UK productivity puzzle possibly solved?

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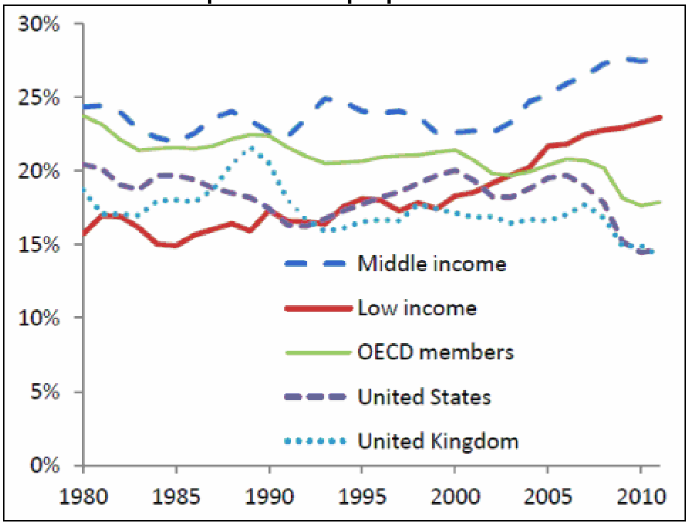
Hugh Small is an independent economic analyst and management consultant, who was formerly with US-based firms Arthur D. Little and A. T. Kearney. He blogs at *mature economy.org*, and has a running thesis that mature economies must be assessed differently to developing economies because they share very different strategic goals. Furthermore, once you factor in the subtle differences that apply to developed economies, things like the UK productivity puzzle begin to look a little less mysterious. Consider the following points from Small: current estimates of UK GDP are too low because the methodology undervalues private sector investments in a mature economy:

- Current GDP estimation methods were designed to value underdeveloped economies in which investment in tangible fixed assets is a good indicator of financial value;
- The private sector in mature economies like that of the UK is instead increasingly investing in other assets which are not valued by current GDP estimates;
- It will not be possible to improve GDP calculations to accurately reflect the value of the investments of a mature economy.

As to the prioritisation of fixed assets in GDP: the definition of GDP requires that all fixed asset investments be added to GDP in the year in which the investment is made. Investment is defined as expense which creates assets (tangible or intangible) which will bring benefits in future years. **In the UK, software has been added as an 'intangible fixed asset' since 2006, and R&D will be added from 2014). Other investment assets (databases, staff training, business process improvement, industry restructuring etc) are excluded because it has not been found practical to measure them.**

The definition of GDP implicitly assumes that fixed asset investment will generate an appropriate return, and therefore has financial value. This may be an appropriate assumption in an underdeveloped 'growth stage' economy that has been starved of capital. GDP is a measure of 'value added', and both increases in gross production and reductions in expenses or intermediate consumption may increase it. Unfortunately the inclusion of production-oriented tangible fixed assets values gross output (profitable or not) higher than efficiency measures which increase profitability. This may be appropriate in the public sector of 'growth stage' economies, as it is in businesses which are in the growth stage of the industry life cycle. And here, meanwhile, is a graph showing the declining share of investment according to current GDP measures among the developed economies:

'Investment' component as a proportion of GDP



Source: World Bank (NE.GDI.FTOT.ZS)

As Small notes: the above graph shows that tangible fixed asset investment of the type measured by current GDP estimation methods counts for less and less in developed countries. It would be wrong to conclude that the OECD countries have been under-investing since 1980. Studies show that they have been investing in other assets which are not included in the GDP estimates. The ability of new tangible fixed assets to pick off the 'low-hanging fruit' of an underdeveloped economy has faded, and there is no longer any justification for including them while excluding less tangible investments.

All of which is very interesting stuff indeed. To summarise the basic premise, the more developed a country gets, the more likely it is to focus on intangible investments, like software, databases and all sorts of other processes that add to efficiencies that allow the economy to make the most of what it's already got at its disposal.

But there's another interesting point that Small also makes. The key reason the private sector begins to tread more cautiously in mature economies with respect to fixed investing is because returns become ever more marginal or even negative. In short, a lot more risk is now associated with such investments. The flip side of that situation, though, is that the government increasingly takes the place of the private sector when it comes to infrastructure investment.

Back in the private sector world, however… the investment incentive mutates into "more with less".

As Small notes: business leaders are not only driven by a desire to increase sales ('gross output'). **They know that investing in cost reduction (e.g. reducing the use of raw materials) can be much more profitable.** The same is true with economic growth; GDP if estimated accurately would be a measure of value added, i.e. profit. But as a result of the estimation **bias towards gross output, which is an artefact of its heritage as a measure of a developing economy, there is a widespread belief that economic growth means increased gross output.**

So, less labour hoarding and more Victorian workhouse (though using software programmers rather than women and children).

All in all, we think it's a theory that's worth some consideration.