CORRECTION TO THE FORMULA FOR WORKING CAPITAL.

Breakthroughs in theory cry out to be shared. When I realised that the turnover formula made possible the calculation of working capital using the National Accounts, I published the results in the preceding posting entitled: *TESTING THE RATE OF PROFIT by an alternative measure of the value of the produced assets.* Before rushing to publish I should have tested the working capital formula to destruction. Had I done so, I would have recognised that the formula for working capital was incomplete and therefore yielded incorrect results. This posting corrects this omission and therefore error.

The original formula for deriving working capital was set out as follows:

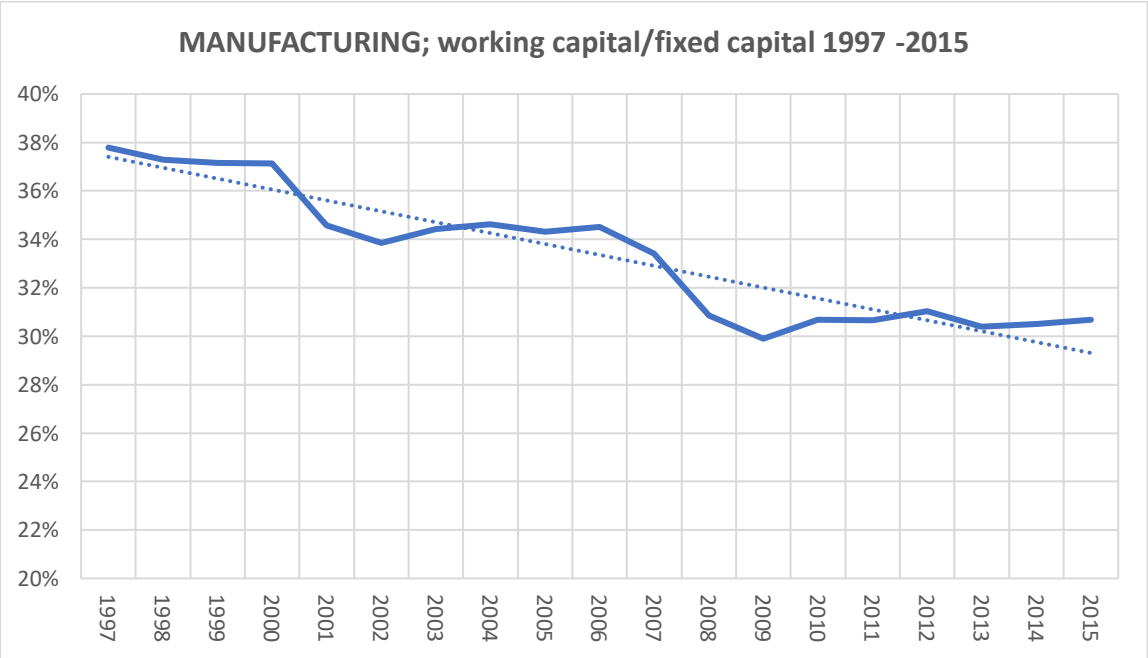
$$\frac{\text{Gross output}}{\text{annual turnovers}}$$

In reality, this formula yields gross output per period, not working capital. Gross output comprises not only working capital but profits as well. But profits are not paid out of capital as they comprise unpaid labour. Profits therefore need to be deducted from gross output to yield the cost of the gross output. This deduction is made possible by the BEA providing data on undivided profit (surplus) for manufacturing (= to net value added less compensation less taxes). In calculating working capital, taxes are not eliminated as some of them belong to working capital. The new formula for calculating working capital is thus:

$$\frac{\text{Gross output less surplus}}{\text{annual turnovers}} \quad \text{or} \quad \frac{\text{cost of gross output}}{\text{annual turnovers}}$$

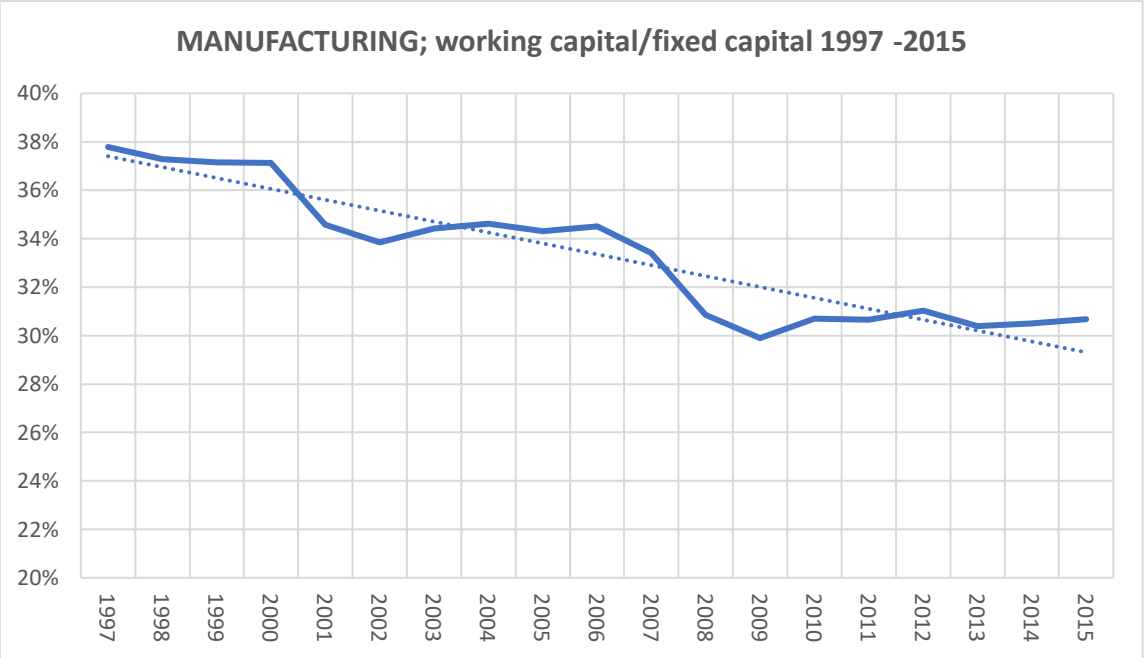
The graphs below are the corrected graphs belonging to the previous posting. Please substitute them.

Graph 5.



(Sources: Table 3.1 ESI for stock of fixed capital. GDP by Industry, Gross Output and Value added for working capital.)

Graph 6.



The trends remain unchanged. What has changed are the relative weights. As the cost of gross sales is less than that of gross sales, the weight of working capital is reduced compared to fixed capital. Working capital per period turns out to be about 86% the size of gross output and thus working capital as a % of fixed capital falls from 36% to 31% in 2015. (It must be noted that fixed capital here should not be confused with constant capital as it excludes inventories which are found in circulating or working capital.)

In conclusion, the original formula pointed in the right direction but did not go far enough. Now that it is corrected, it proves once again the importance of being able to estimate turnovers, for without turnover, we could not calculate aggregated working capital. The turnover formula provides fresh insights and proofs for Marx's assumptions and hypothesis when applied to the system of national accounts, a system whose origins goes back to Volume 2 of Capital. These numerous insights are the reason I have unashamedly characterised the turnover formula as out Rosetta Stone, for it makes intelligible that which hitherto was unintelligible.

Brian Green, July 2017.