Centre for Policy Studies

Pointmaker

BE BOLD FOR GROWTH

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SUMMARY

- The concept of the sustainable long-term growth rate of the economy is at the heart of modern macroeconomics.
- Yet the growth rate of the economy varies widely over the long term in response to both external events and government policy.
- But the faith in the power of macroeconomic theory led economists and politicians into a hubristic belief – exemplified in claims to have ended 'boom and bust' and the Treasury decision to increase its forecast for the long-term growth rate to 2.75% in 2006 – that they could guide the economy along its long-term growth rate to deliver constant and stable growth.
- It should be clear today that these beliefs were wrong, dangerous and undemocratic.
- They were dangerous because they gave both economists and politicians a false sense of the power they held over the economy.
- And they were undemocratic as they allowed the debate to be determined by a technocratic 'evidence-based' approach that excluded everyone but the expert economist.
- There are no exact scientific methods that policy makers can exploit to control growth. Economists simply know less about how the economy works than they might like to think.
- This does not mean that government policy does not influence the growth rate of the economy. While there is no guaranteed formula for success, politicians should be confident that the right supply-side policies – such as tax simplification, bringing public sector remuneration into line with that of the private sector, moving unskilled welfare dependents into socially useful jobs and shedding bureaucrats – can create an environment conducive to faster economic growth. That is the lesson from history.

1. INTRODUCTION

The longer-term trend rate of growth of the British economy has the power to influence decisively the success or failure of the next government.

But what is it? The Treasury defines the trend level of output as follows:[1]

'The economy's trend (or potential) level of output is the level that puts no upward or downward pressure on inflation, and the economy's trend rate of growth is the rate at which output can grow, on a sustained basis, without exerting any inflationary pressures'.

This dense sentence contains a whole host of implications and assumptions about both the ability of economists to understand the economy, and the power of policy makers to exercise detailed control over its developments. But many of these implications and assumptions are, at best, misguided and have contributed to the current economic crisis. A simpler and braver basis for economic policy is needed.

2. LONG-TERM TREND GROWTH IN THE UK: THE TREASURY VIEW

The Treasury performs a regular analysis of the longer-term annual growth rate of the UK economy. In 1999 it judged UK trend economic growth to be 2.5%.[2] At a basic level, this did not seem implausible. Over the 20 years before this, from 1979, the actual average annual growth had been 2.2%. The year 1979 was of course immediately prior to the deep recession of the early 1980s. More importantly, it was the last year of the shambolic decade of the 1970s. The economy was still reeling from the huge oil price rise in 1973/74, inflation was in double figures, trade unions were still rampant (the Winter of Discontent was the winter of 1978/79), and profitability was low.

Since then, the economy had benefited from the supply-side reforms of the 1980s. So it seemed reasonable to believe that the UK was capable of sustaining an average growth rate slightly higher than it had experienced in the previous two decades. This judgement did not, of course, mean that the year-on-year fluctuations of the business cycle had been abolished. Rather, it was a view on the average growth rate over the course of several cycles.

Far less readily explicable was the decision by the Treasury in 2006 to revise this upwards to 2.75%, a view to which it still appears to subscribe. The difference between 2.5% and 2.75% may seem trivial, but over time it makes a real difference. Over the course of 20 years, for example, the level of GDP would be 5% higher with the latter rather than the former average annual growth rate. For a person on average earnings, this would translate into an additional £1,250 of income a year, a sum not to be sneezed at for someone earning around £25,000.

During Gordon Brown's Chancellorship, in stark contrast to changes elsewhere in the developed world, the British state had been taking a higher and higher proportion of national income. If this increase had been largely made up of genuine investment which increased efficiency and productivity, an

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1 HM Treasury, *Trend growth: new evidence and prospects*, December 2006.

2 Strictly speaking, there is an assessment of trend growth made for the medium term, and one for the longer term for making fiscal projections. The latter is audited by the National Audit Office (NAO) and is therefore, deliberately, set at a slightly lower rate than the former in order for the NAO to be able to say that the assessment is cautious. There is little doubt from the way in which the two are discussed that the Treasury believes the former to be more realistic.

upwards revision to the long-term trend growth rate might well have been justified. But as is well known, much of the 'investment' in the public sector took the form of additional bureaucratic jobs and increased pay and perks for those employed in the public sector. The typical worker in the public sector now earns 15% a year more than his or her private sector counterpart,[3] to say nothing of the immense gulf which has opened up in terms of pension provision. In short, much of the increase in public spending has not gone on increases in the services provided, but to subsidise the private consumption of those employed in the public sector.

So how did the Treasury justify this rather optimistic view of the world? In common with many 'improvements' under New Labour, the public presentation of the arguments and evidence has become more rather than less opaque. The following is an attempt to translate into English the approach used by the Treasury to justify its increase in the long-term trend growth rate.

Its analysis was based around on-trend extrapolation – years in the economic cycle are identified as being 'on-trend', and the trend growth rate is the annualised growth between these points. The identification of an on-trend point is done through an analysis of a wide range of economic and survey-based indicators – private sector business surveys, capacity utilisation surveys, employment surveys, vacancy ratios, price and wage inflation and so on. On-trend years are those points where each survey or indicator is at, or very near, its long-run average.

As translations go, perhaps not very successful. But there is an important bit of information in the Treasury's justification: the evidence it uses is itself not very long term.

For example, in terms of judging which years are 'on trend', in other words at or near their long-term average, a great deal of historical evidence was simply ditched. Most of the indicators are analysed by the Treasury only as far back as 1989, with some starting as late as 2001. Use of this short history not only gives a misleading impression of the potential levels at which GDP can grow or fall, but suggests that the trend rate of growth is much more stable than it really is.

As a first pass at judging the plausibility of the Treasury's view that Labour has succeeded in raising the trend growth rate of the UK economy, it is useful to look at a much longer run of historical data on GDP growth rates, and to see how often the UK economy has succeeded in growing over long periods at or above the rate of 2.75% a year.

For illustration, one can take successive periods of 20 years and calculate the average growth over each of these periods. A 20 year period is sufficient to span several successive business cycles (the results are very similar for periods of 25 or even 30 years).

Angus Maddison, formerly of the OECD and now Emeritus Professor at the University of Groningen, has put a lifetime's effort into constructing a much respected historical data series of GDP for many countries. He has developed a data series for UK GDP stretching back to 1870 – a length of time much more suited to the study of long-term economic trends.

[3] B Rosewell, 'Public sector pay – Time to share the private sector's pain?', in *Opportunity in the Age of Austerity,* IPPR, 2009.

Using this much longer-term dataset, Figure 1 plots the annualised growth rate of GDP over successive 20 year time periods from the late 19th century to the present day. This simple analysis reveals two key points.

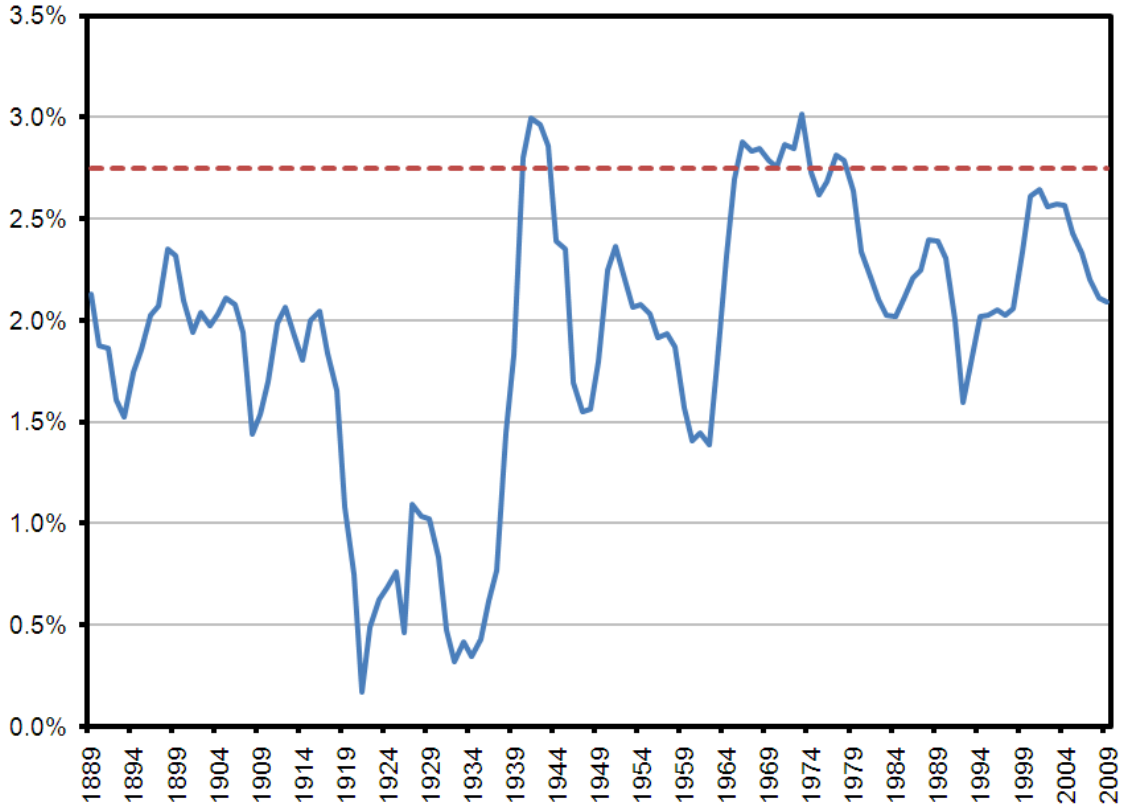
1. Long-term growth of 2.75% is very rare

The first point to note is that periods of 20 years in which average growth exceeded the Treasury's current estimate of long-run growth, 2.75% a year, are very infrequent. Essentially, this only happened twice: the first period which embraced the massive expansion of the economy during World War Two, when national survival was at stake. The second 20 year periods contained years from the so-called 'Golden Age' of the 1950s and 1960s, when the Western economies as a whole grew at unprecedented rates.

So it would be reasonable to be sceptical of the Treasury's claim that trend growth is now 2.75%, even just looking at the experience of the last 50 rather than the last 140 years.

We can see towards the right-hand part of the chart that the 20 year growth rate average started to rise during the 1990s as both the weak growth of the mid/late 1970s began to drop out of the 20 year 'windows' and the positive effects of the supply-side reforms of the 1980s began to take effect. Indeed in 2001 the average growth rate over the previous 20 years was, at 2.64%, only a hair's breadth under the aspired rate of 2.75%.

FIGURE 1: UK 20 YEAR ANNUALISED GROWTH RATES



Note: The first data point in this chart, associated with the year '1889' on the bottom axis of the chart, shows the annualised growth rate over the period 1870-1889. The next point shows the annualised growth over 1871-1890, and so on right up to the average over the 1990-2009 period, the last point on the chart.

But since 2001 the 20 year average has declined sharply. The latest calculations are influenced by the slowdown in growth in 2008 and the sharp fall in output in 2009. However, the long-run average growth rate was already falling before the current crisis. It would be wrong to read too much into just a few data points and assign the slowdown to Gordon Brown's policies, but the successive 20 year averages which end during the opening decade of the 21st century are intriguing.

2. Long-term growth rates vary widely

The second important point to take from the chart is that there is a large degree of variation in the 20 year annualised growth rates. Even during the period after the Second World War, the range which has been experienced varies from a low of 1.4% to a high of 3%. For the period as a whole, the range is even wider, and the events of 2008/09 must surely shake the complacency of the many commentators who thought we could never revert to dramatic fluctuations in the economy of the kind experienced before World War 2.

Regardless of how trend growth is measured, historical events dominate the 20 year averages. For example, the very low 20 year annualised growth rates in the decade after 1919 are a result of the big falls in output during and after the First World War. In the early 1930s output in the UK fell by around 6% as a result of the banking crash. That had a clear impact on the long-term annualised growth rates. The huge increase in the annualised growth rates in 1940-1945 is a result of the dramatic rise in production in the earlier years of the War. High annualised growth in the 20 years to the early 1970s has its root in the big falls in output after the Second World War.

So even if an unequivocal trend rate of growth were to exist at any point in time, and if for some reason the economy automatically reverted to the trend over time – both of which are rather big 'ifs' – in reality, far beyond the time horizon of any elected government, events can influence dramatically the rate of growth which is experienced over a 20 year period.

Why, then, is the concept of the trend rate of growth thought to be so important in macroeconomic policy? And should these sorts of artificial technocratic concepts dominate policy thinking?

3. THE LIMITS TO KNOWLEDGE

The rise of the 'expert' is bedevilling political discourse in Britain. Whole areas of debate in political economy have become reduced to litanies of technocratic empirical 'evidence'. Anyone not immediately familiar with the latest research is thereby automatically locked out of the discussion.

This anti-democratic tendency impacts not just on the electorate in general, but affects the heart of political decision-making. It requires great self-confidence on the part of an elected minister to reject a course of action when the benefits and costs have seemingly been calculated almost down to the last penny. A recent example is Harriet Harman's Equalities Bill, where it is claimed that the value of the 'general benefits to the economy' of the bill is £498,996,319.[4] Who could quibble with a scientific calculation of such accuracy?

Yet, especially in the social sciences, there are serious limits to the extent of our knowledge. This extends far beyond any quantitative estimates which are made. Quite often, even the causal mechanisms at work are at best understood only poorly.

[4] Government Equalities Office, (April 2009). *Equality Bill – Impact Assessment*. Available: at http://www.equalities.gov.uk/PDF/Equality%20Bill%20Impact%20As.pdf

This is not a call for a root and branch anti-intellectualism. Far from it. The concept of inherent limits to knowledge was articulated clearly by Hayek in the middle of the 20th century. His arguments have become even more relevant to the complex, inter-connected systems which modern economies and societies have become, systems in which consequences are difficult to predict, derive from numerous cumulative causes and may be highly contingent on unobservable factors. Hayek believed that the limits to knowledge are a fundamental part of such systems, which no amount of cleverness can overcome, and the 21st century science of complex systems is proving him right.

The implication is not that nothing of any value can be said which might act as a guide to policy. The social sciences are far from being a completely empty box. Rather, the point is that considerable uncertainty surrounds almost any calculation which is made. Specific actions and policies rarely have a determinate (or determinable) outcome. Politicians must become willing once again to use their own judgement rather than meekly follow the spurious precision of so-called expert calculation.

A well-known example of politicians proving more expert than the experts is Geoffrey Howe's Budget of 1981. Contrary to the advice of the then economic establishment, with 364 economists[5] declaring that there was 'no basis in economic theory or supporting evidence' for reducing government borrowing in the middle of a deep recession, Howe's policy proved successful.

Similarly the recent exchange of letters between economists also illustrates how the experts themselves cannot agree on a common course of action.[6]

This is not to say that the experts should all give up. It is hard to argue that the policy of, say, the current Greek Government is a good advert for politicians making up their own minds rather than deferring to experts. A policy of falsifying the data and then suddenly announcing a huge public sector financial deficit is obviously fraught with danger.

For every example of the benefits of democratic rather than technocratic decisions, a counter can be produced. Yet the example of Greece shows the difficulties which experts have in producing exact calculations which have a reliable basis. Economic history strongly suggests that high levels of public sector debt relative to a country's GDP eventually trigger a financial crisis. But there is no hard-and-fast rule which tells a decision-maker what this level is. So many factors need to be taken into account, not least of which is the non-quantifiable and irrational mood of financial markets. No matter how sophisticated the analysis, the calculation ultimately revolves around human judgement.

In the current climate, there do appear to be risks in the UK around the current level of both the amount of public sector debt outstanding and the annual additions to this in the form of borrowing.

Much of the deficit has, however, arisen because of the sheer depth of the 2008/09 recession. Government receipts from taxation are sensitive to the buoyancy of the economy, and in a recession these fall sharply. A period of strong growth would work wonders for the

[5] One of the present authors declined the offer to sign the now notorious letter to *The Times*.

[6] The first round robin letter appeared in *The Sunday Times* on 14 February 2010; and was followed by two letters in *The Financial Times* on 18 February.

state of the public finances, and a key issue for the next government is therefore to create an environment which is conducive to economic growth.

The benefits of growth extend, of course, far beyond their impact on the public finances. Unemployment falls, people who have dropped out of the labour force altogether find a job and in so doing begin to reconnect with society. And, obviously, prosperity increases across the board.

A real danger for whoever forms the next government is to allow the debate over growth to be dictated by the technocratic agenda. The concept of the sustainable long-term growth rate of the economy is at the heart of modern macroeconomics. Policy can all too easily be captured by the narrow, technical terms in which these matters are discussed, rather than being set in the wider context of political economy.

4. MACROECONOMIC "RULES"

In the past two decades, mainstream economic thinking on the macroeconomy claims that it has made great strides. For example, Olivier Blanchard, the chief economist of the IMF, said in August 2008 that:[7]

'For a long while after the explosion of macroeconomics in the 1970s, the field looked like a battlefield. Over time however, largely because facts do not go away, a largely shared vision both of fluctuations and of methodology has emerged…… The state of macro is good.'

The state of macro is good! In August 2008, mere days before the financial crisis almost destroyed capitalism!

To be fair to Blanchard, he has subsequently written what is essentially a *mea culpa*. Others are less reflective. Michael Woodford is one of the world's leading academic macro-economists. In January 2009 he wrote an article entitled 'Convergence in Macroeconomics: Elements of the New Synthesis'.[8] According to Woodford, the first and most important part of the new synthesis is that 'it is now widely agreed that macroeconomic analysis should employ models with coherent intertemporal general equilibrium foundations.'

To the non-economist, the latter phrase will be incomprehensible. But it illustrates the dangers of allowing the policy agenda to be set by apparently sophisticated technocratic approaches.

Blanchard of the IMF was in complete agreement, stating that:[9]

'[Such] models have become ubiquitous. Dozens of teams of researchers are involved in their construction. Nearly every central bank has one, or wants to have one. They are used to evaluate policy rules, to do conditional forecasting, or even sometimes to do actual forecasting'.

These models – which have the splendid description 'Dynamic Stochastic General Equilibrium' (DGSE) – provided the intellectual backing for the delusion that policy-makers had solved once and for all the problem of 'boom and bust'.[10.] They are highly

[7] O Blanchard, *The State of Macro,* MIT Working Paper, 2008.

[8] The article was published in the American Economic Association's journal *Macroeconomics.*

[9] Blanchard, op. cit.

[10] The influence of macroeconomic theory on the financial crisis is discussed at greater length in P

mathematical. They appear to be scientific. But they fail in a profound way to take into account the factors which led to the financial crisis such as the systematic under-estimation of risk, the creation through securitization of assets whose value was inherently very hard to ascertain, the increased connectedness both globally in general and between financial institutions in particular, and the massive increase in leverage which took place.

The edifice of dynamic stochastic general equilibrium models was merely the culmination of an intellectual process stretching back to the early 1990s in which mainstream economists were able to delude both themselves and, through the chimera of the scientific status of their models, regulators and policy-makers that the benign economic environment was something which their collective cleverness had brought about.

The tools by which economists were meant to have brought about this 'great moderation' were improved monetary policy, specifically something called the Taylor rules. The rule for the conduct of monetary policy apparently gave central bankers the means to guide the economy smoothly along its long-term growth rate, whilst keeping inflation stable and low.

In a highly influential paper from 1993 John Taylor introduced a rule for the conduct of monetary policy that would come to dominate the thinking of central banks across the developed world.[11] The Taylor rule suggests that the level of the interest rate set by a central bank should be governed by the prevailing rate of inflation relative to its target, and the level of the country's economic output relative to its long-term trend.

As inflation moves above the target rate, the interest rate should rise to combat the inflationary pressures, and vice versa. Similarly, if output growth falls below its trend rate of growth then interest rates should fall to stimulate economic activity, and vice versa.

Central banks, including the Bank of England and the Federal Reserve, are not guided explicitly by the Taylor rule. But it is widely understood that the Taylor rule can explain the majority of interest rate movements in the recent past in the UK and US.

The Taylor rule supposedly arms central bankers with the ability to quickly and easily guide the economy towards a targeted inflation rate and a trend rate of growth of output, all through simple changes in the short-term interest rate.

An older macroeconomic relationship is the Phillips curve, introduced by A W Phillips in 1958.[12] The Phillips curve supposedly describes a relationship between the pressure of demand in an economy and inflation. In the short run, a rate of growth of output above the long-term trend can be attained at the cost of higher inflation. Higher output growth reduces unemployment, which in turn leads workers to price inflation into wage demands and shops to include it in prices, meaning that over the long run the economy is tied to a single growth rate. The Phillips curve, by describing the relationship between output and inflation, is the second key tenet of central bank and government decision-

Ormerod, 'The current crisis and the culpability of macroeconomic theory', forthcoming, *21st Century Society: Journal of the Academy of Social Sciences* and available at www.paulormerod.com

[11] J B Taylor, 'Discretion versus policy rules in practice', *Carnegie Rochester Conference Series on Public Policy,* 1993.

[12] A W Phillips, 'The relationship between unemployment and the rate of change of money wages in the United Kingdom 1861-1957', *Economica,* 1958.

making on the economy. It occupies a prominent theoretical position, yet its practical use is close to zero. For example, unemployment in the UK fell in every single year between 1993 and 2001, yet not only did inflation not rise, it was actually lower in 2001 than it was in 1993.

Both of these central principles of modern macroeconomics have at their core the concept of a trend rate of growth – the level at which, in the long term, the economy is believed to grow. The Phillips curve ties the economy to a long-run growth level consistent with low inflation. In the Taylor rule central banks are able to guide the economy easily and swiftly back to this trend rate of growth by manipulating the short-term interest rate, thus doing away with the excesses of a boom and the pain of a bust.

Identifying the exact rate of trend growth has absorbed the time of many an applied macroeconomist over the past decade. This analysis becomes bogged down in the minutiae of technocratic economics – did your analysis apply the Hodrick-Prescott statistical filter, the Baxter-King filter or the Christiano-Fitzgerald filter?[13] Have you used on-trend extrapolation or a production-function? Is your estimate backward-looking or a projection?

This sort of technocratic analysis feeds into central bank decisions about whether or not to change the base rate by tiny increments. Crucially, it gave economists and politicians alike a false sense of the power they held over the economy. The theory suggested that through small changes in the base rate, and small adjustments to the level of government spending, it was possible to regulate aggregate demand. The government and central bank could together easily guide the economy along its long-term growth rate, smoothing out fluctuations and delivering constant growth.

This does not mean that government policy cannot influence the growth rate of the economy. What is does mean is that there are no exact scientific methods that policy makers can exploit to control growth. And that it is dangerous to think otherwise.

Taylor rules and DSGE models were credited, by many economists and politicians, as the reason that inflation was low and growth positive and steady during the 1990s and 2000s (a period now known as "The Great Moderation"). This period did see the volatility of many macroeconomic variables fall markedly. In particular the variability of real output and inflation has been systematically lower than in any recent historical periods. Together Taylor rules and DSGE models were thought to have engineered this change – so central bankers and politicians could, it was supposed, manage inflation expectations and maintain steadily growing output.

Alternative explanations of The Great Moderation – that structural changes made the global economy a more benign place, or that we have just been plain lucky – are dismissed as secondary causes.

5. 'AN END TO BOOM AND BUST' HAS BEEN HERALDED BEFORE

A similar case of over-confidence has happened before. In a fascinating paper from 1968, R C O Matthews argued that the full employment level enjoyed by Britain since the end of the Second World War up to that time had little or nothing to do with government

[13] The current authors absolutely prefer the general non-linear regression technique of locally linear regression. See for example W S Cleveland and S J Devlin, 'Locally weighted regression: an approach to regression analysis by local fitting', *Journal of the American Statistical Association*, 1988.

policy, but was instead caused by favourable supply-side conditions.[14]

The prevailing wisdom among economists and politicians at the time was that the government was able to manipulate aggregate demand and even anticipate and prevent recessions through demand management. This so-called Keynesian Revolution maintained that fiscal measures (tax and spend) undertaken by government could control the level of employment and the output of an economy. Matthews noted that:

"Supposing this were the right answer, it would be a remarkable thing. It would mean that the most important single feature of the post-war British economy has been due to an advance in economic theory."

Matthews challenged the widespread belief that economists and politicians had discovered the fundamental workings of the economy and were able to create full employment. Instead he argued that full employment was due to the great rise in investment. This investment had come primarily from the private sector, and public sector investment was falling as a proportion of total investment.

The willingness to invest increased greatly in the post-war period because the potential profits from investment were so much higher than they had been before. In large part this was due to the low level of the capital stock. Investment was low during the Second World War, the inter-war period, the First World War and even in the years immediately before the First World War. As Matthews put it, "very substantial arrears of investment opportunities were to be expected".

Matthews' conclusion is that the low unemployment of the post-war period up to 1968 had been due to the increase in the abundance of capital relative to labour. There was no sense in which this was due to demand management: "this is non-Keynesian… and it has little or nothing to do with government policy".

In short, the prosperity of the immediate post-war decades was essentially a supply-side phenomenon.

6. THE GREAT MODERATION WAS NOT DUE TO POLICY MAKERS' OMNIPOTENCE

The volatility of the 1970s exposed as false the belief of the 1950s and 1960s that fiscal policy had done away with boom and bust. So today has the financial crisis we have just experienced exposed as false the belief of the 1990s and 2000s that monetary policy could ensure low inflation and stable and growing output. Economists simply know less about how the economy works than they might like to think.

During The Great Moderation, a decline in volatility was seen across the economies of the developed world – in output, employment, consumption, wages and prices. It is now clear that the steady growth of The Great Moderation was due to a combination of good luck and structural changes in the world economy, rather than advances in economic theory that gave economists and politicians control over economic growth and inflation.

The structural causes behind The Great Moderation centre on the emergence and fuller integration of China, India and Brazil into the world economy. The great supply of cheap labour that these countries added to the global economy exported low inflation to developed nations. This, combined with the ongoing decline of manufacturing and rise of services

[14] R C O Matthews, 'Why has Britain had Full Employment since the War?'*The Economic Journal,* 1968.

in the developed economies served to weaken labour's bargaining position. At the same time the increasing abundance of capital relative to labour in the developed economies facilitated a shift to profitability, in turn driving innovation and enterprise.

Competition in product markets was intense and drove prices down, putting a lid on inflation. The 1990s and 2000s were also characterised by a favourable supply-side environment, just as Matthews identified in 1968. Governments and central banks may have helped create an environment favourable to the supply side through low interest rates and a tax structure favourable to investment, but it did not exert the sort of control implied by their models.

Good luck also played a significant part. Good luck manifested itself in the form of reduced variance of structural shocks. Oil prices were steadier, as were the prices for other commodities such as food and industrial materials. Shocks to the money supply, tax and spending and productivity all fell. Most countries had just been spared the large shocks of the previous decades.

Despite numerous investigations into the causes of The Great Moderation, most of the 'good-luck' elements of the period remain unaccounted for – economists are simply unable to explain the cause of the long benign period experienced in the 1990s and 2000s. What is clear is that advances in monetary policy can, at best, explain a fraction of the causes behind The Great Moderation.

Some studies have simulated an 'alternative history' in which inflation targeting is mechanically brought back in time.[15] These have found that plonking the MPC down in the mid 1960s would have had little or no effect on curbing the 'Great Inflation' that ran to the mid 1980s.

The sorts of formal models which economists construct do not really capture substantial changes in the economic environment such as those discussed here. These shifts can either be external to any particular economy, such as the rise of India and China, or can take place within an economy, such as the supply-side reforms of the 1980s. A wider perspective is needed, rather than reliance on technocratic models.

7. WHEN IT MATTERED, THE RULES WERE DISREGARDED – THANK GOODNESS

The world as a whole has been fortunate that when capitalism stood on the brink of collapse in the second half of 2008, central banks and governments did not consult their dynamic stochastic general equilibrium models to formulate a response. Macroeconomists did not sit down to analyse the exact size of the output gap and tweak interest rates to bring us back to trend. Governments did not apply fiscal rules about only borrowing to invest over the course of the cycle.

DSGE models and Taylor rules would have been utterly ineffectual in the face of potential financial meltdown. Instead policy makers – such as Ben Bernanke, Tim Geithner and Hank Paulson – looked to the lessons of history and *acted*. The Great Depression had shown that above all the banks had to be rescued, no matter how unjust and unfair this is. Ultimately in this recession the US experienced a fall in output of 4% and the UK 6%. This compares with a fall of 30% in US output over four years in the Great Depression. It might not seem like it right now, but so far we have got off lightly.

[15] L Benati and H Mumtaz, 'The "Great Stability" in the United Kingdom: good policy or good luck?', *Bank of England,* unpublished working paper.

Had the DSGE models governed policy during the crisis, economists would have concluded that agents were behaving rationally, given the information they had, in freezing credit and reducing demand. Eventually the crisis would have played itself out as agents adjusted their expectations in the light of new information and growth would have returned. However, in the interim we would probably have seen GDP falls in major developed countries of 20% to 30%, multiple banking failures and massive increases in unemployment.

Economics aspires to the paradigm of a science – systematic knowledge of the operation of general laws. Unfortunately for economics its fundamental particles are people – agents who in actual fact do not form perfectly rational expectations of the future but who act irrationally with alarming regularity (alarming to an economist at least).

Recognising the limits of what economics can tell us about the future is the first step towards using it correctly. It is wrong to assume that a specific policy or economic tool will have a determined (or determinable) outcome. One should be confident that the right policy decisions can create an environment conducive to growth, without falling into the trap of thinking that the government has near-perfect control over that growth. The economy will continue to be buffeted by the events of history, and long-run growth can and will fluctuate. But above all there is the need for conviction. The right policies can and have improved the lives of individuals.

8. SUPPLY-SIDE MEASURES

The most important challenge facing the new Government is to create a supply-side environment which encourages economic growth. This is the abiding lesson of history. It is essential to avoid being sucked into a frame of mind which is set by seductive but ultimately flawed technocratic approaches. Politicians must act on the basis of their convictions and be judged by the electorate on the consequences of these actions, consequences which no amount of prior, rational analysis can foresee with certainty.

Indeed, one of the most powerful insights of modern complex systems theory is that the mechanical view of the world, in which doing *this* automatically leads to *that*, rarely applies to economies and societies. Unexpected consequences are the norm. Often the policies which turn out to have the most effect work their way through the system rather indirectly. But not only this, the causal connection between the size of an event and its subsequent influence may be different to that which common sense might suggest. In particular, small events will for the most part have small consequences, but they can on occasions trigger large reactions.[16]

So the following suggestions are not a blueprint, an N-point checklist beloved of the central planning mindset everywhere. Instead, they are indications of the sorts of policies which might help to create a benign supply-side environment in the UK.

Tax simplification

Dramatic simplification of the tax system is required. In terms of particular detail, the problem of the enormous marginal rates of tax faced by many poor people, sometimes as high as 90%, needs to be resolved. More generally, the massive complexity of the tax system – Tolley's Yellow Tax Handbook has grown from 4,998 pages in 1997, to 11,520 this

[16] A brilliant but highly technical paper on this point is by Duncan Watts of Columbia University and currently head of consumer research at Yahoo: 'A simple model of global cascades on random networks', *Proceedings of the National Academy of Science*, 2002.

year[17] – encourages some of the most highly skilled people in the country to devote their abilities to developing tax avoidance schemes rather than to productive industry.

Over 20 years ago, one of the present authors wrote a short pamphlet with Frank Field MP advocating a flat tax. Everyone would receive an initial tax-free allowance, and then all marginal income would be taxed at the same rate. Crucially, all allowances and offsets against tax would be eliminated. It goes without saying that the proposal attracted attacks from academics professing concern about the poor. But a flat tax would actually be highly progressive. Many very highly paid individuals – bankers, soccer stars – currently pay little or no income tax. A flat tax would greatly reduce the scope for avoidance. Regardless of the precise details, great simplification of the tax structure is needed.[18]

Cut public sector pay and pensions

Resources need to be encouraged to switch to the private sector if a reasonable rate of growth is to be sustainable in the medium to longer term. A massive distortion in relative prices in the economy has built up since 1997. The pay of the typical public sector worker is now 15% higher than the typical private sector worker.[19] And public sector pension entitlements are now far more generous.

The cost of unfunded state pension liabilities must be tackled. The precise level of the liability is theoretical, even nebulous, (because of the dramatic impact of interest rate changes on the figures). However, one recent estimate calculates these to be around £1,100 billion. As a minimum, the Government should ensure that, in future, all public sector pensions should be cash flow self-sufficient.[20]

This distortion in pay and pensions incentivises people to try to obtain a rent-seeking position in the public sector rather than in the wealth creating private sector. The distortion is especially acute in the more deprived areas of the country, precisely those where private sector activity is so desperately needed. It is hard for firms to attract decent workers in many poor towns up and down the country where the local council or quango offers much better pay and conditions.[21] Social justice alone demands action on this, but so does hard-nosed economics.

Public jobs for the low skilled

Some of the savings made in this way could be used to re-connect the concept of public services with things which the public value.

One of the most inegalitarian trends in British society in recent years is the way in which public employment has become less and less the preserve of the blue collar worker, and more and more that of the bureaucrat. On a pure cost-benefit analysis basis, jobs such as park keepers or bus conductors are hard to justify. But such jobs provide very positive social externalities. The jobs are relatively

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17 The increase would have been even greater if the publishers had not changed the page layout in 2007 and increased the number of words on each page. See Accountingweb, 'UK tax code is longest in the world', 8 September 2009. http://www.accountingweb.co.uk/blogs/gina-dyer/team-blog/uk-tax-code-longest-world

18 See also The Tax Reform Commission, *Tax Matters: reforming the tax system*, 2006.

19 In other words, the median pay level is 15% higher (See B Rosewell, op. cit.) For any right-skew distribution such as that of income, the median is a much more informative summary statistic in this context than the mean.

20 See M Johnson, *Don't let the crisis go to waste: a simple and affordable way of increasing retirement income,* Centre for Policy Studies, 2009.

21 See A Wolf, *More than we bargained for: the social and economic costs of national pay bargaining*, Centreforum, 2010.

unskilled and so can be filled by people who have been squeezed out of the labour force completely and who are contributing to Britain's broken society. Many such jobs provide reassurance to the public in terms of a presence in areas where there is a fear of crime. And they are a visible sign that public sector employees are performing socially useful tasks.

Abolish government economists

One of the most pressing tasks is to release the grip of conventional, mechanical economic thinking on the process of government. Forty five years ago, when the Government Economic Service (GES) was set up, there were just 18 government economists. They were people who had probably absorbed Hayek's dictum that an economist who is only an economist cannot be a good economist. The numbers of economists gradually trickled upwards, to become a veritable flood from 1997. But most of these are mere handle-turners, true believers in the material they have absorbed in their Master's degrees. Today there are 1,600 of them in the GES. Nothing symbolises more the worship of spurious technocratic exactitude by New Labour than the massive growth of the GES. At least 1,000 of these 1,600 economists should be dismissed and left to find some productive occupation elsewhere.[22]

9. THE NEED FOR CONVICTION

Proposals such as these will attract massive attacks from the vested interests of the public sector bureaucracy. We have just witnessed the power of this group. The Government wanted to make public the details of the pay and pensions of the higher paid council staff, but this was watered down dramatically by their resistance. We might usefully recall the fact that in 1919 Lenin became concerned that his revolution was becoming swallowed up by red tape and bureaucracy. He established a commission to investigate the problem. By the end of 1920, this commission itself employed 100,000 people.

The power and ruthlessness of the public sector bureaucracy to act in defence of its own-self interest must never be underestimated. In recent decades, it has to all intents and purposes captured control of the major social democratic parties of Western Europe. Even more political determination will be needed to deal with this class than was required to confront organised labour in the 1980s.

But, given sufficient determination, a Government can create the environment in which enterprise and initiative is once again encouraged. None of the above policies are original and it must be stressed that it would be futile to try to estimate the precise impact of any one, or any combination, of them. But history clearly shows that if implemented with rigour and conviction, policies such as these would significantly increase growth.

[22] See Civil Service Live, 13 July 2009. http://network.civilservicelive.com/pg/pages/view/263478.

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