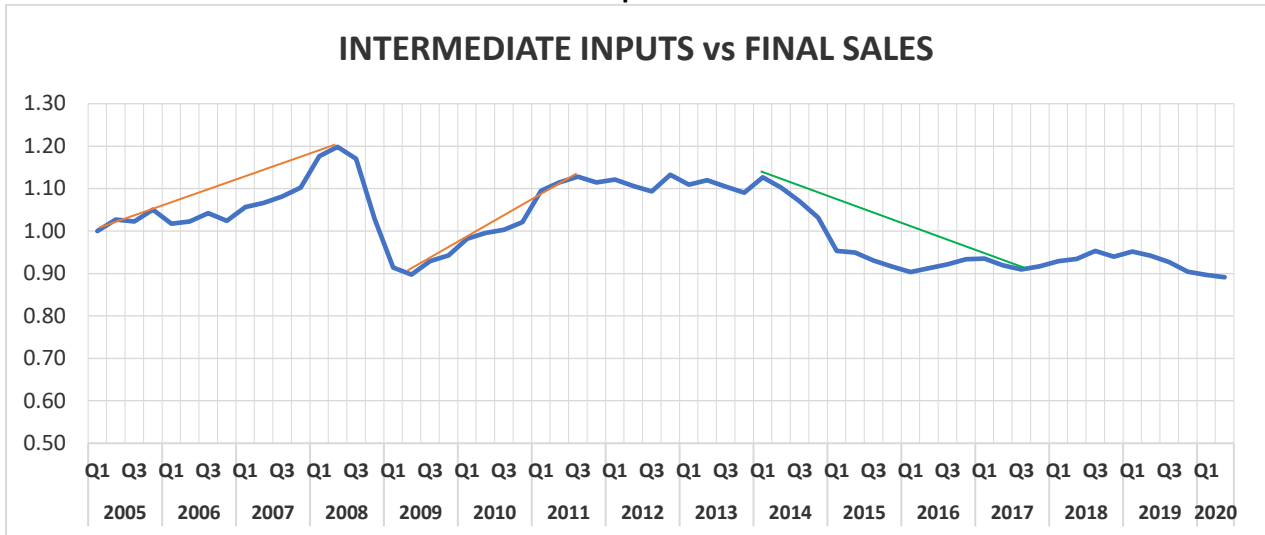
Total sales are always larger than final sales because of the presence of intermediate sales. The larger the amount of intermediate sales, the larger the amount of duplication, the bigger will be the gap between total sales and final sales in terms of value. If we substitute the word duplicate sales for the number of sales, the same conclusion applies. The greater the number of sales needed to complete a product the greater will be the difference in value between total and final sales. Thus, the formula is able to determine the number of sales by utilizing the gap between total and final sales in a two-part equation.

Sales mark the alpha and omega of the circuit of capital. From the vantage of the individual capitalist, the circuit begins with a purchase (the factors of production) and it ends with a sale of the resulting commodities. However, from the global vantage of the economy there are only sales, because one capitalist's purchase is another capitalist's sale. Thus, the number of aggregated sales corresponds to the aggregated number of turnovers of capital. And because these are measured over the course of a year, rather than say a month, the rate of turnover is the number of times fluid capital turns over during the course of a year.

Based on this information we can expect to see a relative rise in intermediate sales in an upturn, and conversely, a fall in a downturn. The rise means more sales in a given period, and, therefore an acceleration in the rate of turnover, followed by reduced sales and deceleration in a downturn.

We begin with Graph 2 below. It measures the relationship between intermediate sales and final sales. It is the first of many graphs analyzing the interplay between the various variables. If the above hypothesis holds true, what we should see in the graph below is a relative rise in intermediate sales in upturns followed by a relative fall in downturns.

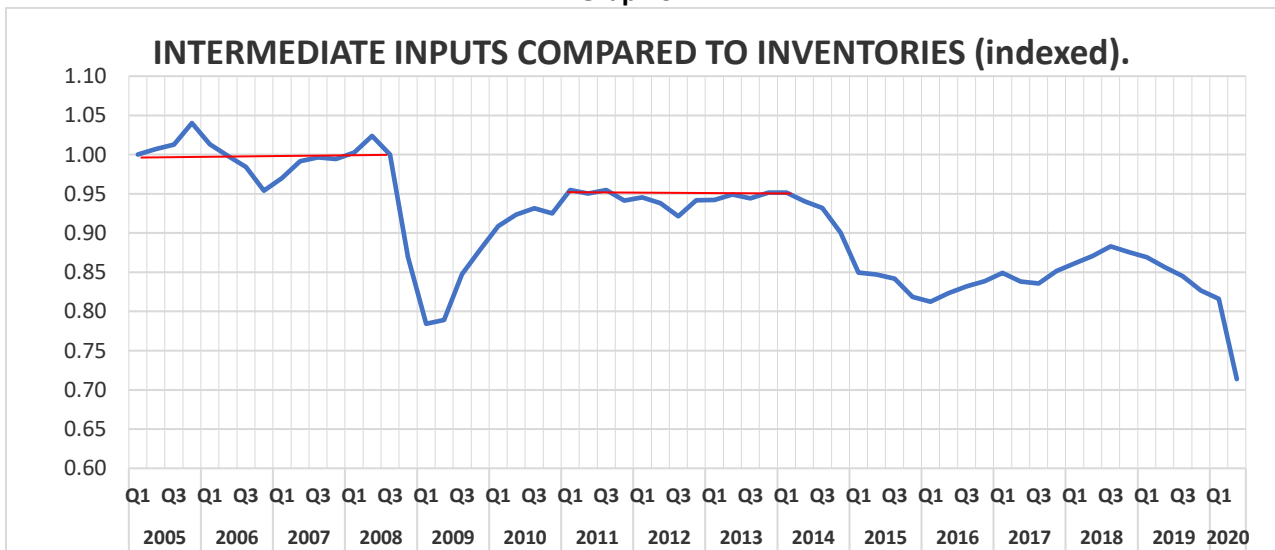
Graph 2.



This hypothesis is confirmed. We note in the run up to 2008, intermediate sales or inputs expanded faster than did final sales as production expanded prior to the crash that year. Similarly, between mid-2009 and 2011, when production recovered from the financial crash, inputs rose faster than final sales. Conversely, after 2008 when production collapsed inputs fell faster than final sales as firms destocked. The same can be seen post 2014 where once again destocking took place when profitability fell, but notably, because of central bank support, this did not result in a recession.

The same profile can be seen in the following graph which compares inputs to inventories.

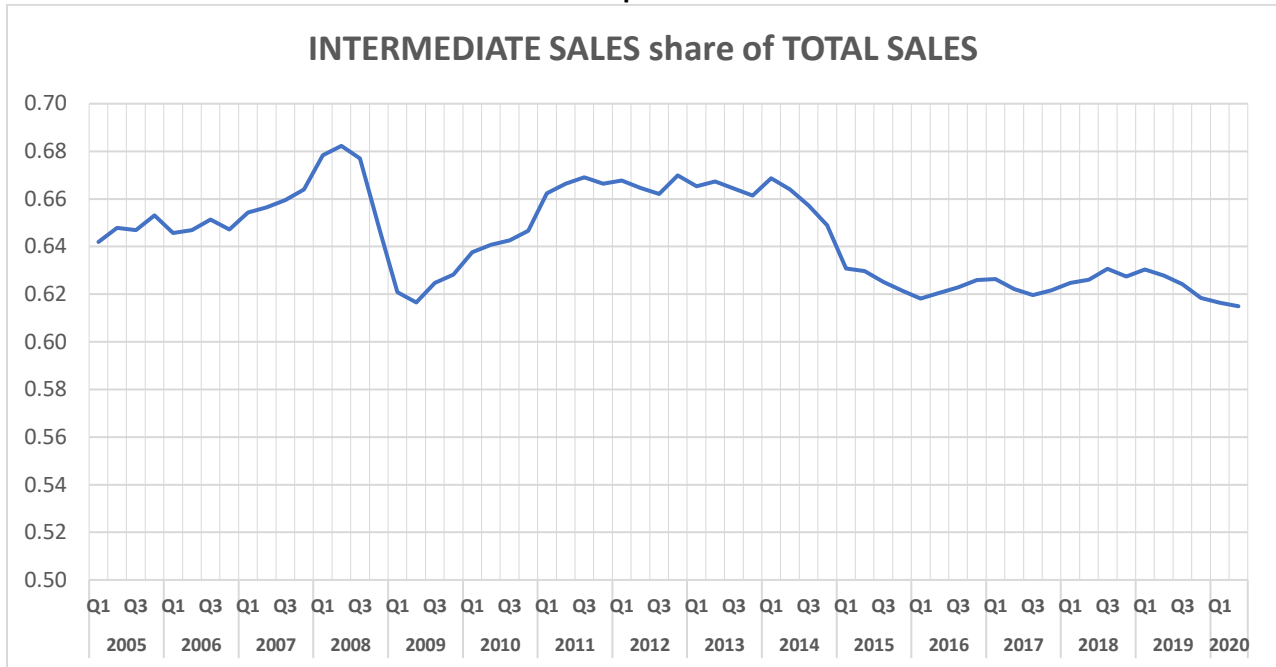
Graph 3.



We note a fairly stable relationship between inputs and inventory during periods of upturn marked by the red lines. Both are expanding in unison courtesy of “just in time manufacturing”. However, they become dissociated during recessionary periods such as occurred between 2008 and 2009 when firms purchased far fewer inputs in order to sell off their overhang of stock.

The next interaction is between intermediate sales and total sales.

Graph 4.



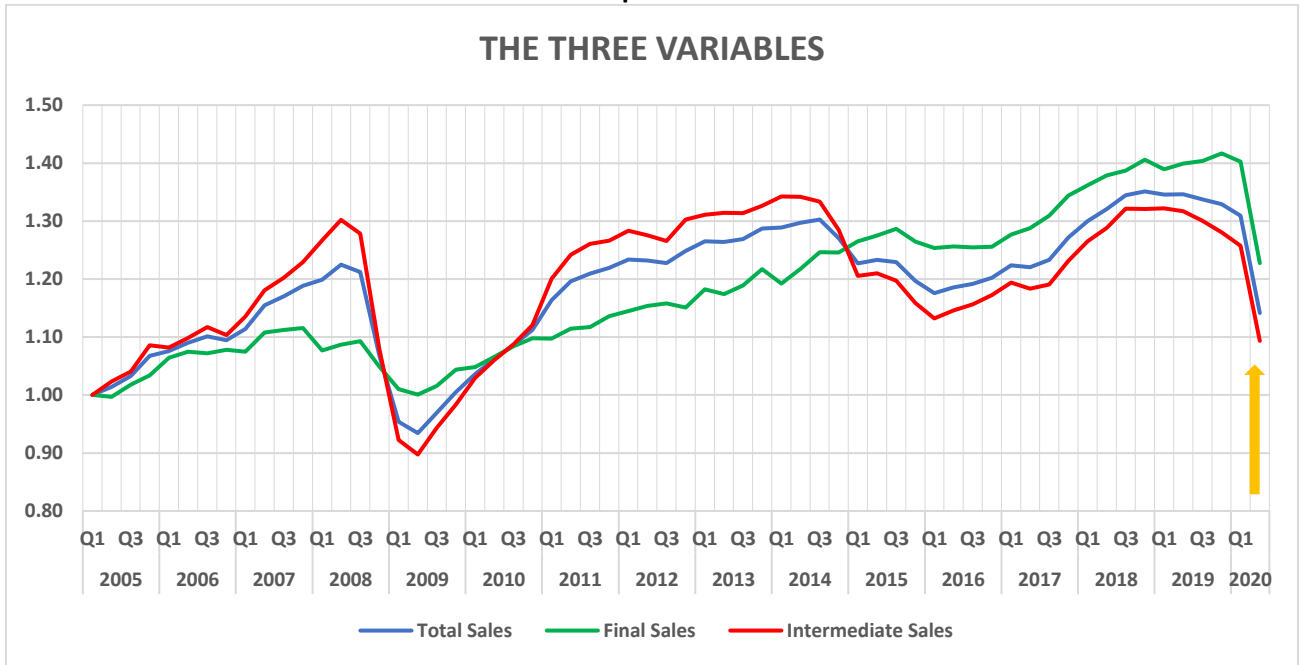
The upward movement of intermediate sales up to 2008 shows production is expanding as more inputs are sucked in. The same occurs after 2009. The opposite effect is found following the crash in mid-2008. Firms cut back on their inputs in order to sell their unsold stock. The increase in total sales due to rising intermediate sales is the prime reason the rate of turnover is accelerating. And when it is falling, as occurred after 2014, it decelerates the rate of turnover. (More on this when we examine Graphs 6 & 7.)

The next graph in this series compares final sales to total sales. We note that it is the inverse of Graph 4. It would be a mistake to interpret this as final sales falling absolutely in upturns and rising in downturns. Rather these relative movements are influenced by the movement of intermediate sales. In the period up to 2008 and after 2009 when production was expanding, final sales were rising not falling. Its' just that intermediate sales were rising relatively faster both in volume and value terms, as seen in Graph 2.

A simple example will demonstrate this. If it takes nine components to make up the final product, then an increase in five final products requires forty-five additional components. Thus, depending on how many intermediate purchases are needed to complete one final product, the volume of individual inputs necessarily exceeds the volume of individual outputs under this condition. The same would apply to the value contribution. If each of the nine components adds 10% to the total value, with finishing off the product adding the final 10%, then both the numerical and value relation remain intact. The higher the ratio of inputs to outputs in terms of value, the more intermediate sales will exceed final sales.

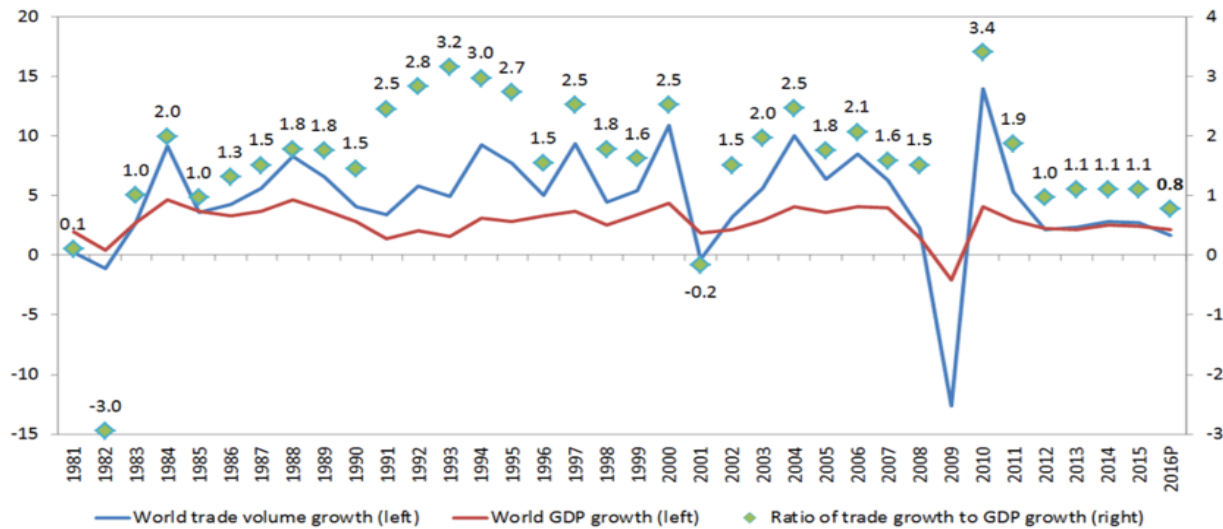
Again, it is important to note that this link between value and volume only holds because the formula is a two-part formula. The final sale is a hybrid. Its value comprises both the value contributed via the consumption of inputs as well as the value contributed by finalizing the product. Thus, the simple ratio between GO and GVA does not give the correct number of sales until we factor for the hybrid nature of GVA itself, which the second part of the equation does. It was the failure to factor for the hybrid nature of GVA, necessitating a two-part equation, that explains why the formula remained elusive for 60 years.

Graph 6.



It would be a mistake to assume this peculiar condition is limited to the US. The fall in the rate of turnover since the middle of the previous decade is worldwide, including China. This suggests it is not price driven but structurally driven. It has occurred during a period when the rate of profit has been falling globally, investment has been decelerating and with it, global production. It also mirrors the changed conditions prior and post 2008, most notably the relative growth rates between global trade and global GDP. Prior to 2008, world trade grew twice as fast as world GDP on average. Post 2008, especially since 2012, it has grown no faster than global GDP. This is shown comprehensively in Graph 7.

Graph 7.



Sources: WTO Secretariat for trade, consensus estimates for GDP.

<https://www.weforum.org/agenda/2016/10/the-relationship-between-trade-and-gdp-its-complicated>

Global trade in goods is weighted towards intermediate inputs or sales. Global GDP on the other hand comprises final sales. Thus Graph 7 is mirroring the same changed conditions that exists between global trade and GDP as is found in Graph 6. Substitute intermediate sales for global trade and final sales for GDP and Graph 6 is revealing the same dysfunction. The two associated graphs are expressing a fundamental change in the fortunes of capitalism, one that is to the detriment of profitability and one which needs further analysis. Highlighting an issue is not the same as solving it.

We can conclude this tutorial with a graphic analogy before proceeding to look at second quarter turnover. Take a highway. As employees leave work in the late afternoon, feeder roads get busier. The number of cars on the highway increases, but, if the speed of the leading cars increases, no tail builds up. If, however, due to lack of investment one of the lanes ahead is closed, a funnel effect takes place. The leading cars slow down to jockey for lanes, resulting in a tail back. At this point the traffic cops may close some feeder roads to relieve the pressure. This is the industrial cycle. The funnel represents the recession, the leading cars represent final sales, while the backing up cars represents intermediate sales. If under these circumstances we were to measure how many cars are moving past the funnel in a set interval, we would witness a reduction in their rate of movement. So too with the rate of turnover.

A quarter full of surprises.

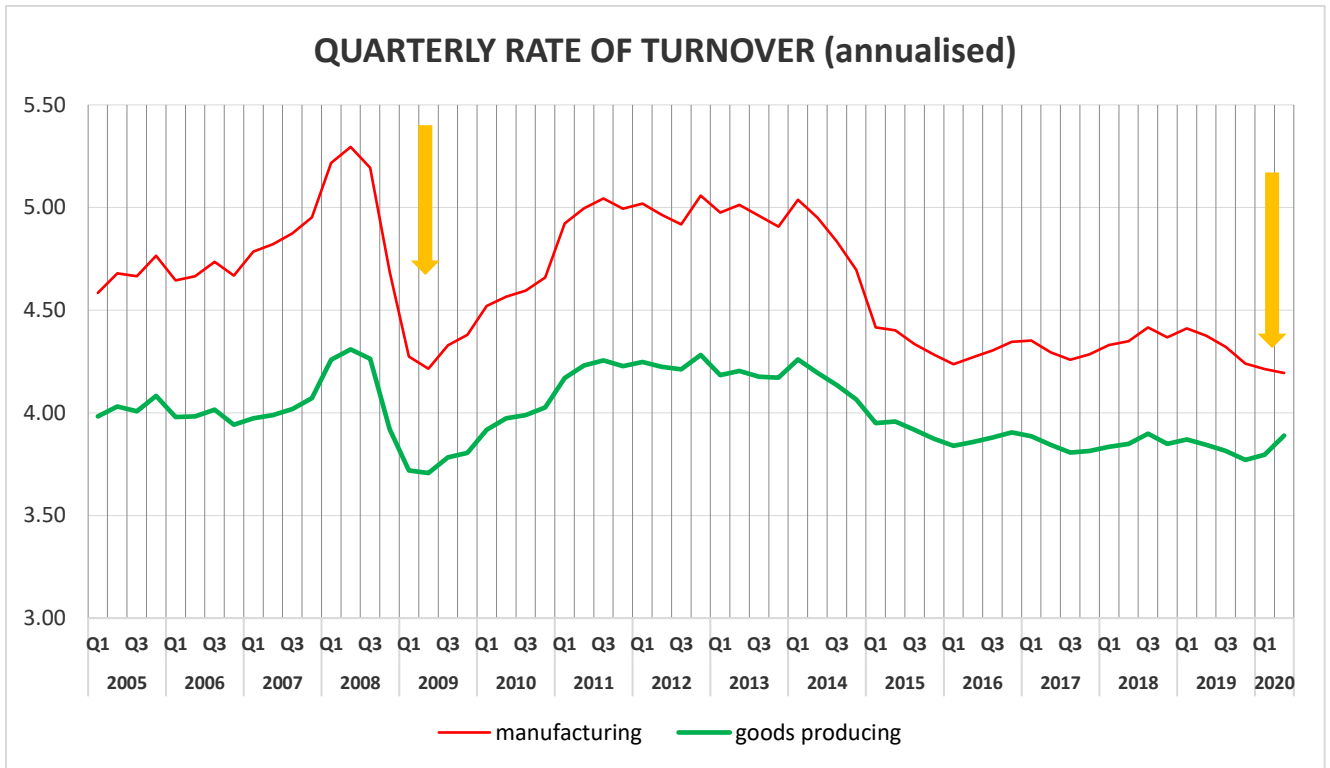
Continuing with our analogy. Let us consider a situation where instead of one lane being closed off, an unexpected snowstorm hits the highway. Because of its unexpectedness, there has been no preparation, meaning that no gritting has been done and most of the snow ploughs are elsewhere. Under these circumstances, all the cars come to a standstill together as the highway ices up.

This is what happened with the pandemic and lockdown. Instead of a fall in investment blocking a lane, there was a collapse in consumption which froze the supply chain as entire industries closed down. As a result of this, there was a synchronized fall in final sales, intermediate sales and total sales (See yellow arrow in Graph 6.) However, we need to distinguish between absolute falls and relative falls. In absolute terms, all three variables fell in unison.

But this proportional fall left their relative values unchanged. As the formula registers relative values the formula yielded a false positive. Turnover did not collapse when in fact it did. This did not prove the formula wrong. Just as Einstein's theory of relativity breaks down at the event horizon of a black hole, so the formula provided inconsistent results as it entered the economic black hole caused by the pandemic. This was a novel non-recurring event though it is likely to be repeated during the 4th Quarter as the pandemic returns.

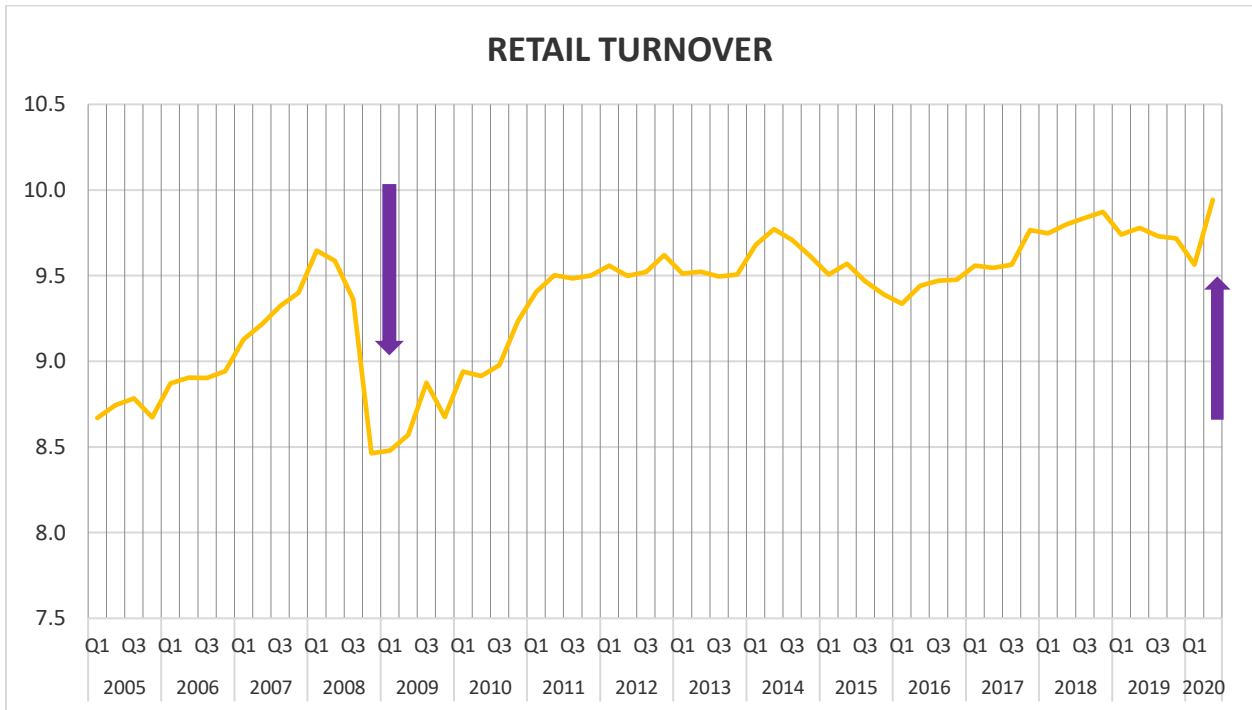
The turnover results for Manufacturing, Goods Producing and Retail are provided by the two graphs below. The arrows point to the contrast between the 2008 and 2020 recessions. In 2008 there was the classical contraction in turnover which was missing in 2020. Retail turnover is interesting. It actually increased to its highest recorded level. This is testimony to the injection of financial support by the US government to compensate workers and the self-employed for their loss of wages or income. At \$600 per week it meant an actual pay rise for many workers.

Graph 8.



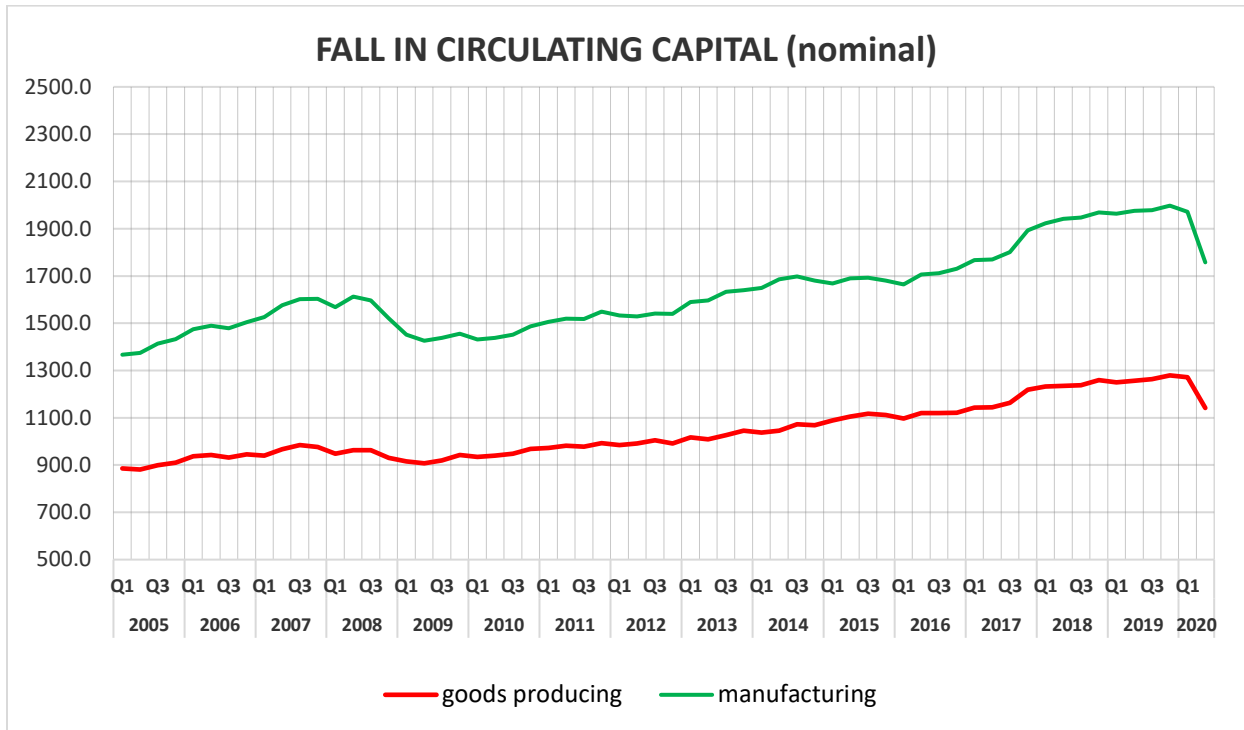
(See attached spreadsheet "Working paper 2. Rate of Turnover & Working Capital.")

Graph 9.



Unlike the image provided by turnover, the following graph, which plots the movement of circulating capital, does show there was a collapse in the amount of value in circulation.

Graph 10.



In Graph 8 we find the quarterly fall in circulating capital matching or exceeding the falls found around the financial crash of 2008. The current fall is also sharper, which given how quickly the crash in 2008 developed, speaks volumes about the 2020 cliff edge. The absolute fall in circulating capital occurred because the value of total output G.O. or total sales fell absolutely. The formula for circulating capital is (gross output – surplus)/turnover. The value for circulating capital is likely to be a true figure despite turnover remaining unaltered, and we can expect a further fall in Q4.

I have not dealt with the Service Sector where the shutdowns were most severe. It is notable that the fall in circulating capital there was marginally less severe than in the goods producing sector, rather than being more severe as expected. This is likely to do with the preponderance of imputed sales in this sector as well as the financial “industry” which did rather well once markets began to recover. For more detail turn to spreadsheet: *“Working paper 2. Rate of Turnover & Working Capital”*.

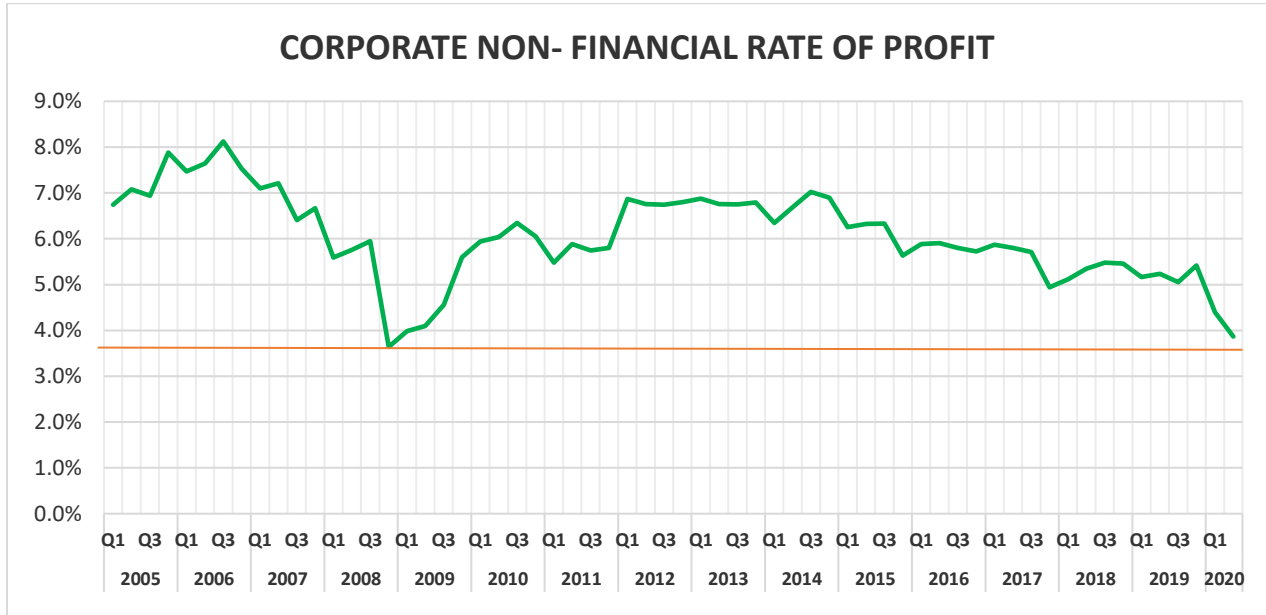
The turnover formula is suited to the regular industrial cycle, but it is not suited to the extraordinary behavior of the three variables which occurred during this novel quarter.

The rate of profit for Q2.

In the absence of the expected fall in the rate of turnover, the rate of profit previously estimated at 3.6% has now risen to 3.9%. This elevation means that the rate of profit did not fall below the rate of profit found in the 4th quarter of 2008 when it touched 3.6%. Still this is the second lowest quarterly rate of profit since the Second World War. It is worth repeating that these two profit troughs are not comparable.

Profits in the final quarter of 2008 and early 2009 were depressed by large scale write offs. The current rate of profit is largely unaffected by these write offs due to central bank largesse. But they will come and when they do, a new trough will be formed.

Graph 11.



The average rate of pre-tax profit is currently trending at around 4.5% compared to 6.5% pre-2015. This shows that the US economy was vulnerable prior to COVID and that its prospects for emerging from COVID are also diminished. The post-tax rate of profit is closer to 3.5% which is barely higher than the cost of capital, or what is the same thing the Bank Prime Loan Rate of 3.25%. (FRED Table MPRIME)

Conclusion.

Capitalism is a complicated system. It therefore forms a moving target, one which we need to keep up with. Novel events challenges theory more than any other single event. That is the joy of theory, confronting the new, the spice of intellectual life. And when we rise to the occasion, then to be sure, we will have learned more about the functioning of capitalism, more about its limitations, and we will depart with a better estimate of its capacity to overcome its immediate obstacles, or not.

Brian Green 10th October 2020.