

THE UK ECONOMY AFTER BREXIT

Andrew Smithers

August 2016

high
pay
centre

The logo for the High Pay Centre, featuring the words "high", "pay", and "centre" stacked vertically in a bold, sans-serif font. A thick orange horizontal line is positioned below the word "centre".

The UK Economy After Brexit

The vote to leave the European Union will have both shorter and longer term impacts on the UK economy. There will be a shorter term impact on demand and, separately, on potential supply. The longer term one will depend largely on the policy response. Any decline in demand can in principle be offset by a lower exchange rate or by fiscal or monetary stimulus. A reduction in potential supply can only be offset, after a delay, by increased investment. This is therefore the key challenge and policy success will be determined by the extent to which investment is stimulated and adequate long- term growth thereby assured. In addition, there is also likely to be a reduction in living standards through a deterioration in the terms of trade as a result of weaker sterling, but this was in any event likely as the exchange rate appeared overvalued before the vote.

The distinction between the demand and supply shocks is fundamental and will therefore be central to my analysis. Almost the only reference I have read to this vital distinction was in the FT which referred to "...a supply side shock that is likely to retard growth by cutting into real domestic demand".¹ This comment makes no sense to me and suggests that the fundamental issue of supply is not yet being well debated.

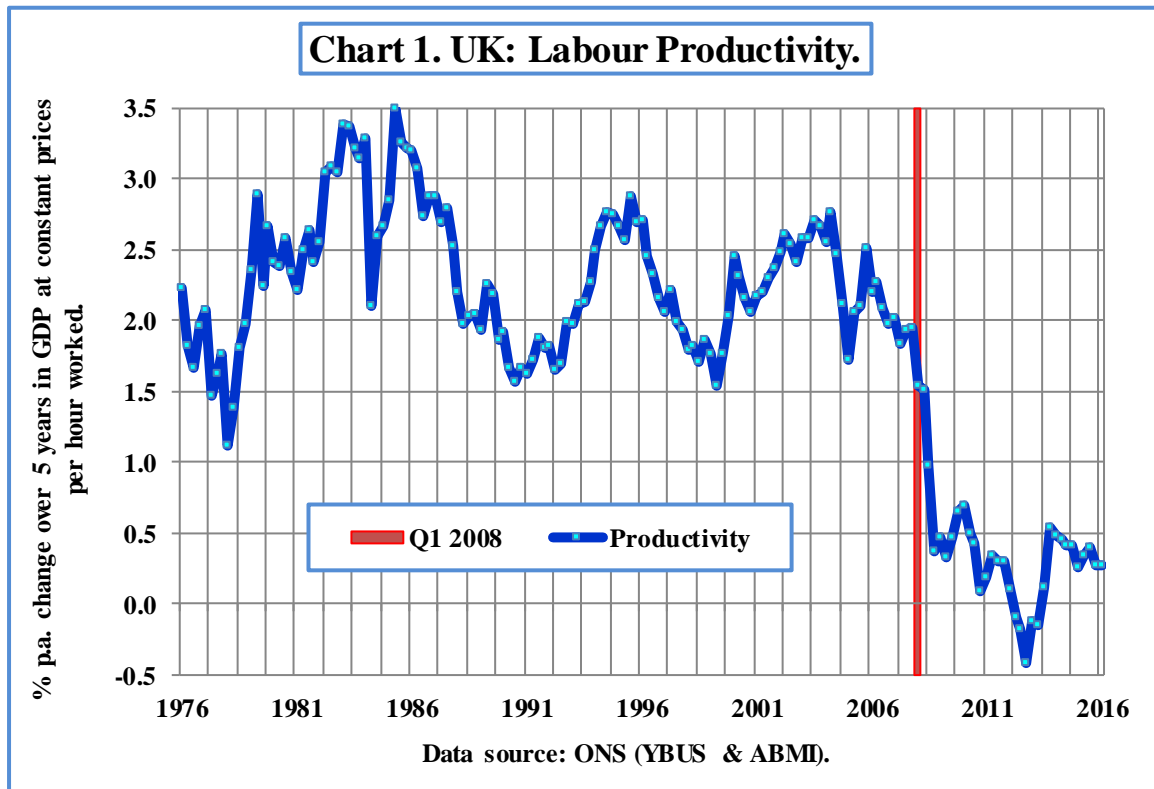
Potential supply will fall because some new forms of demand will have to replace those that weaken. Resources that were previously employed will have to be switched and this will take time, causing frictional unemployment of both capital and labour. It is unlikely to be possible for all equipment to be used to meet the new sources of demand and, in addition to any frictional unemployment of labour, there will probably be some reduction in labour productivity as old skills are lost and new ones need to be learnt. Lower demand may also cut investment and thus the future growth of potential supply. Reduced potential supply will not cut demand as the FT's leader asserts, but the likely rise in frictional unemployment will probably raise the non-accelerating rate of unemployment ("NAIRU"), so that unemployment may have to rise in order to contain the increase in inflation that will result from the decline in sterling. Unless it is offset by a rise in investment, the reduction in labour productivity will lower the maximum longer term growth rate that is consistent with stable unemployment.

In the immediate reaction to the vote, consensus forecasts for UK growth have been revised down from 4% over the next two years to 1.8%.² I assume that these revisions are based on guesses about demand and, as this will depend on the policy response, seem to me to have little value even by the normal standards of economic forecasts. I shall not seek to produce alternative forecasts but rather consider the more important issue of the impact that the vote to leave will have on the longer term potential growth of the UK.

¹ The first leader 8th July *The weaker pound offers cold comfort this time.*

² According to Consensus Economics as reported in an FT article of 15th July *Hammond targets economy's 'temporary loss of confidence'.*

As Chart 1 shows, UK labour productivity had started to slow sharply before the “great recession” which followed the financial crisis. GDP started to fall in Q2 2008, and the chart shows that, measured over the previous 5 years (Q1 2003 to Q1 2008), GDP per hour worked had fallen to 1.5% p.a., having averaged 2.2% p.a. and 2.1% over the previous 10 and 20 years. The improvement in productivity has since continued to slow.



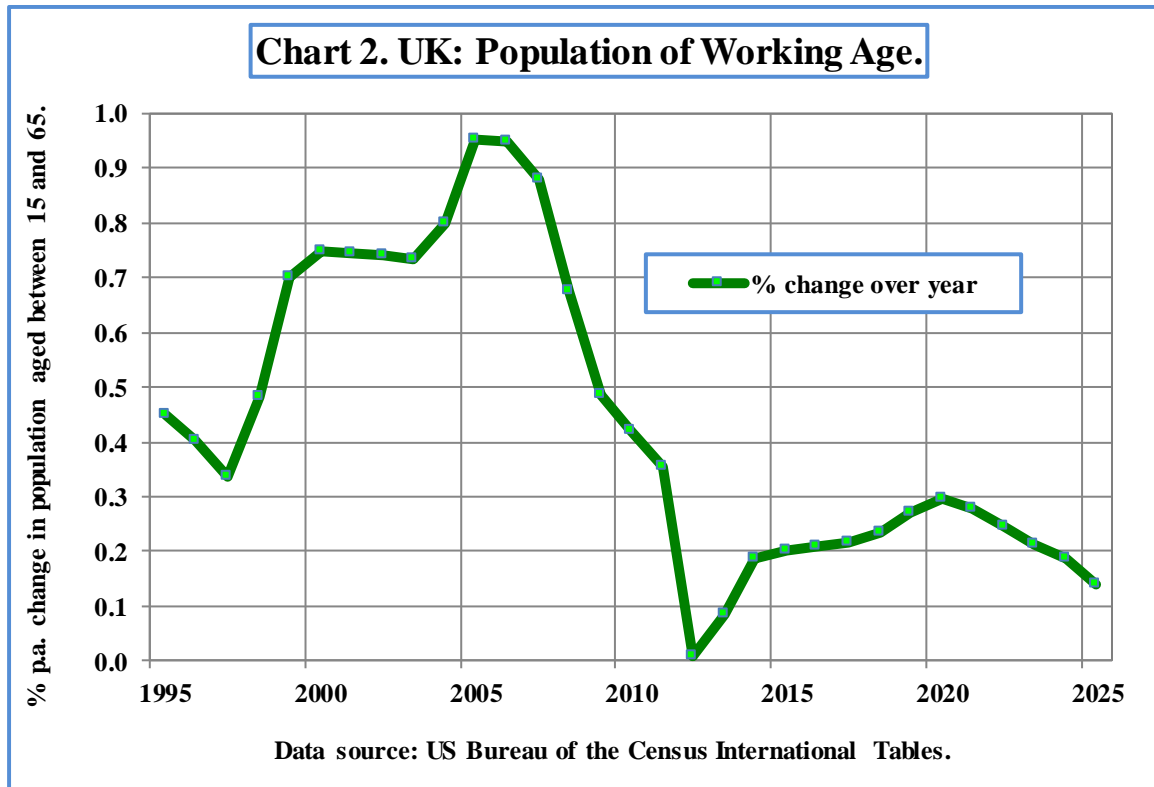
Productivity is volatile and needs therefore to be measured over a number of years, rather than quarter by quarter. Five years is a convenient time period for its measurement, but it is also arbitrary. I show in Table 1 the way in which productivity has changed when measured over different time periods. These show that the rate at which productivity has been improving is between 0.16% and 0.57% p.a.

Table 1. UK labour productivity measured by change % p.a. in GDP per hour worked for 1 to 5 years ending Q1 2016. (Data source ONS).

5 years	4 years	3 years	2 years	1 year	average 1 to 5 years
0.27	0.16	0.41	0.57	0.50	0.38

The potential growth rate of the UK depends on the change in productivity and the growth in the workforce. The latter depends on the change in the population of working age, usually defined as those between 15 and 65, the participation rate, which is the number of people willing to work as a proportion of those of working age, the level of unemployment and the number of hours worked per person employed.

The population of working age grew at 0.2% in 2015 and this is expected to continue for the next few years, as shown in Chart 2. Without helpful changes in unemployment, participation rates or working hours per person, the growth potential of the UK is the sum of the rates of growth of the working population and productivity.



Unemployment was 5.0% in March and, as Chart 3 shows, is low by historic standards. Although it could fall further without causing a pickup in inflation, it was unlikely, even before the Brexit vote, that any such decline would be significant.

Chart 4 shows that hours worked per person have shown a long-term decline, interrupted by a rise from 2010 to 2014 which now seems to have halted.

Chart 5 shows that the participation rate has improved but that the rate of improvement has started to slow. This deceleration is likely to continue, partly because it becomes more difficult to attract new entrants as the potential supply declines and partly because, as Chart 6 shows, unemployment is unlikely to decline and participation and unemployment are related.³

³ I have inverted the scale on the right hand axis to make the relationship of falling unemployment and rising participation clearer to the eye. The R2 correlation coefficient over the period was 0.30.

Chart 3. UK: Unemployment.

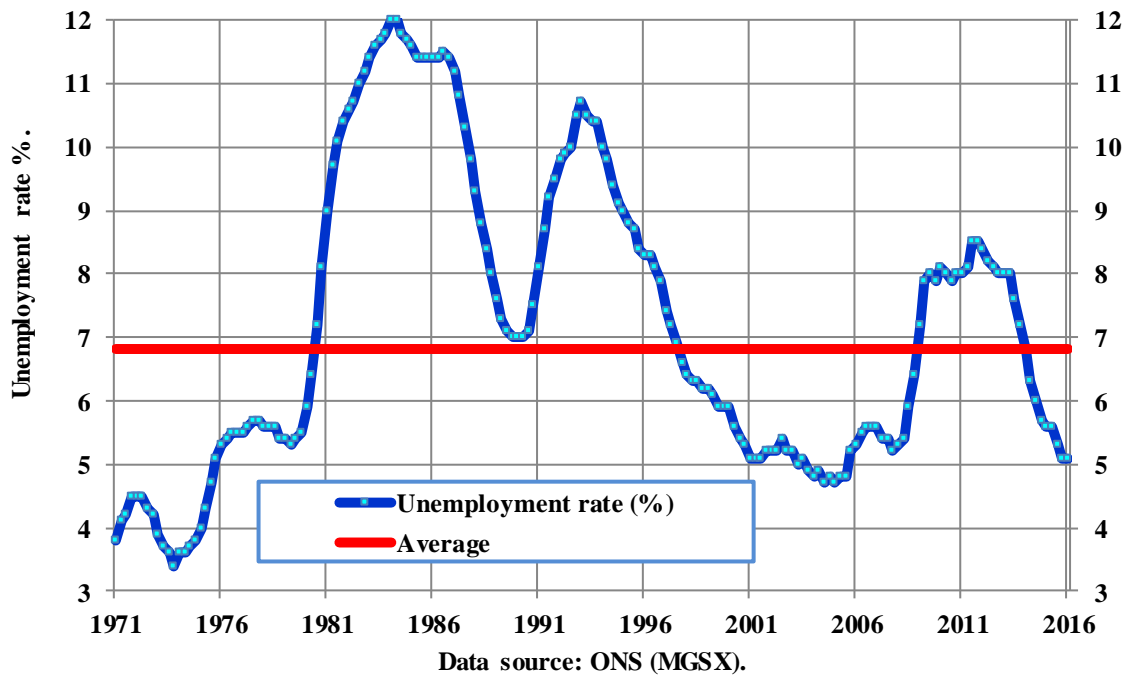
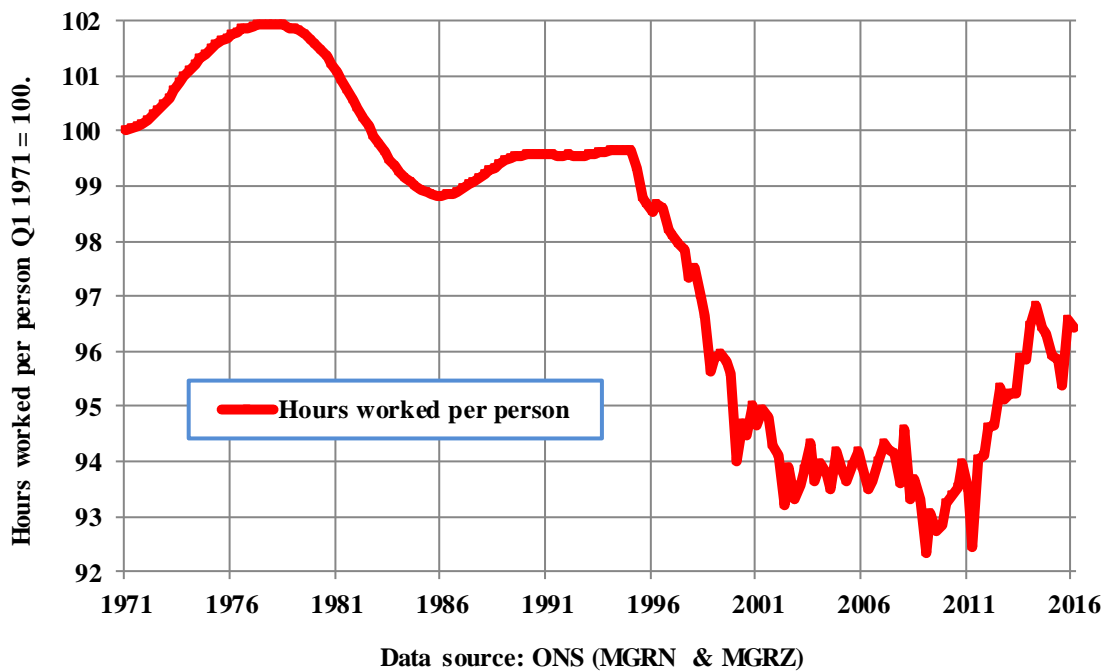
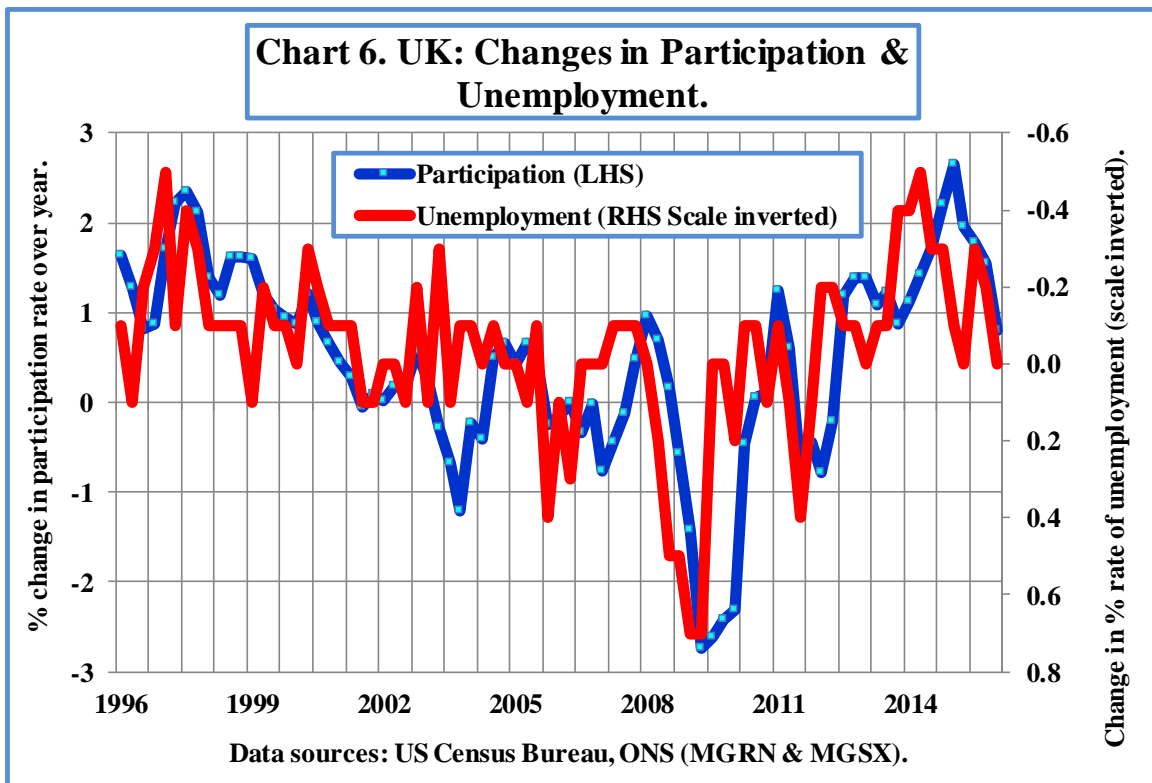
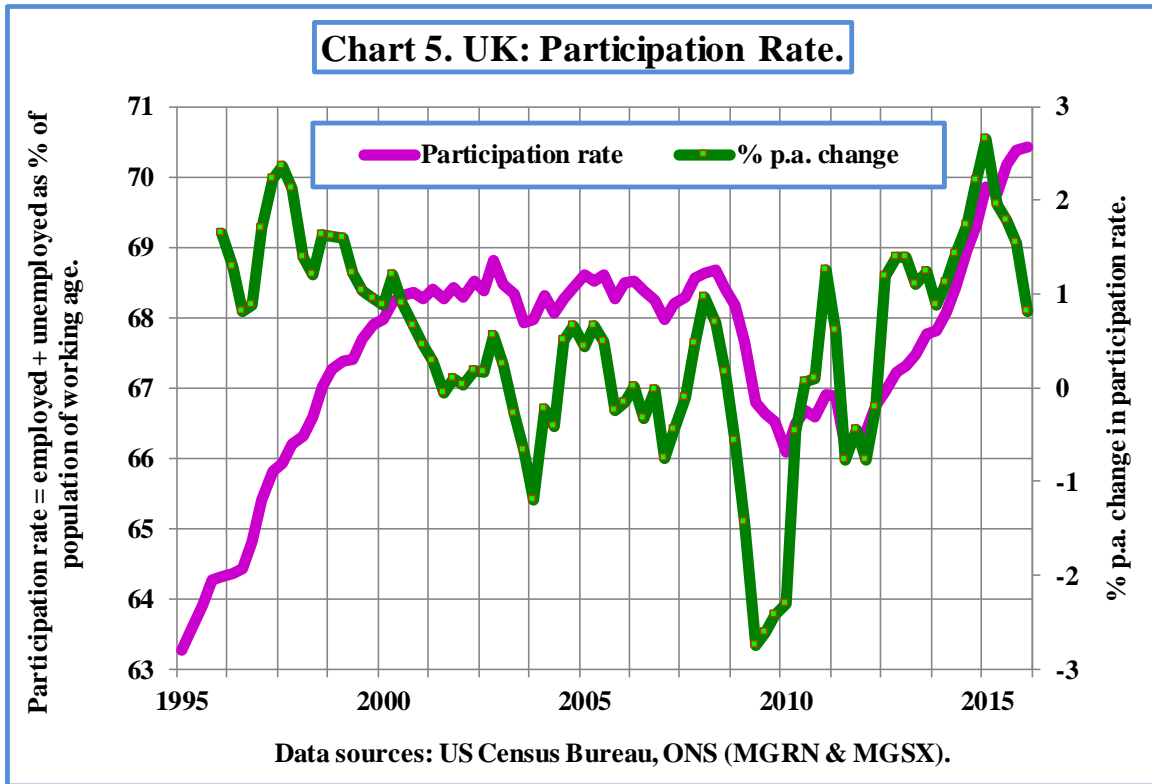


Chart 4. UK: Hours Worked per Person.





On the basis of these data, I show in Table 2 the apparent trend growth rate of the UK economy before any reduction due to the shock of Brexit, that seems to me to be indicated.

Table 2. UK Potential Growth % p.a. of GDP at Constant Prices, given sufficient Demand.

	Next 2 years	Longer term
Growth of working population	0.20	0.22
Productivity	0.30	0.30
Hours worked	0.00	-0.10
Participation	0.60	0.40
Total	1.10	0.82

The reported consensus that growth post-Brexit will be 0.9% p.a. over the next two years therefore seems to me to be possible, but only on the basis that there are no adverse changes in the rates of unemployment and participation. A lower rate seems likely and this reflects my view that the evidence suggests that the assumption that growth would, without Brexit, have amounted to 4% over the next two years was over-optimistic.

The UK population is expected to rise at 0.53% p.a. over the next five to ten years, so a rise of 0.82% p.a. in GDP would allow GDP per head to rise at 0.29% p.a. If the recent trend for high incomes to rise more rapidly than average ones continues, this will mean that voters are on average more likely to suffer a fall than a rise in their standard of living.⁴

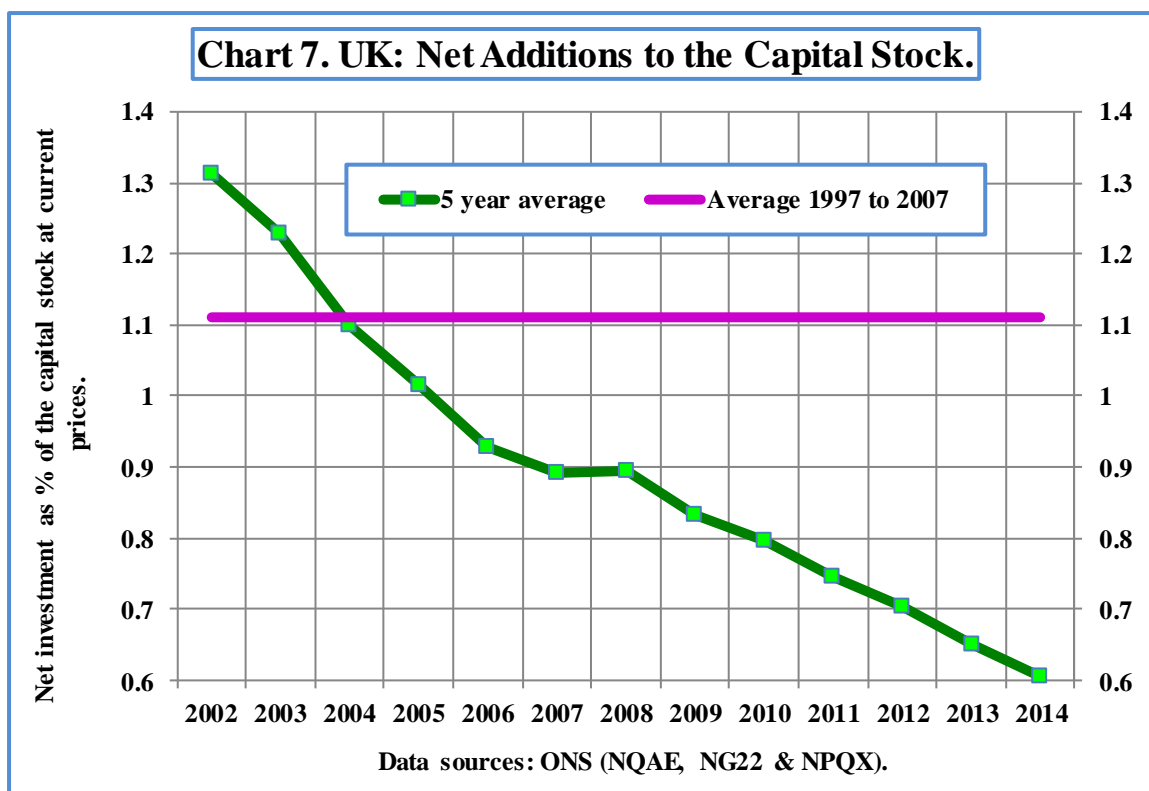
The Brexit campaign seems to have shown that voters have a high degree of concern over the failure of living standards to rise. Similar worries appear to be causing serious disaffection in most major developed economies with established political parties and figures. On current trends this dissatisfaction is likely to grow.

A common response is to claim that the GDP data underestimate growth and productivity. Such claims do not address the issue. Revising the figures will not improve living standards or the level of dissatisfaction with the standards' failure to improve. If the new government is to avoid unpopularity, it needs to increase growth and reduce inequality. It appears to have grasped both these points. We do not yet know what policies will be introduced to tackle them, but we can assess what they will need to be.

Productivity depends on the amount of capital available and, as Chart 7 shows, the growth of the capital stock in the UK has been slowing steadily. In his recent book Mervyn King points to this, correctly in my view, to explain the slowdown in productivity. He remarks that "...there has been a sharp fall in the growth rate and perhaps even the level of the effective capital stock in the economy".⁵

⁴ I have no data on the UK, but in the US from 1995 to 2013 the mean income per head rose by 0.33% p.a. faster than the median. If this were to occur in the UK, a rise of 0.29% p.a. in GDP per head would cause the income of the average voter to fall at 0.04% p.a.

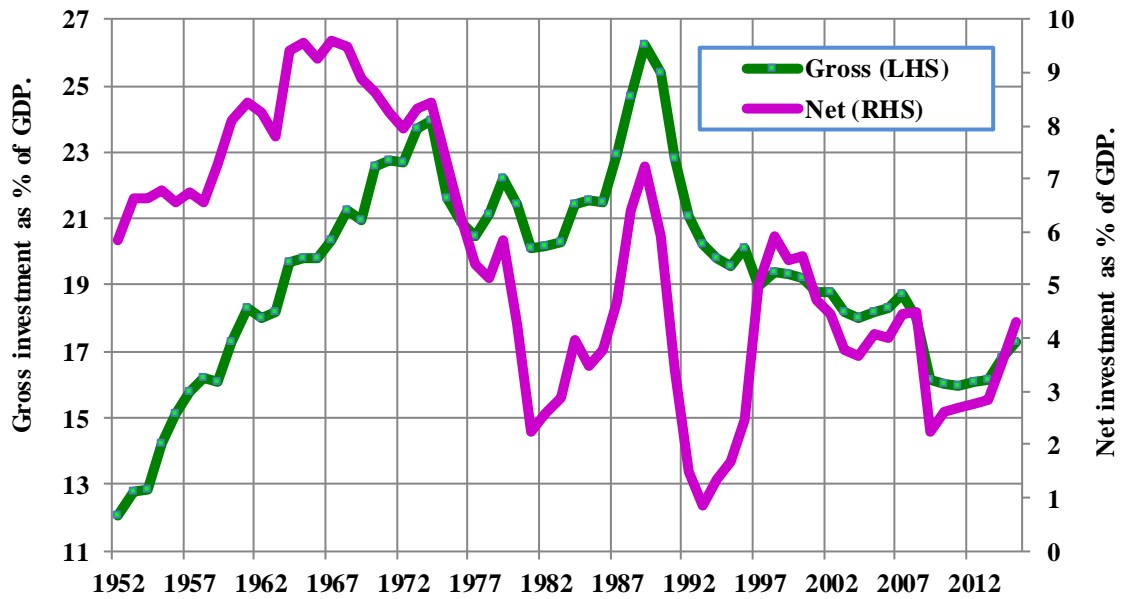
⁵ *The End of Alchemy – Money Banking and the Future of the Global Economy* by Mervyn King, Little Brown (2016).



Many financial journalists seem to suffer from the romantic delusion that productivity depends simply on technology and requires no investment. The mundane realisation that a rise in the growth of the capital stock is needed to improve productivity thus gets readily side-tracked by the more newsworthy, fashionable and exciting discussion of technical innovations.

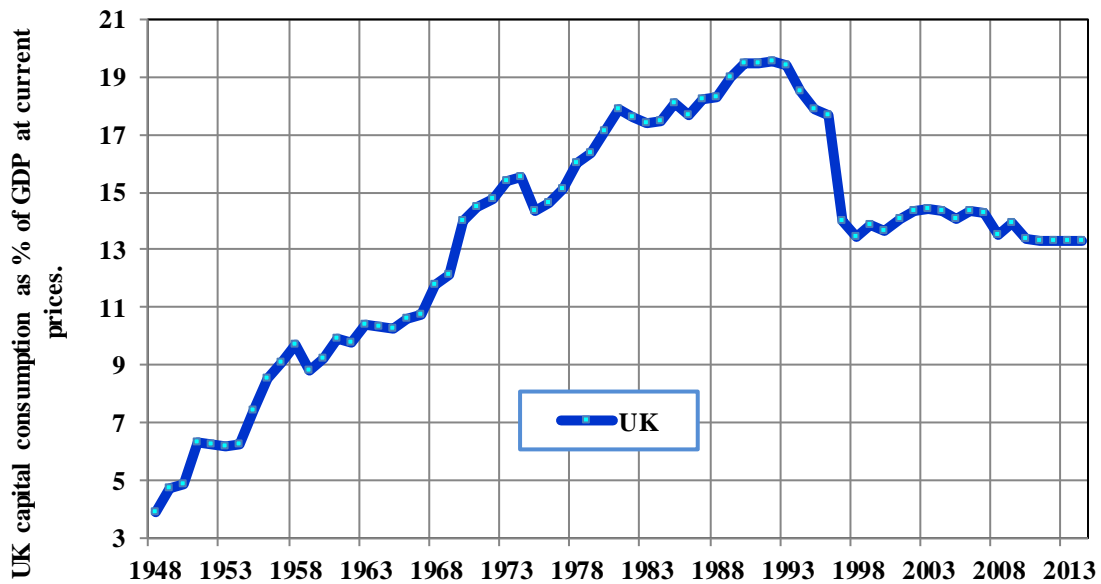
Additions to the capital stock depend on the level of net investment, which is the difference between gross investment and capital consumption. As Chart 8 shows, investment has fallen and the long-term decline has been even more precipitous at the net compared with the gross level, though since 1997 the two have tracked each other closely. The difference in the earlier years is the result of a rise in capital consumption, as shown in Chart 9. This is probably the result of an increase in the proportion of total investment which is in intangible rather than tangible form. We do not have long-term data on the division between the two but, as Chart 10 shows, the high correlation between the ratio of capital consumption to gross investment and the ratio of intangible to total investment makes it likely that the sharper fall in net investment compared with gross from 1952 to 1987 was largely the result of an increase in the proportion of private sector investment devoted to intangibles.

Chart 8. UK: Gross and Net Investment as % of GDP.

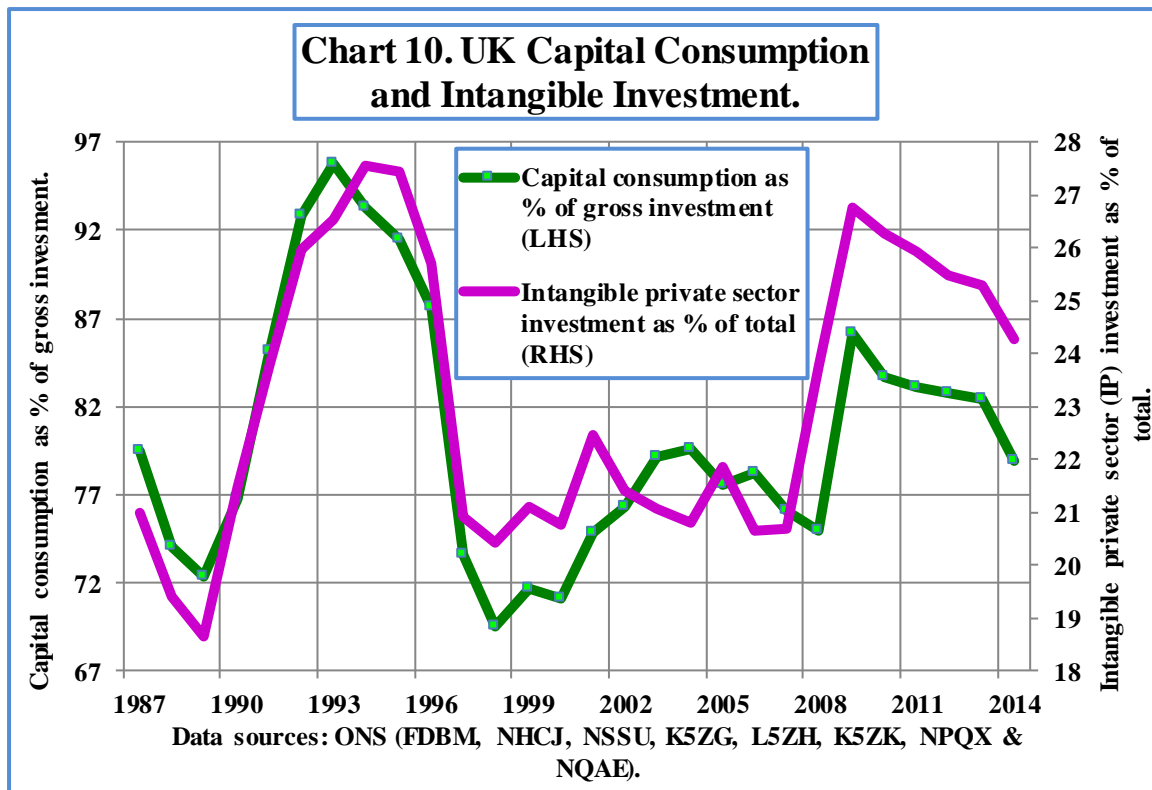


Data source: ONS (YBHA, NPQX & NQAE)
 NB my estimate for NQAE prior to 1987 from NQPC & ABMX

Chart 9. UK: Capital Consumption as % of GDP.



Data sources: ONS (NPQX & NQAE) & NIPA Table 5.1
 NB my estimate for NQAE prior to 1987 from NQPC & ABMX.



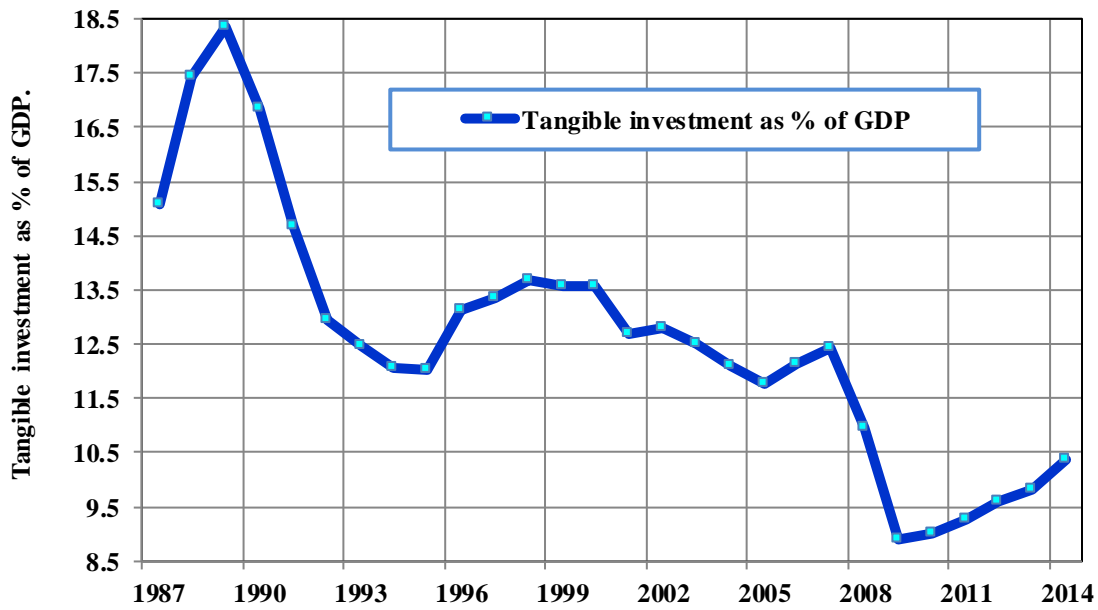
It follows that if productivity is to improve, there will need to be a marked increase in the ratio of tangible investment to GDP. As Chart 11 shows, tangible investment in 2014, which are the latest data available, had fallen as a percentage of GDP by 43% since 1989.

The net capital stock data also provide an alternative way of estimating the potential growth of the UK economy. The most recent data available, which are for 2014, show the net capital stock rising by 0.76%. If there are no changes in investment or the capital/output ratio, this would be the rate at which the economy is capable of growing. This is similar to but a bit below those shown by my other approach, summarised in Table 2.

Investment is being constrained by low expectations for growth and the perverse incentives of the bonus culture, which effectively pays senior management not to invest. The government cannot change expectations directly, but it can through effective policy, which today requires tackling the perverse incentives that discourage private sector investment and by increasing it in the public sector. I have suggested elsewhere that this can be done by penalising incentive schemes through the tax system unless they are acceptable to the competition authorities and requiring that an improvement in productivity is a necessary condition for approval.⁶ This would have the added benefit of restricting high bonus payments to managements who deserve them through the improvement they make to the economy.

⁶ For a fuller explanation see *How Managerial Incentives Affect Economic Performance* by Andrew Smithers published in *World Economics* • Vol. 17 • No. 1 • January-March 2016

Chart 11. UK: Fixed Tangible Investment as % of GDP.



Data sources: ONS (FDBM, NHCI, NSSU, L5ZG, L5ZH, L5ZK & YBHA).

Summary

The new government will need to maintain demand so that unemployment does not rise. They may not do this, but it could be done by a combination of weak sterling and fiscal stimulus. Oddly enough, they need to be careful not to provide too much stimulus. The pre-Brexit consensus was over-optimistic about the UK's growth potential and this has been a feature of past official forecasts.⁷

Even if demand is well managed, the growth potential of the economy is currently too low to sustain the popularity of Prime Minister May's government, particularly if changes in the distribution of incomes continue to favour the higher paid. It is also possible for the new government to tackle this by appropriate policies and we can only wait to see if it will.

⁷ For example the UK's Office of Budget Responsibility report in November 2015 expected labour productivity to rise by 1.5% in 2016 and then to improve to 2.2% p.a. by 2020.