HOW MUCH ARE EMPLOYEES EXPLOITED IN U.S. MANUFACTURING?

In order to reveal the severity of exploitation in the United States, obtaining the rate of surplus value is indispensable. Without it the National Accounts provide only a partial insight into the rate of exploitation. However without the turnover formula it is impossible to arrive at the rate of surplus value because variable capital or wage capital is unknown. This article therefore establishes the importance of this formula once again and in doing so reveals how much unpaid labour workers produce each year in manufacturing relative to capital.

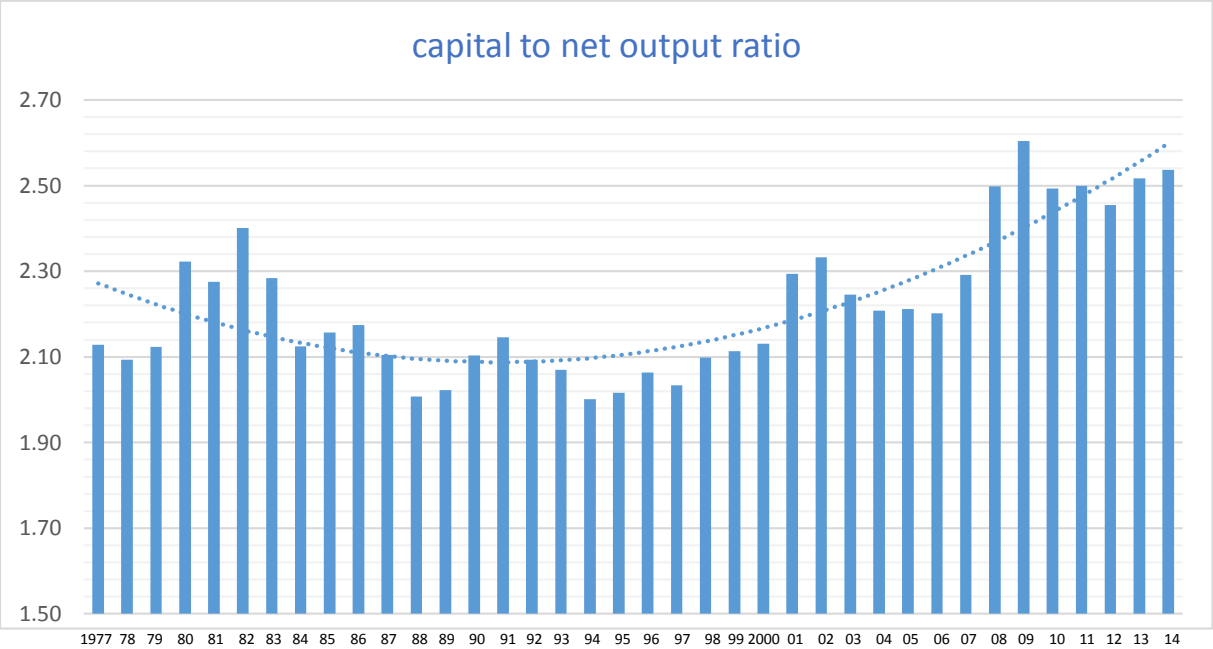
The rate of surplus value set out by Marx is a simple equation. It compares how much unpaid labour workers produce each calendar year in return for every $1 of variable capital (or wage capital as described by us) paid to them. It is not possible to prepare the annual rate of surplus value using annual wages. Annual wages exceeds variable capital by the number of times capital turns over each year. In the case of US manufacturing, annual wages are about 4.9 times greater than variable capital (4.9 being the number of current turnovers). Accordingly if we compared surplus value to wages we would obtain a rate of surplus value much lower than the actual rate, thereby dramatically understating exploitation.

We use the period 1977 to 2014 to plot the rate of surplus value. 1977 is the first year gross output for manufacturing is readily available from the BEA enabling the calculation of the formula. In addition, as the BEA has just released the updated version of Table 5.10 and other associated tables, year-end net fixed capital for 2014 is obtainable. Finally in this article, and in our graphs, we use net value added to obtain the capital to output ratios and the rate of surplus value. Net value is obtained from the BEA interactive tables for Industry GDP and Fixed Assets by subtracting depreciation from gross value. This provides the annual v + s for manufacturing or what is the same thing, the annual amount of value added by workers in manufacturing and realised there.

As stated before in a previous posting we will substitute the term wage capital for variable capital to avoid any controversy regarding productive and unproductive labour. However it must be stated that Marx, throughout Volume 2 and more importantly in Chapter 17 of Book 3 on Commercial Profit, speaks consistently of variable capital being exchanged for the labour power of the commercial worker. In other words he does not change the category variable capital to distinguish the labour of the unproductive commercial worker from that of the productive industrial worker. As he says on page 406 the “commercial employee” “is a wage-labourer like any other”. (Penguin Edition.)

We begin with the graph plotting the increase in the capital to output ratio for manufacturing in the United States for the years 1977 to 2014. The ratio describes how much constant capital (fixed assets + inventories) is invested to yield $1 of value added. We notice that the capital to output ratio has increased since its low point by about twenty percent. The highest plateau is to be found from 2009 onwards following the financial crash. This indicates that the ratio has risen, not only because the amount of capital has increased, but also because the value added (the numerator) has been depressed by growing competition, by an escalating realisation problem. This has been dealt with in earlier postings, in particular *Globalisation Turns Into its Opposite. Deflation and the Crisis of Productivity.*

Graph 1.



Regardless of whether it is rising capital or falling output, this 20% increase in the organic composition of capital, which is expressed by this proxy, represents a challenge to capitalist profitability. As constant capital (means of production) has increased so the value added has diminished relatively. In 1994 the ratio was 2. This means that $2 was invested in means of production to help produce $1 of new value. By 2009 it took $2.60 to help produce $1 dollar of new value. In other words, in 1994 each dollar produced 50c of new value but only 38c in 2009

Of this new value some takes the form of wages the other of gross profit. If half the value added was profit, the amount of profit would have been 25c for every $1 invested, compared to only 19c in 2009. Accordingly the rate of return (profit divided by constant capital) would have been 25% in 1994. In 2009 that would have fallen to 19%, a fall of 6c for every $1 of capital.

It follows that if the rate of profit is to increase, then a greater and greater share of the net value must be converted into profits. The profit share must increase. Continuing our example above, if profit share was 50% in 1994 it must be larger than 50% in 2009. And it has grown, because as Graph 2 shows, the rate of profit has risen despite the growth in the capital to output ration.

This graph is obtained as the ratio of:

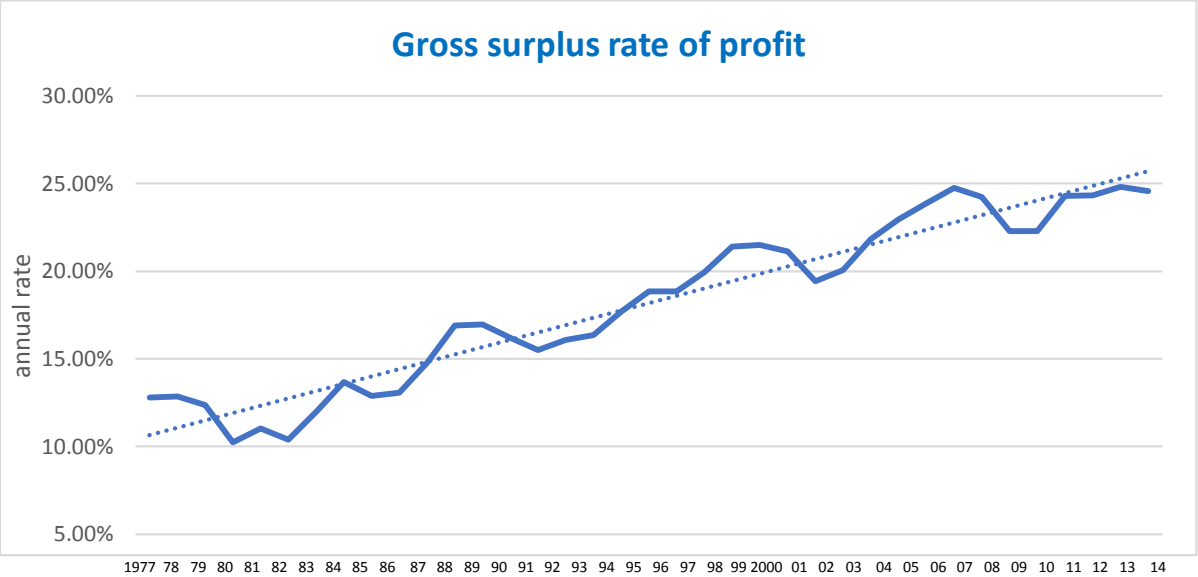
$$\frac{\text{(gross value – wage remuneration)}}{\text{Fixed assets + inventory + wage capital}} = \frac{\text{gross surplus}}{\text{total capital}}$$

We use gross surplus, not net surplus, as the modern treatment of depreciation results in it being overstated in the SNA and this would have reduced the net surplus by a significant margin.

Wage capital we may remind ourselves is analogous to variable capital and is arrived at by dividing annual wages by turnover periods. In turn annual wages has been adjusted using *Saez-Zucman 2014 Appendix Data Set* for the top 1% of wage earners. This is not to be confused with the division of labour between productive and unproductive employees. The top 1% are not wage earners they are profit takers. Their income is disguised profits masquerading as salaries and perks. This value properly

belongs within profits and not in remuneration. As a result of moving value away from wages and into profits, wage capital is reduced on the one hand and profits increased on the other. (Note 1.)

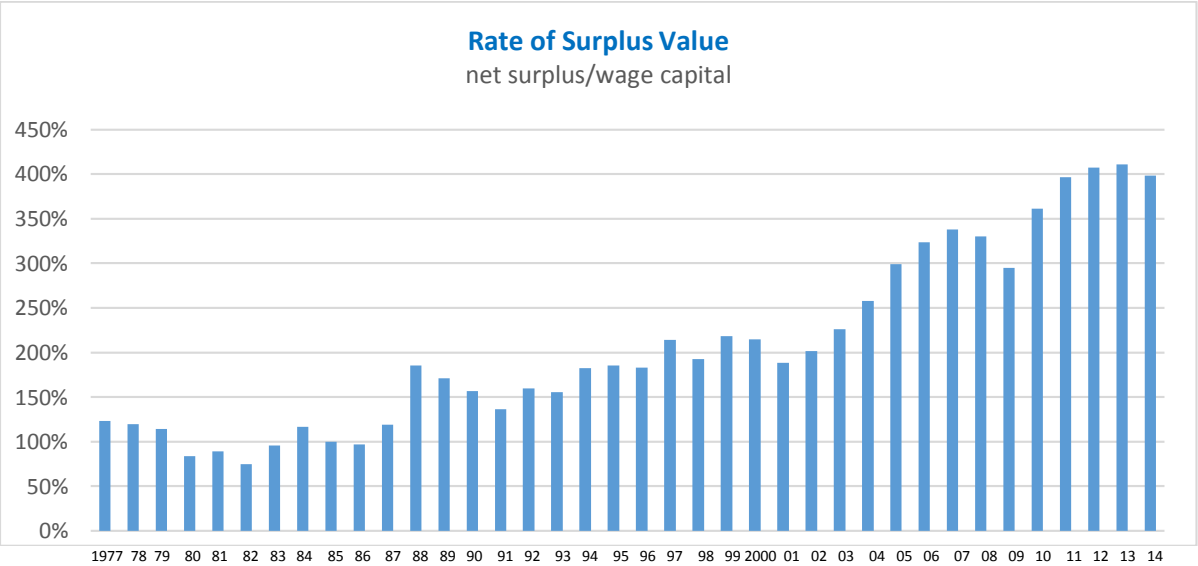
Graph 2.



We note that the rise in the capital to output ratio has not reduced the rate of profit. Instead the rate of profit as described by its trend has risen from its low point in 1982. It has tripled over thirty years. The plateau achieved since 2010 including the peak in 2012, represents the highest sustained average in the series. However, projecting current investment and profitability figures for 2015 suggests an accelerated decline from 2012, implying that 2015 is likely to see a break out of the plateau which began in 2010. (The author originally projected the second half of 2013 and the first half of 2014 to be the high point but revised figures shows this was not the case and the main reason for this as we shall see below has been the fall in the rate of surplus value.)

To achieve and sustain these high rates of profit, a substantial increase in the rate of surplus value was needed. And indeed as our third graph shows, the increase has been dramatic. In the past ten years it has doubled from 200% to 411% in 2013!

Graph 3.

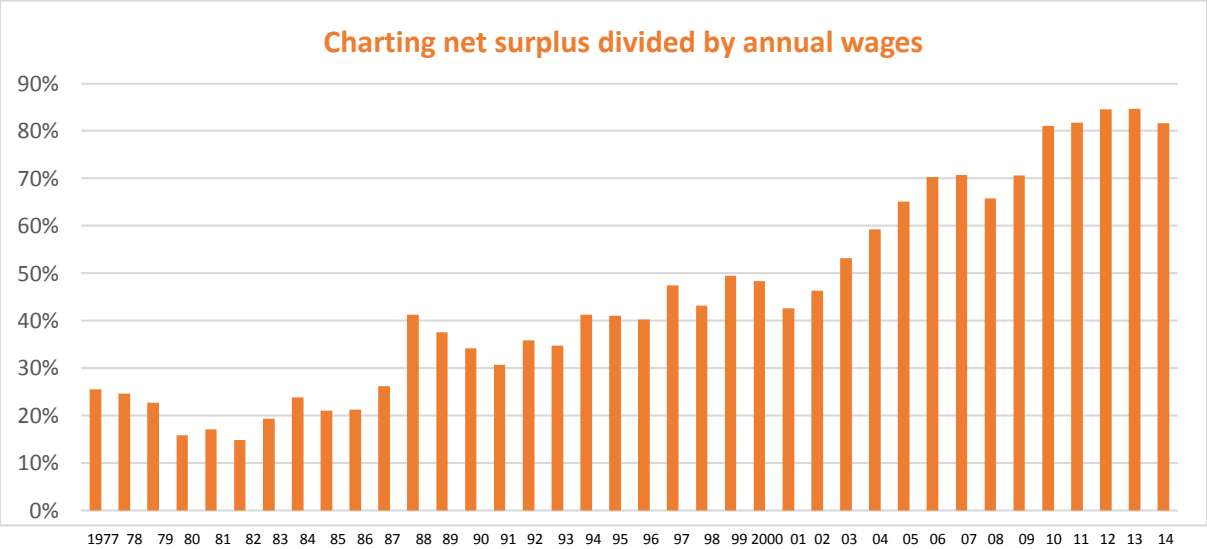


The graph shows the rate of surplus value for each calendar year. It is the ratio between the amount of wage capital (variable capital) invested in wages for all employees and the amount of profit produced each year. Profit to remind ourselves is arrived at by subtracting adjusted annual remuneration (wages) from annual net value added. In other words for every $1 spent on wage capital the capitalists have been getting back $4 in gross profit each year. The rate of surplus value therefore is currently 398%. (398% is understated by the amount depreciation is overstated in order to reduce taxable profits.)

Of note is 2009. The formula brings out the fall in the rate of surplus value caused by the financial crash at the end of 2008. One turnover period was lost as circulation froze up. Consequently the rate of surplus value fell 15%. It only recovered in 2010 due to the capitalists cutting remuneration by an amount similar to the income lost through the loss of this one turnover.

Before we continue we need to hear from the bourgeois statisticians. Rubbish they will scoff. That rate of nearly 400% is far too high. What you need to do is to divide **annual** profits added by **annual** wages and not wage capital. You will then find it is smaller. To humour these statisticians and most Marxist scholars after Marx, we have prepared Graph 4 to show their preferred rate of exploitation.

Graph 4.



Here we find the rate of exploitation to be 0.82 not 3.98 currently. The alert reader will notice two things. Firstly this rate is exactly 4.9 times smaller than the rate of 3.98 (0.82x 4.9 = 3.98). Secondly that this rate of 0.82 is identical to a **single period** rate of surplus value. It is the rate for 74 days not 365 days (365 divided by 4.9 time periods). It differs by the number of turnover periods. Who is right?

The answer lies in the process of reproduction itself. Each turnover period consists of 74 days in manufacturing. During those 74 days, $188.7 billion in wages on average will be paid out to employees. On day 74 these same capitalists will receive back on average a net $342.9 billion in sales income (annual net value added divided by turnover). In other words for every $1 of wages paid, they receive back a total of $1.82. And this happens 4.9 times each year.

This means the total of wages is $4.9 and the total for income is $8.9 ($1.82 x 4.9) yielding the same ratio of 1.82. It thus appears that so far the argument favours the statisticians. The time has come to show why they are wrong, and in doing so to demonstrate Marx's ability to look beneath the appearance of things, which is the hallmark of any science.

When the employers receive their new money on day 74, it includes all the new value their workers have produced during that period, the entire $1.82. It is not $1.82 minus $1 for wages. The wages have already been paid. Contained in the $1.82 is repayment of the $1 of variable capital and 82 cents of new and additional profit which they can keep. (Proof. 82 cents is 45% of the $1.82 net value added, which when converted to actual figures is $1680.4 billion of net value multiplied by 45% yielding $755.2 billion, the actual figure for annual profit in the national accounts for 2014.)

The existing employers of course could walk away with the entire $1.82 and sack all their workers, but this would kill the golden goose. We can therefore expect them under normal conditions to re-employ workers in the next cycle of production, and spend $1 of the $1.82 on wages. After each cycle, the $1 of wages returns to them and is used over and over again in all 4.9 periods. Every 74 days it goes out to workers and at the end of 74 days it comes back to the capitalist through their income.

This means that while workers receive $4.9 in wages each year, the employer needs only $1 of wage capital, because that same $1 passes from the hand of the employer to the hand of the employee 4.9 times each year. The capitalist does not need $4.9 for annual wages as $1 dollar is sufficient each time. If variable capital was $4.9 and paid 4.9 times a year then total annual wages would be $24 which would exceed annually added net value ($8.9) by a large margin thereby depriving the capitalists of any profit and sparking rampaging inflation. What our statisticians cannot grasp is that this variable capital of $1 actually functions as an annual capital 4.9 times larger because it is recycled 4.9 each year. Over two years it would function as a capital 9.8 times larger because in two years it is recycled not 4.9 times but 9.8 times.

It is the same for the economy as a whole. In the month of January a dollar may be used to buy a loaf of bread. The next day the baker deposits that dollar in his or her bank as part of the previous day's takings. At some point in February that same dollar is withdrawn through a cash machine and used to pay for a drink. Again the next shopkeeper deposits his or her takings and that same dollar is available to buy something new and so on and so on. The same dollar bill, getting grubbier and grubbier, passes from one hand to the other over and over again, until it is unfit for circulation, and is withdrawn and burnt. During its eventful life a dollar bill may circulate commodities whose cumulative value is thousands of dollars.

The rate of profit is an annual rate of profit. Accordingly if we are to compare like with like, we need an annual rate of surplus value. If we were to use annual wages rather than wage capital it would turn the rate of profit into a nonsense. In 2014 instead of a rate of profit of 24.5% it would fall to 20.0% because the total capital has increased from $4453 billion to $5188 billion. Constant capital (means of production) has remained at $4263 billion but wage capital has been mistakenly increased from $189 billion to $926 billion (exactly 4.9 times too big). $926 billion being the annual adjusted wages for 2014.

In addition, if we were to confuse annual wages with wage capital, the rate of surplus value and profit would be unresponsive to changes in turnover times. For example in 2009, as we saw in Graph 3, there was a sharp fall in the rate of surplus value which was not mirrored in Graph 4 for the same year. So if we were to mistakenly use annual wages, then the rate of profit would become inaccurate and secondly it would become unresponsive to changes in the economy itself.

The formula which translates annual wages into wage capital (variable capital) allows us for the first time to experience the depth of exploitation of the working class. It also allows us to examine the movement in the rate of exploitation. It demolishes the trade union slogan of a fair days wage for a

fair days work. In 2014, in the richest country on earth, in manufacturing, the worker cost the capitalist the equivalent of $1 each year, while the capitalists cost the worker two cents short of $4.00.

This is not only exploitative, but also unacceptable because the capitalists can no longer manage their economy, where instead of using our unpaid labour productively they increasingly squander it. When that happens we are not insulted once but twice. Just as the capitalist recognises only paid costs, in this case the $1, so workers must come to recognise their unpaid cost of labour, the $3.98 of unpaid labour which ends up as rent, interest, profits in the pockets of the capitalist class (to which we may add high end salaries as well). We want it back, not only because we produced it, but because the capitalists have lost their right and entitlement to it through their mismanagement of it.

This posting will form part of a series examining the gearing between the rate of profit, investment and economic production. Its purpose will be to examine the countervailing factors which delays the economic consequences of a change in the direction of the rate of profit, which has always been and will always be the mainspring of capitalist production. Central to this is the movement in the rate of surplus value. We note it peaked in 2013 one year later than the rate of profit and that when it declined, so did the rate of profit.

It will be months before we can confirm what has happened in 2015 but as Bloomberg pointed out on the 23/11/2015, S&P 500 profits have now contracted for three quarters and are expected to contract in the fourth quarter (which began in October). The last time this happened was in 2009. Thus it appears that the rate of surplus value is either falling or the share of profits of net value is falling. Whatever the case, this fall in profits will depress the rate of profit undermining the ability of the US economy to weather the coming global economic storm. This is the simple story, the complex story is how it all connects up and gears up on a global scale.

(Note 1.) Previous posting did not adjust annual wages with reference to the top 1%. Accordingly rates of profit in this posting are not commensurable with earlier rates of profit.

Brian Green November 2015