Returning to Growth After the Crisis

Lessons from Britain's Economic History

JULIAN HODGE INSTITUTE OF APPLIED MACROECONOMICS

ANNUAL LECTURE

Tuesday 24th April 2012 at The Parc Thistle Hotel, Park Place, Cardiff

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It is a great pleasure to have been invited back and to return to this august occasion. A few of you I gather were there on the previous time round and have come again. I suppose the implication is either you have to or you enjoyed it. I seem to recall it was a quite lively and rather jolly occasion. We were indeed in good spirits about the economy at that point. So my job to start with is to lower expectations, this is not going to be at all jolly, it's going to be entirely dismal. If you start by feeling suicidal you will probably be dead half way through. If you're starting feeling quite cheerful, you'll be reaching for the cyanide pills toward the end. No it probably won't be quite as bad as that but I do have to lower expectations. I am not going to offer any sort of magic panacea or silver bullet or whatever, actually I am going to say that I think by historical standards, the situation we find ourselves in is really rather difficult - possibly at least as difficult as the two other occasions that I am going to compare with and those are the 1930s and the 1980s. So it will be as always with me, a complete joke free zone. I don't do jokes because we know the thought police will take me away if I do, they will be inappropriate to somebody, and I would be arrested. So no jokes; you can pretend I told you a joke to start with if that cheers you up because, as I say, you will probably need cheering up by the time I finish.

Julian Hodge Institute of Applied Macroeconomics

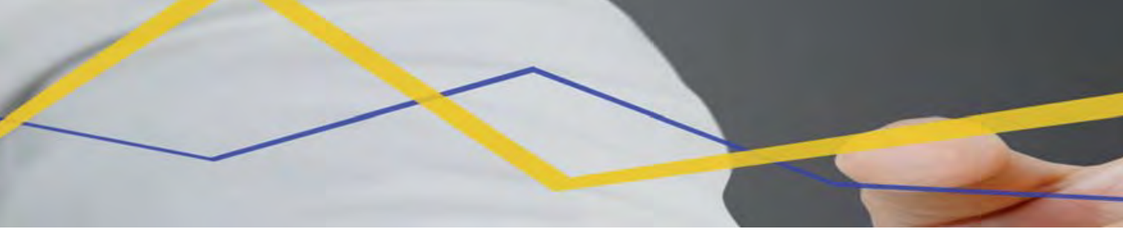
In May 1999, Cardiff Business School and Julian Hodge Bank entered into a significant collaboration, resulting in the establishment of the Julian Hodge Institute of Applied Macroeconomics. The main aim of the Institute is to carry out research into the behaviour of the UK economy, and to study in particular its relationship with the other economies of Europe. The Institute's research work further extends across international trade, money and banking, international finance and econometrics, in a collaboration between around twenty academics, mostly in Cardiff, and some thirty PhD students.

The institute's director since it was founded has been Professor Patrick Minford, of Cardiff Business School, who is also the Economic Adviser to Julian Hodge Bank. Apart from its research projects the institute carries on the forecasting and modelling work which Minford began at Liverpool University and has been based mainly in Cardiff for more than a decade, producing forecasts and policy analysis of the UK and other major economies.

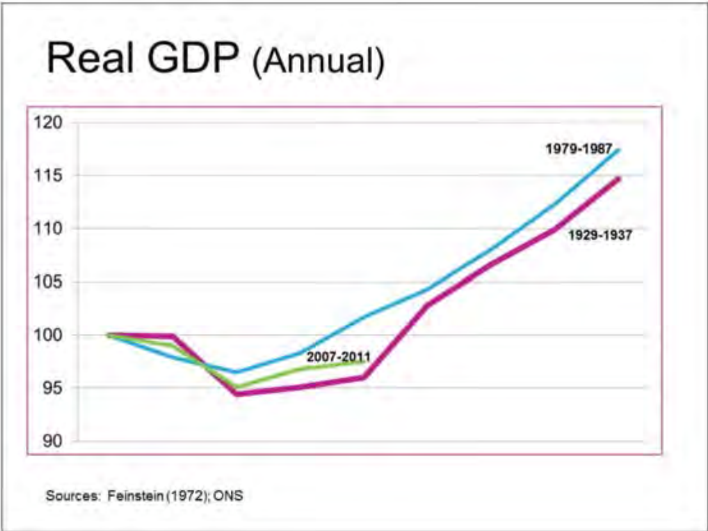
3 PERIODS OF RECESSION AND RECOVERY: 1930s, 1980s and Now

- Common feature is fiscal consolidation but banking crisis is new
- Similar downturns initially but different policy responses
- In both previous episodes there was a strong recovery which started around 4 years after the recession began
- SO: what can we learn?

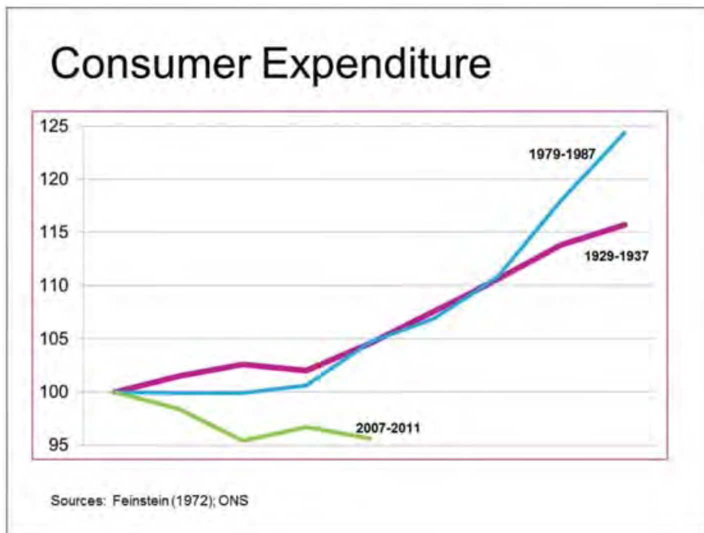
It is a great pleasure to have been invited back and to return to this august occasion. A few of you I gather were there on the previous time round and have come again. I suppose the implication is either you have to or you enjoyed it. I seem to recall it was a quite lively and rather jolly occasion. We were indeed in good spirits about the economy at that point. So my job to start with is to lower expectations, this is not going to be at all jolly, it's going to be entirely dismal. If you start by feeling suicidal you will probably be dead half way through. If you're starting feeling quite cheerful, you'll be reaching for the cyanide pills toward the end. No it probably won't be quite as bad as that but I do have to lower expectations. I am not going to offer any sort of magic panacea or silver bullet or whatever, actually I am going to say that I think by historical standards, the situation we find ourselves in is really rather difficult - possibly at least as difficult as the two other occasions that I am going to compare with and those are the 1930s and the 1980s. So it will be as always with me, a complete joke free zone. I don't do jokes because we know the thought police will take me away if I do, they will be inappropriate to somebody, and I would be arrested. So no jokes; you can pretend I told you a joke to start with if that cheers you up because, as I say, you will probably need cheering up by the time I finish.



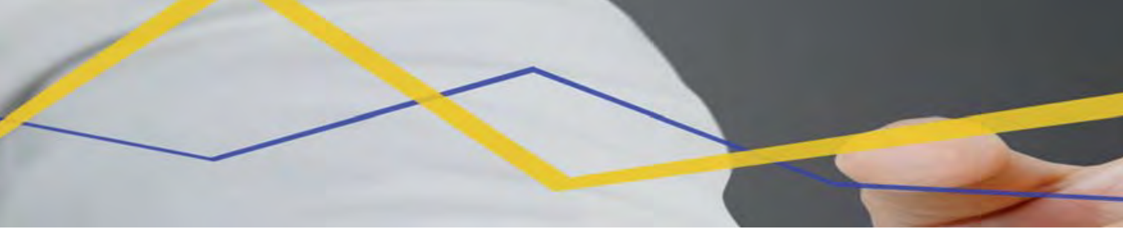
OK, so what am I going to do? I am going to think of three periods of what I will call recession and recovery: the 1930's, the 1980s and, of course, now. One reason for choosing those other periods is that they were quite severe recessions. In fact, the recession we have just been through is not dissimilar to the one at the start of the 1930s and it is only a bit more severe than the one at the start of the 1980s. But the other common feature, of course, is that both in the 1930s and the 1980s, the Government was attempting fiscal consolidation. In other words it was attempting to put public finances back to rights by some sort of combination of expenditure reduction, taxation increase or whatever. It is fair to say that the new experience we have been through; new for Britain that is, is a banking crisis. There was no banking crisis in the 1930s in the UK, not a single bank failed, and there was no banking crisis either in the 1980s. We do remember a nasty episode in the mid 1970s but that is a slightly different story. Similar downturns, initially at least, different policy responses, and I want really to work out what we can learn from that. If you do want to stay on the cheerful side, then we find that in both those previous occasions a quite strong recovery emerged after about 4 years; after 1933, in the first episode and after 1983, in the second.

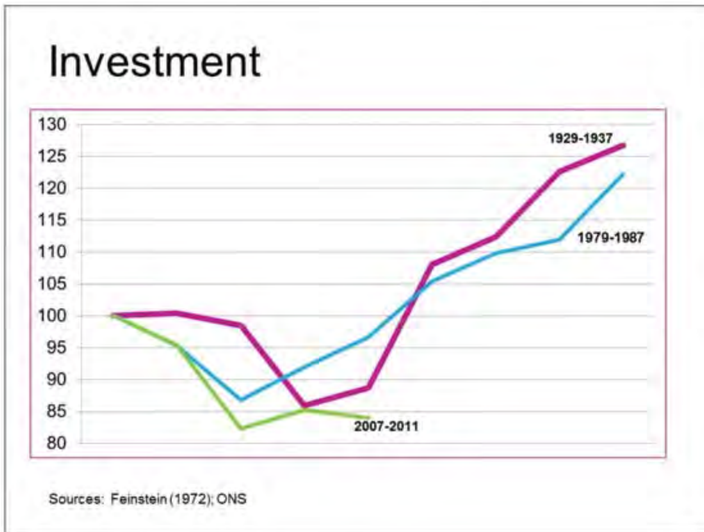


I have got a number of these charts as we go on. They are all designed in roughly the same way. 100 is the year with which the recession in each case starts, so we have got 1929 on 1979 on 2007, and then the worms evolve across the chart in each case. So looking at what happens in the first period, you can see somewhat similar downturns in real GDP; you can then see the up turns in the two previous events and you can see, and this will become more clear when we look at quarterly data a bit later on, that the recovery that started perhaps in the UK is actually looking somewhat weak compared with those earlier occasions.



We can pick out a couple more things. One that we would certainly want to notice is that in the current period consumer expenditure looks relatively very weak. Again, this chart is designed on exactly the same principle, and, just to make it easy for you, the colours are staying the same. So, once you have worked out which is the 1930s' colour, it will be the same on the later charts, unless, of course, the gremlins have got in. It is intended to be like that anyway.





Looking at investment, again I think we can see that investment is somewhat weak in the current recovery. So, to say the least, key components of aggregate demand are sluggish at present. That is the starting point of the three experiences.

RELATIVE ECONOMIC DECLINE

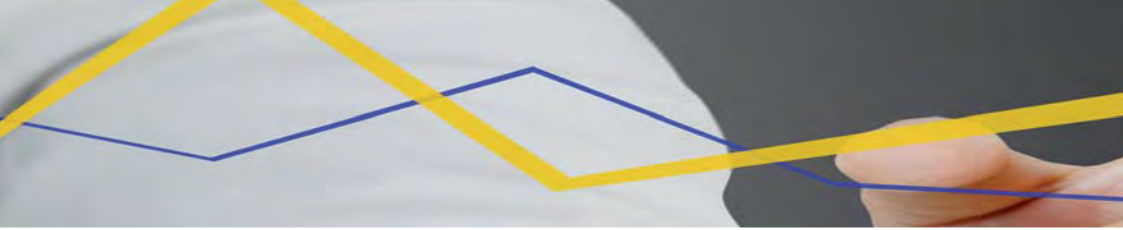
- Entails other countries growing faster and overtaking the UK; a key aspect of British economic history during much of the 20th century
- Was at its most acute during the 'fast growth' period from the 1950s through the 1980s
- Policy moves mad during the difficulties of the 1930s and 1980s were heavily implicated in this

Just to complete the preliminaries, I need to mention a couple of concepts that I will use. First, let me say that one of my main academic interests has been studying relative economic decline, the experience of UK growth being slower than that in other countries. I think the key thing that we notice there is that the phase when relative economic decline was at its most acute is the period between the 1950s and the 1970s, and that is something I want you to bear in mind. Although that is an episode when growth rates were absolutely quite high, they just were quite a lot higher in more or less everywhere else with which we would like to compare ourselves. It's true that we out-performed Argentina in that period, but that's probably cold comfort. As background, I think the period of relative economic decline after World War II owes a lot to policy errors affecting the supply-side of the economy which were made in the 1930's and which were hard to reverse in the post war period. In contrast, I think that the supply-side reforms that were made in the context of the 1980s' recession actually made a positive difference in the medium term.

Real GDP/Person (UK = 100 in each year)

	USA	West Germany	France
1870	76.6	57.6	58.8
1913	107.8	74.1	70.8
1929	125.3	73.6	85.6
1937	103.4	75.4	72.2
1950	**137.7**	**61.7**	**74.7**
1979	**142.7**	**115.9**	**111.1**
2007	132.6	98.6	94.3

Note: estimates refer to Germany from 1870 to 1937.
Sources: Angus Maddison historical database and West Germany in 2007 calculated from Statistiches Bundesamt Deutschland 2010



One way of looking at relative economic decline is to look at real GDP per person. There we are looking at relatives compared with the UK as 100 (the UK level normalized to a base of 100 in every year). The GDP data are adjusted for purchasing power parity. Incidentally, I do mean West Germany in the middle column. I have constructed the numbers for West Germany in 2007 by taking out the eastern component of Germany. The highlighted years are the period of acute relative economic decline. I have chosen 1979 as a convenient year to end the period at which point we see that West Germany and France were quite well ahead of the UK. By 2007, on the eve of the current crisis, then the three countries are reasonably close together, and in fact the UK is probably just a little bit ahead of the other two. So, sometime after the 1970s, relative economic decline seems to have ended.

FISCAL CONSOLIDATION

- Reducing government spending and/or raising taxes to improve fiscal sustainability
- Often urgently needed after banking crises, wars or profligate government
- Risks adverse impact on GDP in short term if not offset by monetary stimulus or boost to private sector activity
- Composition of adjustment matters; bias towards expenditure cuts seems to work best

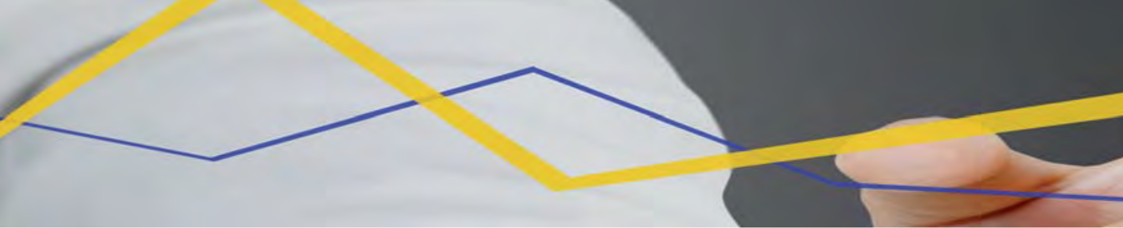
The other concept I wish to remind you of is the idea of fiscal consolidation. Fiscal consolidation is about reducing Government spending and/or raising taxes, presumably with the intention of improving fiscal sustainability over the long-run. In other words, making the debt dynamics stable and not having a situation where national debt relative to GDP explodes. Often, this is needed after banking crises. We know that banking crises both do a lot of direct damage to the Governments fiscal position but they also tend to reduce the economy's capacity to produce and therefore they

can have a double adverse effect on the structural deficit. We know that wars are bad for fiscal sustainability. British history over the last 200 years, as I am sure you know, is to be very orthodox in peace time so you can borrow like crazy when Napoleon or Hitler or whoever it is comes on the horizon, and that will be part of my story in a little while. Obviously, we also might see in some circumstances need for fiscal consolidation after a profligate government but, of course, that has not been a British experience.

It does matter how you carry out fiscal consolidation which has many permutations. Broadly speaking, I suspect history says that to be successful you need quite a high proportion of expenditure cuts. Orthodox economics would tend to say that this generally has a deflationary effect in the short term unless there is some way in which it boosts medium term optimism about the private sector's prospects or we can offset the effect of fiscal consolidation by some kind of expansionary monetary policy.

FISCAL CONSOLIDATION AND PRODUCTIVITY

- Reduction in 'non-production' government expenditure and raising indirect taxes more favourable for growth than raising direct taxes and cutting -productive' expenditure
- Effects can also work through NAIRU (benefits), labour force participation (retirement), efficiency (privatisation, subsidy withdrawl)
- Design should presumably has to take account of political constraints and 'fairness' issues; otherwise easy to devise strategy that is good for supply-side



We should also notice that fiscal consolidation potentially has effects on productivity. We can do it in a more or less supply-side friendly way, and that is an important aspect of thinking about how well the government is doing at the moment in the UK. For example, I think indirect taxation does less damage than direct taxation to long-run growth performance. We can think of things which the government might be wise to spend its money on to help growth in the long term, well chosen infrastructure projects – but not perhaps the £32 billion pound project that is about to run through my back garden. So, we can think of different types of expenditure cuts and we can think of different types of tax increase. We can also think that, depending how we do fiscal consolidation, there could be an impact on the non accelerating inflation rate of unemployment (NAIRU); this might come if we change benefit policies, as in the 1980's. It might come through labour force participation, for example, we could change the rules on retirement ages. Some of the things that we might do have perhaps direct effects on efficiency. In fact, I think any economist would be able to design a fiscal consolidation package which would be good for productivity growth in the medium term, at least starting from where Britain is now, if it were not for the fact that politics gets in the way. As you will see at the end when I play 'fantasy policy' with you, unfortunately, such reforms might very well fall foul of the criterion of 'is it fair?'. I will want to come back to that.

Let us turn to the 1930s. At present it is quite easy to sell this as relevant. Through my professional lifetime, from time to time, the 1930s comes back into fashion. We write a new set of lecture notes, the literature moves on, a new set of students get enthralled by it - and then it fades away. It is in fashion at the moment, 40 students signed up this year to my elective course on what went wrong in the 1930's. So, why is it interesting for today?

1930s: RELEVANCE TO TODAY

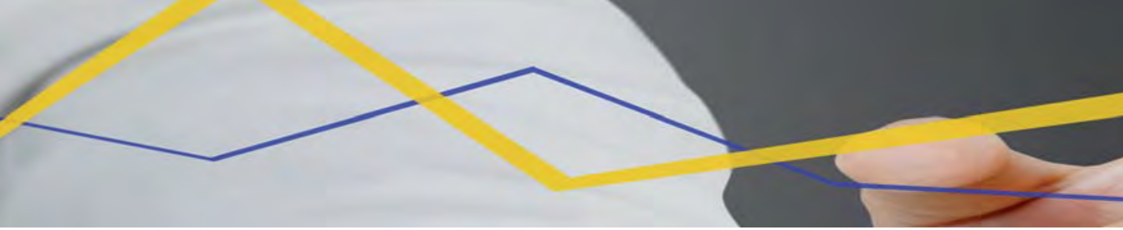
- First fiscal consolidation and then fiscal stimulus at the ZLB
- 4 per cent growth from 1933-37 but double-dip recession in 1932
- The initial growth strategy was based on raising the price level and taking control of monetary policy away from the B of E

I think one really interesting thing about the 1930s, both in the UK and in the US, is that we went through a phase when interest rates, at least short term interest rates, were as low as they could be – we are at the zero lower bound (ZLB) if I may use that from the literature. We also saw two different things happen at the zero lower bound in Britain in the 1930's. First, we saw an episode of fiscal consolidation, and that roughly covers the years 1931-1934. This followed the report of the May Committee and the political argument which ended with the resignation of the minority Labour government in 1931 which was succeeded by a coalition of two parties who perhaps were doing something similar to today.

But as the 1930s went on, times got more difficult in various ways. From about 1935 there was serious fiscal stimulus at the ZLB. This is the very configuration that would have the best chance of experiencing a large fiscal multiplier according to some economists. That fiscal stimulus, of course, came in the guise of rearmament. Times were threatening and we would have to have both bombers and battleships. By the latter part of the 1930s, Britain was a quasi-war economy, explicitly going in for deficit finance of military spending.

THE 1930'S RECOVERY: 1ST PHASE

- Started during fiscal consolidation which between 1930 through 1934 reduced structural deficit by 4% GDP.
- Strong growth 1933-35 based on monetary stimulus which offset negative impact of fiscal policy: cf. the 'foolproof way' to escape the liquidity trap.
- Exit from gold standard plus cheap money provided stimulus; housing investment led the recovery.



The economy did grow very strongly from 1933-1937 but possibly a warning sign, which we may want to think about for today, is that before it did so, but after leaving the gold standard, it actually went through a double-dip recession. There was a double dip in 1932 when growth was negative in both quarters 2 and 3. It is only a relatively minor blip on the way towards recovery, but it was there.

What was the growth strategy based on in the period of fiscal consolidation? I think it was based on a somewhat unorthodox monetary policy and that was a policy deliberately to raise the price level and to lower the real interest rate. You couldn't lower the nominal interest rate any further but you could lower the real interest rate, and from today's point of view, the really ironic thing about it is, this policy happened once HM Treasury had seized control of monetary policy from the Bank of England. I think it was Treasury control which makes the move to inflation in the 1930s a credible strategy.

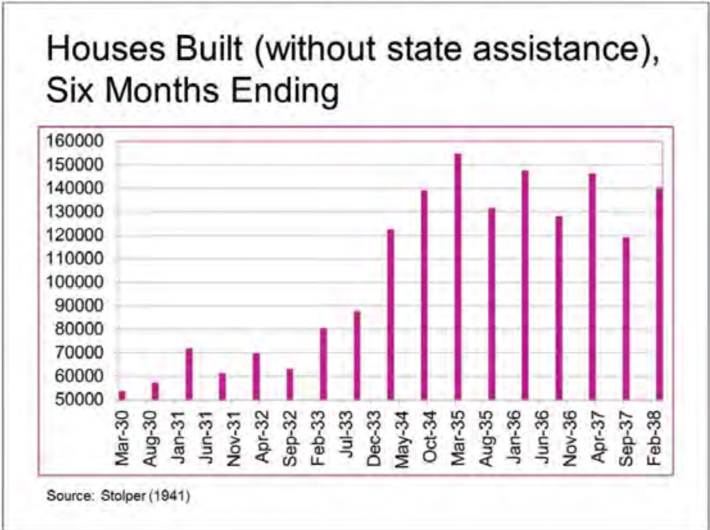
The first phase of the 1930's recovery goes along with quite a big change in the structural deficit. Strong growth in the years after 1933 was, I think, based on monetary stimulus. Those of you who know the literature will think that it does look reminiscent of Svensson's "fool proof way" to escape the liquidity trap. However, we can leave that on one side, it is not essential for now. It was important to leave the Gold Standard and then we had the cheap money policy which provided stimulus which in part worked through a lot of house building. Quite important and interesting from our point of view, they built a lot of houses in the 1930s. The 293,000 houses built by the private sector in the peak 12 months is at a level about 3 times what we have been doing recently.

HOUSE-BUILDING IN THE 1930'S

- They built a lot of houses by our standards (293,000 in peak year).
- Building societies provided ample mortgage finance.
- Virtually no planning restrictions.
- Strong demand in context of rising real incomes and catching up 1920's shortfall.

That is the way that, at least in part, the monetary transmission mechanism worked in the 1930s. It was able to feed through partly because building societies were flush with funds and expanding finance; but also, and crucially, it was able to promote house building because there were virtually no planning restrictions. So, monetary stimulus went into building houses rather than raising house prices, quite an interesting and important distinction.

Here is a little chart just to show I am not completely making it up. (We will have a few numbers from time to time; if you came to my previous lecture, you will remember that I am a true, fully paid up anorak, so we will have a few historical statistics on the way.) It is in six month periods rather than calendar years, but you can see that the top two six months add up to 293,000.



THE 1930'S RECOVERY: 2ND PHASE

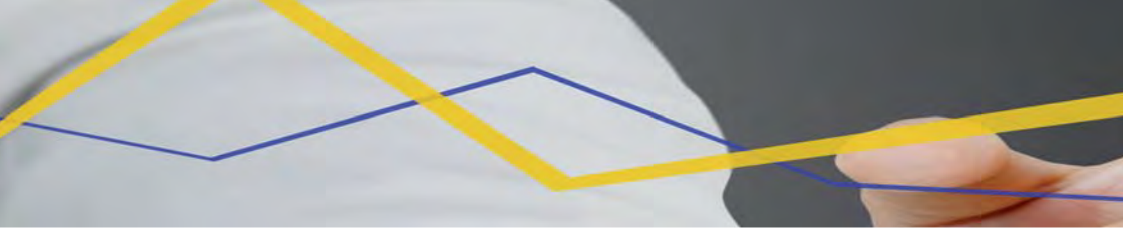
- From 1935 onwards rearmament takes centre stage.
- Large exogenous fiscal shock with short term interest rates held constant.
- Suggests significant fiscal multiplier at ZLB; conditions for government borrowing to improve public finances may have been in place then though not in 1931.

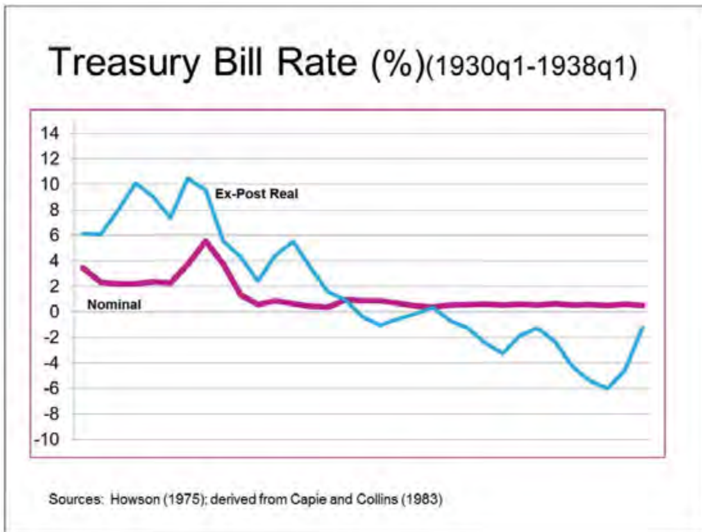
The second phase in the 1930s was when rearmament took centre stage from about 1935 onwards. I think we can see that as a large fiscal shock - in the jargon of economics an exogenous shock – and short term interest rates were held constant still at the ZLB. Those who have tried to estimate the impact of rearmament have suggested that there probably was a significant fiscal multiplier effect, perhaps 1.5 or some people might even argue for 2. For this multiplier effect to come through and for markets not to take fright, I think it may be that in the circumstances of 1935-37 this borrowing for a military emergency actually potentially could improve long term fiscal sustainability. The necessary conditions include that there was a positive multiplier, that were some hysteresis effects to be eliminated and that it didn't disturb the Government's ability to borrow at low interest rates. I don't think this would normally be the case - it is abnormal - but I think it is possible that in the mid-1930s that configuration happened. I'm not so optimistic that it would recur now.

THE 'CHEAP MONEY' POLICY

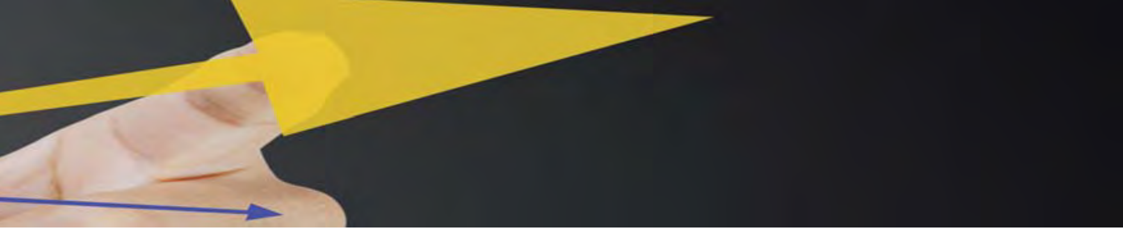
- Was a coherent framework arrived at by mid 1932 with HMT not B of E in charge.
- Aim to raise the price level and to underpin this by holding exchange rate at $3.40 then FFr.88.
- Short term interest rates kept at lower bound and real interest rates fell.
- Credible because it was clearly in HMT's interests as a route to recovery that did not open Pandora's Box and improved fiscal arithmetic.

The cheap money policy was, I think, a perfectly coherent framework but it took time for HM Treasury to arrive at it after leaving the gold standard. It was in place by mid-1932, and was underpinned by an exchange rate policy which was basically to hold the exchange rate down and to intervene vigorously to achieve that. Short term interest rates are kept at this very low level. I think it was clearly in Her Majesty's Treasury's interest to pursue this policy because it was a policy which improved government finances, and it was a policy which allowed them also to avoid the issue of having to have explicit deficits condoned in peace time; so markets found it credible.





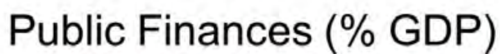
The next slide shows what happened to interest rates during the cheap money policy of the 1930s. The ex-post real rates shown are those calculated by Jagjit Chadha; obviously there are different ways of doing that, but you might nevertheless buy the story. Nominal interest rates were very low for a long time through the episode from mid 1932 onwards and as inflation took hold, real interest rates fell.



FISCAL POLICY

- Became 'Keynesian' only with rearmament.
- Early 1930's is episode of tightening (over-riding automatic stabilizers) provoked by worries about fiscal sustainability.
- Defence expenditure rose from £118 mn. In 1934 to £181 mn. In 1936 and £353 mn in 1938.
- Defence Loans Act in 1937 to use deficit finance of military - £400 mn. Over 5 years; 'defence news' has significant effect on real GDP; fiscal multiplier may have been about 2.

Fiscal policy became "Keynesian" only with rearmament. Defence expenditure really did grow very rapidly, the defence loans act was passed in 1937, and if you look at the modern concept of fiscal news, there was big 'defence news' in the later 1930s which did have positive multiplier effects.



	Net Public Debt	Budget Deficit	Structural Deficit
1929	158.4	0.7	-0.4
1930	159.2	1.4	-1.1
1931	169.8	2.2	-2.5
1932	173.6	0.5	-3.0
1933	179.2	-0.4	-4.2
1934	173.1	-0.5	-3.2
1935	165.0	0.3	-2.0
1936	158.7	0.7	-0.8
1937	147.2	1.5	0.1

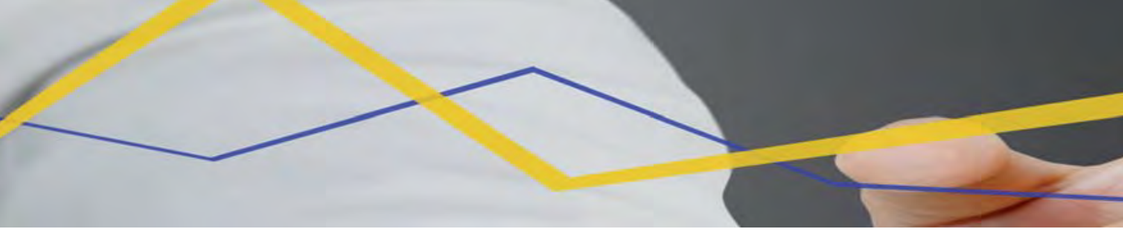
Source: Middleton (1996)

Here you can see some numbers. That is what the public finances looked like in the 1930s. You can quite see why the May Committee wanted fiscal consolidation. The key number there which is horrendous to modern eyes is the public debt relative to GDP. Why was the public debt so high relative to GDP? Well you all know the answer to that, World War I, which was a very expensive conflict. You can easily see how in the early 1930s people were extremely worried about fiscal sustainability; that is the context of the May Committee report. It is interesting against the background of that very severe recession to look at the fiscal numbers. Britain moved over the early 1930's to a position of more or less having a budget surplus. This was over-riding the automatic stabilisers big time, and the change in the structural deficit basically says that discretionary policy moves were in the direction of serious fiscal consolidation. So that might give us some cause for cheer. It says that there was a really quite stringent fiscal policy in operation initially but Britain did emerge from the difficulties to strong recovery in 1933. How easy it might be to replicate that is an issue to which we will return.

THE "MANAGED ECONOMY" IN 1930'S UK

- Post-1932 policy package included capital controls, devaluation, tariffs, cheap money and cartels.
- Understandable as a short-term fix to raise prices at ZLB at a time of high unemployment.
- Regrettable in terms of long-term implications for productivity performance; retreat from competition very hard to reverse.
- Weak competition was a key factor that sustained bad management and dysfunctional industrial relations.

The general strategy in the 1930s is easy to understand once you look at everything the government was doing. The strategy was very explicitly to raise the price level using a package which included a lot of different components. Some of those components were very bad news from a long term point of view. In particular, notice that the policy package was not just devaluation, but it was also tariffs and it was also encouraging, condoning cartels and, at one point, almost offering tax breaks to form them. That is not quite the modern world of the OFT and I am certainly not for a moment, heaven forbid, arguing that we go back to that. This is the Achilles Heel of what they did in the 1930s.



COMPETITION AND PRODUCTIVITY PERFORMANCE

- Research on postwar UK says weak competition a big problem for productivity until 1980's.
- Weak competition in product markets nurtured infamous industrial relations and management problems.
- Vested interests politically strong enough to block strong anti-trust and trade liberalization policies so 1930's legacy lasted several decades.

This episode of very weak competition in the British economy proved extremely hard to reverse, and very damaging for medium term productivity. Research says that weak competition was a big problem for productivity for a long time. The problem with introducing supply side policies to raise prices through giving people market power is they like the market power and it is difficult to take it away from them. I think weak competition underpinned the things which we typically hear as complaints about the economy in the 1950s, 60s & 70s, namely, bad industrial relations and very poor management. Weak competition allowed those things to persist. Strengthen competition, as we did in the 1980s and 1990s, and they largely disappear.

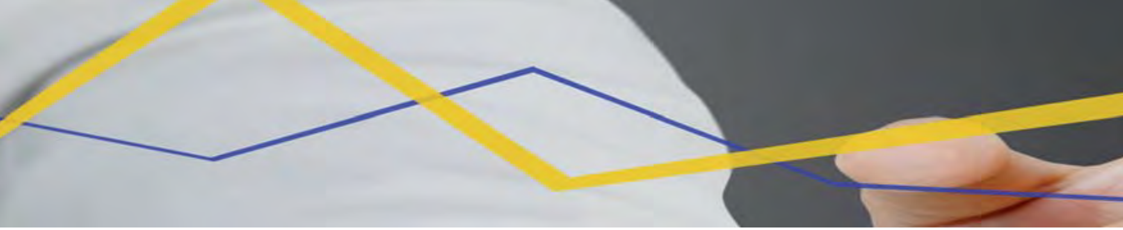
OK, so I have galloped through the 1930s. We obviously need a pause. What are the lessons which I wish you to take away? What, as the Americans say, are the takeaway messages?

LESSONS (1)

- Fiscal consolidation does risk double-dip recession.
- Conventional inflation targeting may be inappropriate with fiscal consolidation at the ZLB.
- Fiscal stimulus can help recovery when interest rates are held constant if sustainability not an issue.
- Severe recessions can risk bad supply-side policies that can seriously damage long-run growth – perhaps the EU and WTO are useful constraints.

First, I think the 1930s' experience suggests that fiscal consolidation without offsetting policies does potentially risk a double dip recession. Second, if you think about what they were doing at the zero lower bound, it was certainly not conventional inflation targeting. It was policy to reduce the real interest rate. How far you need to reduce it depends on circumstances but an attempt to repeat the cheap-money policy success of the 1930s could well entail a target inflation rate distinctly higher than 2 per cent. Third, fiscal stimulus possibly can help recovery but it does turn on issues about fiscal sustainability; 1930s "Keynesianism" probably worked then but might not always. Finally, it seems to me that severe recessions risk bad supply side policies. We are seeing similar pressures today; the demand for industrial policy is basically a clamour for the return of protectionism. It is muted compared to the 1930s but it is a danger in these circumstances.

OK, it is time for the 1980s. Around the room there a quite a lot of grey beards who, I suspect, can actually remember the 1980s, whereas even Patrick and I would not claim to remember the 1930's.

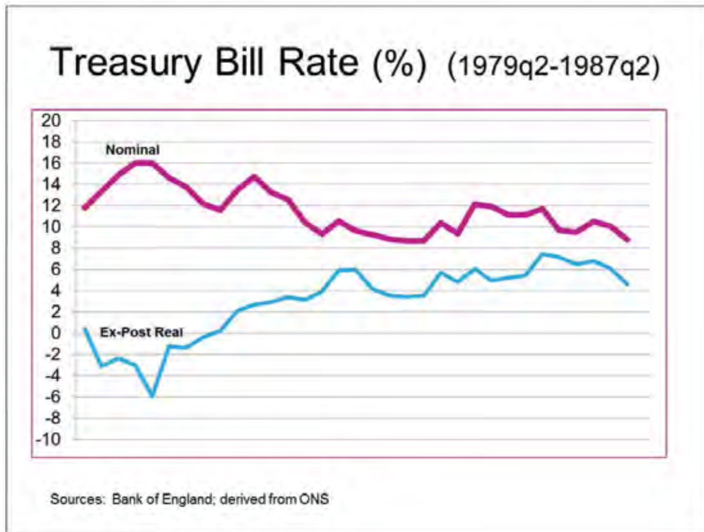


1980'S RELEVANCE TO TODAY

- Recovery came without policies designed to stimulate aggregate demand.
- Strategy for disinflation entailed high real interest rates and eliminating the budget deficit.
- The real success was to improve supply-side policies leading to higher TFP growth, a lower NAIRU and rapid diffusion of ICT.
- De-regulation stimulated bank lending and consumer spending and set the scene for the expansion of the financial sector.

In the 1980s, Britain enjoyed a strong recovery after 1983 and it came without policies designed to stimulate aggregate demand. The strategy for disinflation entailed high real interest rates once it became established and was about eliminating the budget deficit not increasing it. I think the real success of the 1980s, and the real motor for recovery as we get to the middle of the decade, was supply-side policy reform. Some of that supply-side policy reform, quite an important part, led to higher total factor productivity growth; some of it eventually led to a lower NAIRU with more people in work in the medium term in equilibrium. The policy reforms essentially left the UK with a light-touch regulatory regime, which in the service sector generally - leaving aside financial services for a moment - was extremely helpful later on in allowing the UK rapidly to diffuse ICT. The more immediate effects in the 1980s were that the moves to deregulation stimulated bank lending and consumer spending. Do you remember all those entreaties to unlock the equity in your house? Yes, this was rather different than going round the corner covertly with an estate agent who happened to know a 'friend' in the building society who could get you higher up the mortgage waiting list. The financial world changed between the 1970s and 1980s. Of course, the later part of that was

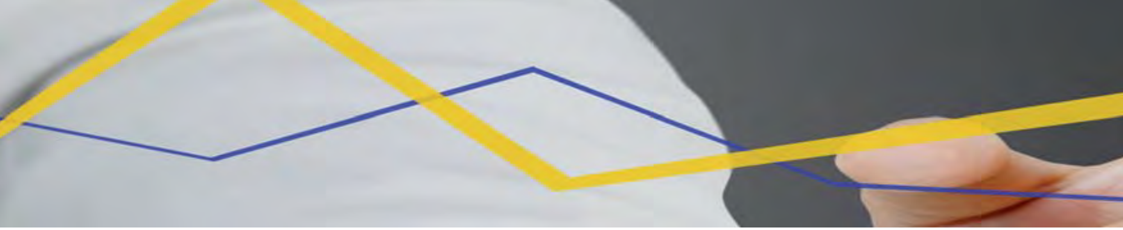
setting the scene for the expansion of the City of London, and deregulation eventually surely went too far but, nevertheless, there was something very positive about it.



This was not an episode of negative real interest rates, quite the opposite, so we notice that looks different from the 1930s; recovery came in a different way in the 1980s.

1980'S MACROECONOMIC POLICY

- 'Monetarist' not 'Keynesian'.
- Aim of returning to a balanced budget.
- Not the 'constrained discretion' of inflation targeting by independent central bank.
- Ended in the ERM debacle.



I think we can describe macroeconomic policy in this period as "monetarist" rather than "Keynesian", it clearly was an aim to return to something we could broadly call a balanced budget. It was not an inflation targeting episode and it did end with the inflation rate going back up and Britain joining the ERM. The technical term for this eventual outcome is debacle.

Public Finances (% GDP)

	Net Public Debt	Budget Deficit	Structural Deficit
1979	44.0	4.1	4.0
1980	46.1	4.8	3.4
1981	46.1	2.3	-1.5
1982	44.8	3.0	-1.4
1983	45.1	3.7	0.0
1984	45.1	3.6	0.6
1985	43.2	2.4	0.6
1986	40.9	2.0	1.9
1987	36.6	1.0	2.2

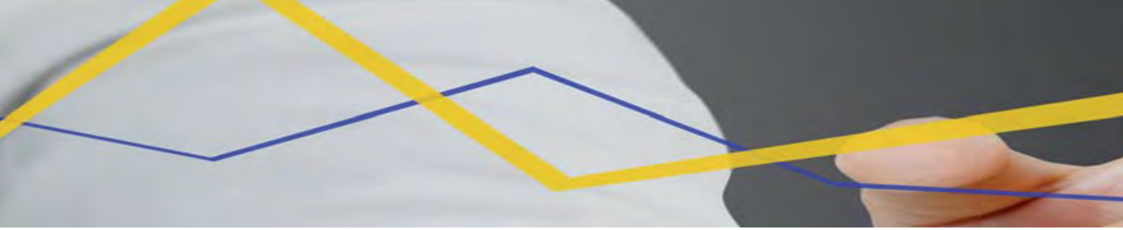
Source: IFS

When we look at public finances in the 1980s, it is clear that the position with regard to fiscal sustainability was much easier than in the 1930s. The national debt was much smaller relative to GDP but we can see that the budget deficit was eventually brought down and we notice that that went with a significant improvement in the structural deficit. So, I think we can say in some ways that this was a quite successful fiscal consolidation especially because it was basically supply side friendly if you think about the criteria that I set at the start.

THATCHERITE SUPPLY-SIDE POLICY

- From industrial to competition policy.
- Trade Union power undermined.
- Privatization promoted.
- Taxation restructured.
- Benefit/wage ratios reduced.
- De-industrialization accepted.

So, what was Thatcherite supply-side policy? Putting on my professional head, the key point was a move to strengthen competition in various ways. Britain stopped trying to believe that it should continue to be the workshop of the world. Privatization was promoted and moves were made to deal with the problems trade unions had caused. Taxation shifted somewhat from direct to indirect taxation in that period. High marginal rates and income tax was reduced, VAT was increased. If we look at the benefit side of things, benefits came down in real terms, steadily over time. That was good for the NAIRU, and it was probably favourable for fiscal consolidation as well.



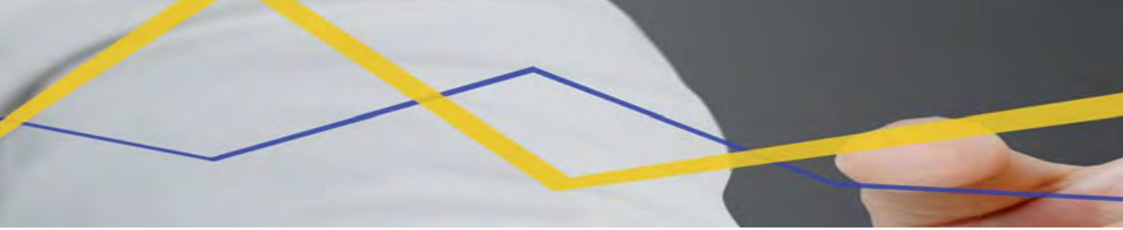
INCREASED COMPETITION AND PRODUCTIVITY PERFORMANCE.

- Increases in competition correlated with 1980's productivity growth at sectoral level (Haskel, 1991)
- Openness promoted TFP growth in catch-up model for manufacturing sectors post – 1970 (Proudman & Redding, 1988).
- Single Market shock improved TFP performance in plants exposed to agency problems (Griffith, 2001), raised patenting in close-to-frontier industries (Aghion et al., 2009).
- Post – 1980, competition for corporate control meant restructuring and divestment in large firms (Toms & Wright, 2002); management buyouts raised TFP (Harris et al., 2005).
- Entry and exit accounted for 25% Y/L growth in 1980-5 manufacturing rising to 40% in 1995-2000 (Crisculo et al., 2004).

INCREASED COMPETITION: EFFECTS VIA INDUSTRIAL RELATIONS

- During the 1980's and 1990's, increased competition reduced union membership, union wage mark-ups and union effects on productivity (Brown et al., 2008; Metcalf, 2002)
- Surge of productivity growth in unionized firms in 1980's as organizational change took place under pressure of competition (Machin & Wadhwani, 1989).
- De-recognition of unions in face of increased foreign competition had strong effect on productivity growth in late 1980's (Gregg et al., 1993).
- Multi-unionism in an industry reduced TFP growth by 0.75pp from the 1950's through the 1970's but had no effect thereafter (Bean & Crafts, 1996).

OK, here are a couple of slides which proclaim that I am a serious academic. They just give you the academic citations to say competition did improve productivity performance. You can look afterwards if you want. However, I do think it is quite important to remember that increased competition largely solved our industrial relations problem - if you think about our remaining difficulties with industrial relations, they are found in sectors where we do not have much competition.



Levels of Productivity in the Market Sector (UK = 100)

	France	W. Germany /Germany	USA
Y/HW			
1973	95	132	160
1979	**112**	**157**	**166**
1991	123	161/143	156
1995	117	133	146
2007	**109**	**119**	**147**
TFP			
1973	87	112	127
1979	103	135	135
1991	110	133/123	128
1995	104	115	123
2007	101	110	125

Data from Mary O'Mahony

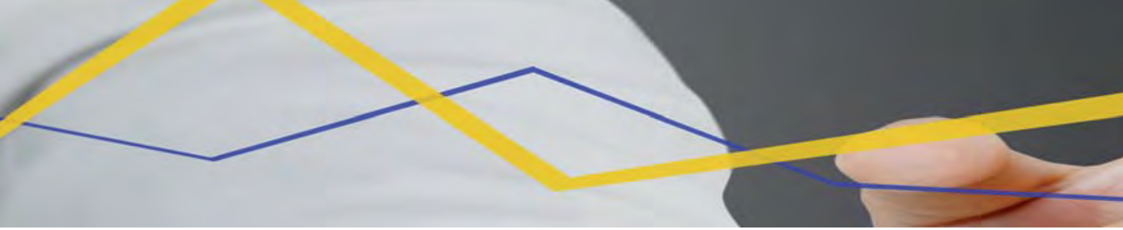
Labour productivity improved in the long term, relative to our competitors, so perhaps output per hour worked (Y/HW) would be the numbers to look at on this slide. The relative levels improved over time.

RECENT HISTORY OF UK NAIRU

- Policy changes have contributed to substantial reduction in U* since 1980's notably through improved industrial relations, lower employment taxes and unemployment benefits reform.
- The key decision that lowered U* were made by the Conservatives (Nickell & Quintini, 200).

NB: Lowering the NAIRU has adverse batting-average effect on labour productivity : perhaps 6 percentage points vis-à-vis France in 2007.

In fact, the crude relative figures are bit unfair to the UK because the labour market reforms made by the Conservatives meant that it had many more people in work than France or West Germany by 2007. Policy changes had led to a lower equilibrium unemployment rate. If you take the batting-average effect out then actually we are quite close to France by the end of the period. That is quite important. With regard to being a bit ahead of our European competitors in 2007 in terms of real GDP per person, it is not really productivity per se, it is productivity being respectable with a relatively large number of people in work.



LESSONS (2)

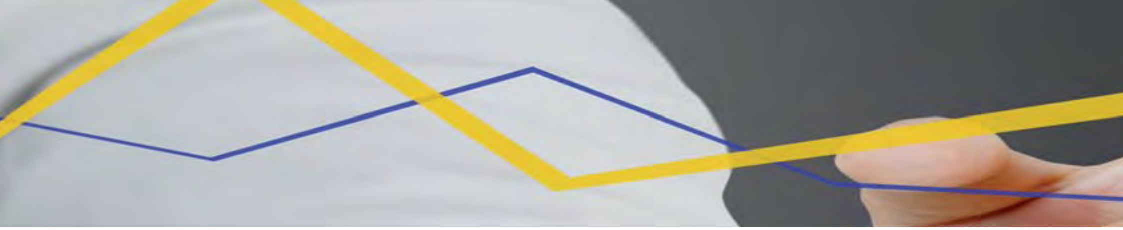
- The 1980's is an episode of fiscal consolidation that improved the supply-side.
- Lots of bad policies to dump (not all of which were dealt with).
- 364 economists underestimated the value of supply-side reform in promoting recovery.
- A big failure was to allow inflation to re-emerge in the late 1980's.

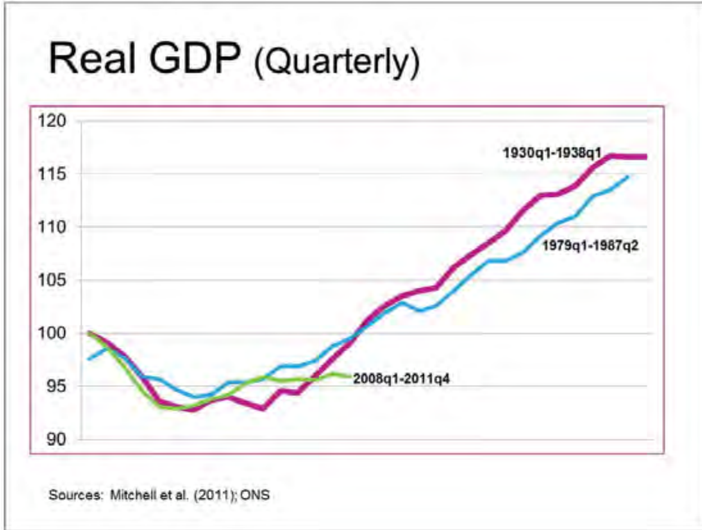
So, what were the lessons here? I think the 1980s was an episode of fiscal consolidation that did improve the supply side, and I think that was an important medium-term route to growth. At the time, there were lots of bad policies to dump. By no means did the Government deal with all of them and some of those with which it did not deal we still suffer from today - I will come to that towards the end. I think it was 364 economists who denounced Geoffrey Howe's budget in 1981. I don't recall but I don't think Professor Minford was in that club; no, probably not. Of course, the minute they made their protest, recovery seemed to become a bit more evident and within a short while growth of real GDP had become quite strong. One of the main reasons that they were wrong was that they under-estimated the value of supply side reform in generating that recovery. But there was a big failure in the 1980s which was not to consolidate the lower inflation rate of the mid 1980s.

MACROECONOMIC POLICY AND POST – 2009 RECOVERY.

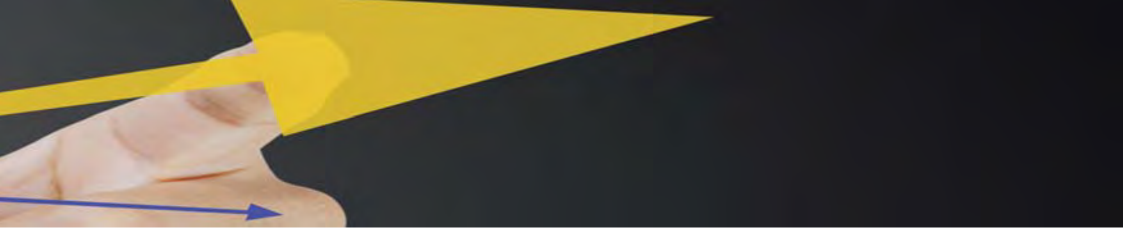
- Recovery has faltered badly in the last year: “strong headwinds” from Euro, household real incomes and debts, bank lending.
- Fiscal stimulus ruled out by worries about fiscal sustainability given large post-crisis structural deficit.
- Nominal interest rates at the ZLB; ex-post short real interest rates negative.
- However, B of E stresses inflation likely to undershoot target rate within horizon and inflationary expectations remain well-anchored; no regime change (cf. 1930’s)

Let us turn to today, the bit you probably want to hear about. I think the right thing to say about last year is it was pretty disappointing, at least as far as the numbers are concerned so far. I expect Joe Grice will revise these in due course; the ONS is not well known for getting it right the first time. Economic historians look at data in real time and are astonished how big some of the subsequent revisions are. So let’s be clear that we are not absolutely sure what happened last year. Actually, we are much more certain what happened in 1935 than in 2011 but in due course we will know about 2011.





Nevertheless, as best we can see, it would be fair to say that recovery faltered last year. We may be on the fringe of another recession; it's probably an even money photo-finish as to what's going to be announced tomorrow. In quarterly numbers that's what the real GDP numbers look like according to ONS most recent estimates that I was able to find, and we do see this cross over point in 2011 if the numbers are to be believed, where the other recoveries had started to get a little bit stronger.

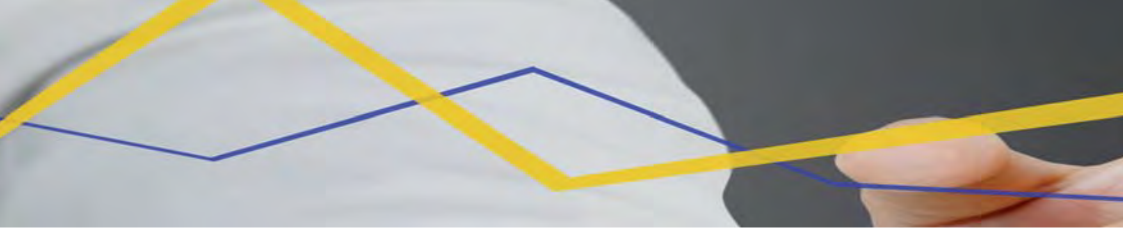


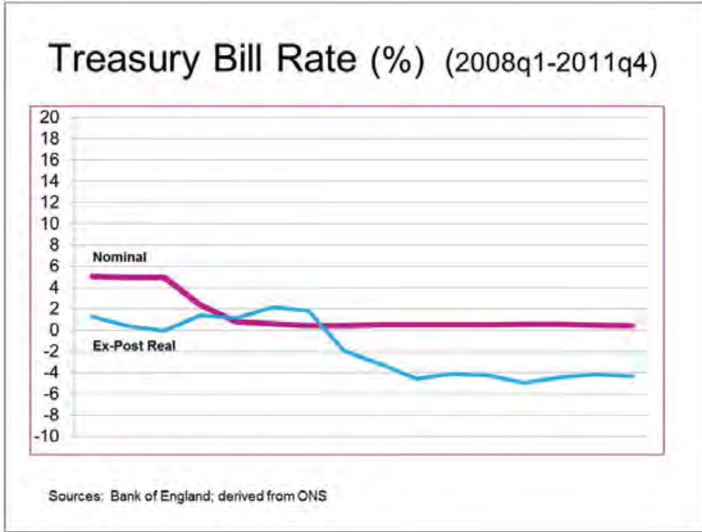
Public Finances (% GDP)

	Net Public Debt	Budget Deficit	Structural Deficit
2007	36.7	2.4	2.6
2008	43.2	6.7	6.4
2009	52.9	11.1	8.9
2010	60.5	9.3	7.1
2011	67.5	8.4	6.4

Source: IFS

Recovery has stuttered badly and we know some of the reasons why. This is recent history so I probably do not need to rehearse it in great detail. Fiscal stimulus is ruled out at least by the Government; we could perhaps debate later on whether you think it is ruled out by worries about fiscal sustainability but it is clear the coalition agreement at least effectively precludes this and we do know that there is a large post-crisis structural deficit. Although public finances started out with quite a modest public debt to income ratio, the net public debt certainly has been rising quickly and the budget deficit has been very high. I think the really interesting aspect is the column on the right hand side – the structural deficit. These are estimates by the Institute for Fiscal Studies. The IFS says that Britain entered the recession with a structural deficit which was non-negligible and it has become much worse because the banking crisis has reduced permanently the level of GDP which the economy can produce. I emphasise the level not necessarily the long run growth rate.



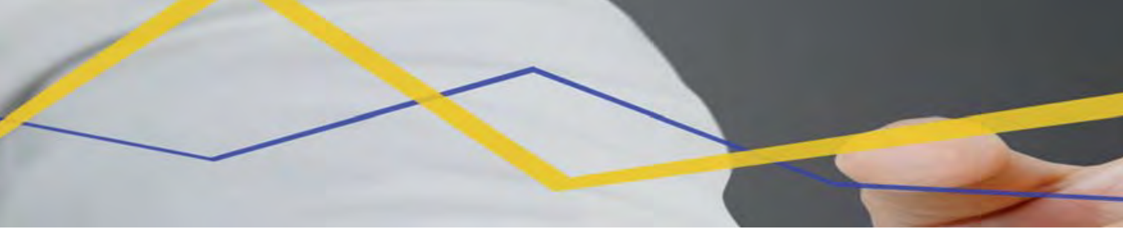


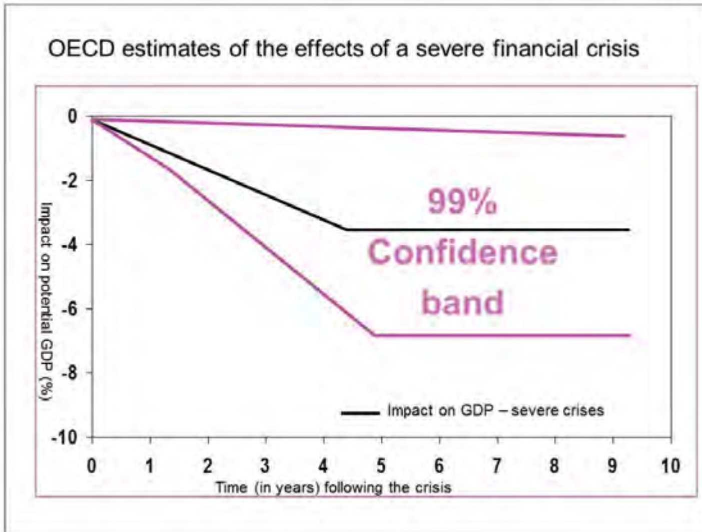
Nominal interest rates are pretty close to the zero lower bound at the moment and we know that ex-post real interest rates appear to be quite negative. However, an important difference from the 1930s is that the Bank of England is saying this is not the way forward and it is not where we are going, although it is unfortunately where we are. The Bank continues to stress that inflation will go down below the target quite soon as transitory factors evaporate and wants inflationary expectations to remain well anchored. So this is certainly not the regime change of the 1930s and ex-ante real interest rates are relatively high.

BANKING CRISIS

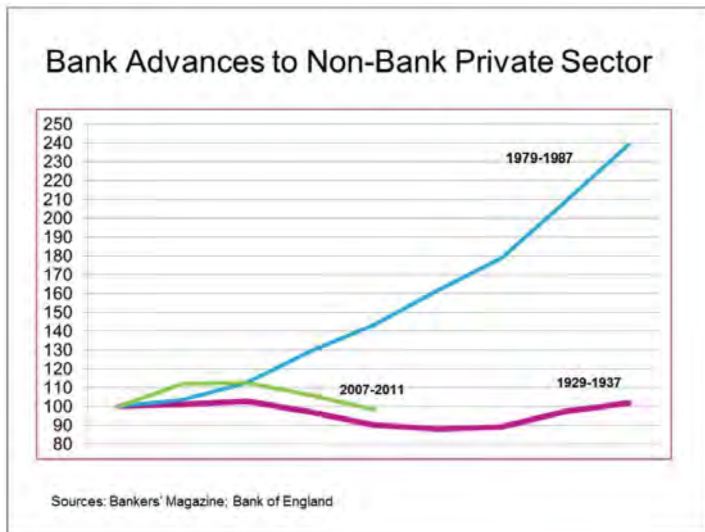
- Implies recovery much more difficult now.
- GDP level is permanently reduced, structural deficit increases, output gap may be quite small.
- However, TFP growth potential may not have been harmed.

The banking crisis is the new element today. I think that this implies recovery is now likely on average to be much more difficult that it would have been in those previous episodes. A banking crisis tends permanently to reduce GDP level and the structural deficit increases. Even though we are below the GDP of 2007, many people think the output gap is actually relatively small at present, implying a lot of that GDP is permanently lost. However, and here is an optimistic note in the talk, I am less persuaded that potential TFP growth has necessarily been impaired.





This is what you see people like OECD producing as their best estimate of what happens when you have a serious financial crisis, the so-called structural effect. It is a permanent lowering of the level of GDP which they think is the result. I should emphasise, and I have deliberately drawn that in, that these estimates come with a quite big health warning and the health warning is in terms of the confidence band. That is quite a wide confidence interval, I think it would be fair to say.

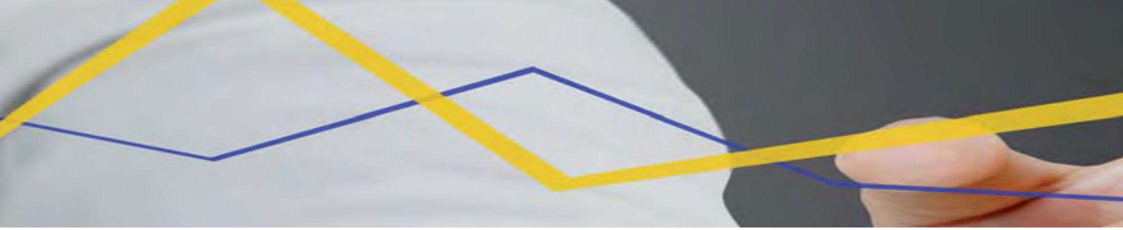


We can certainly say that compared with the 1980s bank lending, or bank lending to the non bank private sector, looks rather depressed, as it did in the 1930s.

A PESSIMISTIC PREDICTION

"…contribution from TFP growth will be considerably weaker …the most important factor is the lack of credit availability, a legacy from the financial crisis"
Andrew Goodwin, IFS Green Budget, 2012

Projecting TFP growth at 0.3% per year for 2012 – 16
(compared with 1.2% for 1997 – 2006)



And here we have a real gloom monger. I mention Andrew Goodwin because he wrote the relevant chapter in the influential IFS Green Budget and because I think this a rather silly statement. Notice what he says, "as a result of the banking crisis, and the lack of credit availability, total factor productivity growth for if you like for the foreseeable future will be a lot lower than it has been". If this is right, it is a dreadfully pessimistic prediction. It really makes the fiscal arithmetic look truly horrible and it really offers a very dismal projection of where GDP would go over the next few years.

1930'S USA

- The Great Depression : big falls in output, massive bank failures, severe credit crunch, investment virtually zero in 1933.
- The financial crisis explains depth of downturn.
- The problems of the banking system were not really resolved by New Deal regulation and bank lending did not full recover.
- So should surely expect this to be an example of banking crisis that undermines TFP growth?

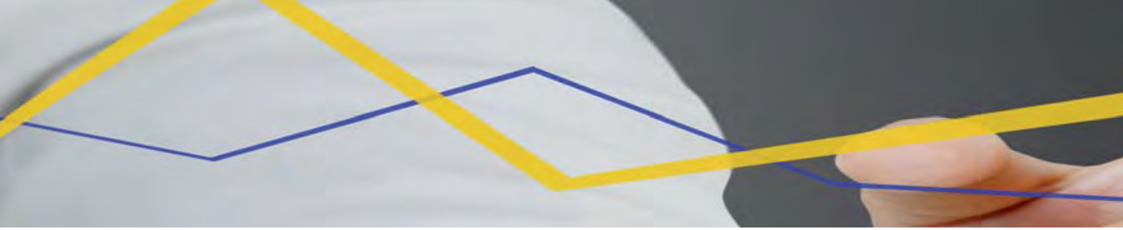
OK, I will put my historian's hat on for a minute. If you want to see an episode where it might seem likely that this outcome would be the result of a crisis, I think the 1930s' USA would be your ideal template. We know the United States had a massive depression at that time. One in three banks failed, and bank lending never returned to the 1920s' level or even near to it. We know that financial intermediation services were seriously impaired. We have plenty of evidence that that had a short term productivity effect, and we also know that during the 1930s the Americans never really put their banking system totally to rights. So Mr Goodwin would be pretty clear wouldn't he? He would expect TFP growth to be zapped by this experience.

THE MOST TECHNOLOGICALLY PROGRESSIVE DECADE OF THE 20TH CENTURY (Field, 2003)

- Was the 1930's (1929 – 1941) based on estimates of the TFP growth rate?
- Massive disruption of credit did not impair TFP growth.
- Suggests that the right way to look at the Depression is having a sizeable levels but no growth-rate effect; levels effect comes from 'permanently' lower capital stock.
- So maybe current pessimism over future TFP growth is UK overdone.

But no, actually when we look at the numbers, here you can perk up. The most technologically progressive decade of the 20th Century, according to Alexander Field in the American Economic Review of 2003, was the 1930s. This actually was the period when the TFP growth rate was at its largest, and there was no evidence whatsoever of a fall in TFP growth as a result of the recession or depression. That tells me that the best guess is that the sequel to the crisis is that output levels are reduced but that there is no reason necessarily to throw away the hypothesis that, after the levels shift, the trend rate of growth will actually look reasonably similar to what it previously was.

I will finish by turning to supply side policy. I am going to do that because I suspect we have already seen that the Government has rather limited room for manoeuvre at the moment in trying to engineer more growth through what we might call conventional monetary or fiscal policy. With regard to fiscal policy, the fiscal legacy and its politic mean that you cannot do much, I think. On the side of interest rate policy, there is little scope to reduce nominal interest rates and it is not clear we can get very much more from quantitative easing while keeping inflationary expectations anchored. It would be a radical step indeed to throw away the inflation target and pursue cuts in real interest rates that way. In that case, I think that what could be done to improve growth over the next few years has to be largely on the supply side. So I want to talk about that for a few minutes to finish the talk.



HOW CAN GOVERNMENT MOST EFFECTIVELY PROMOTE LONG-RUN GROWTH?

- Good horizontal rather than selective industrial policies; not back to the 1970's; address market failures and remember CBA.
- Facilitate diffusion rather than fixate on domestic R & D; recognize that wide range of government actions including regulation affect the attractiveness of investment and innovation.
- Accept that successful pro-growth policies unlikely to lead to significant re-industrialization (cf. NESTA, 2010).
- Regulate banks to reduce risks of financial crisis without hurting international competitiveness (cf. Vickers, 2011).

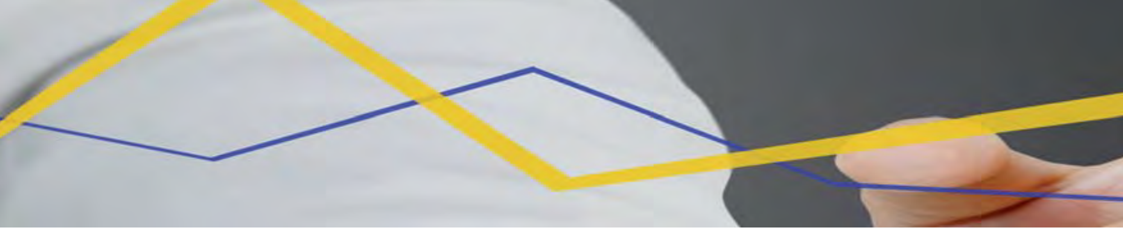
If we want to ask what the Government can most effectively do there and we think about it from an economic history perspective, I think we want good horizontal - not selective - industrial policy. Selective industrial policy is picking winners and I think that deservedly has a bad name. Horizontal industrial policy in "OECD type" speak is having a good education system, having good infrastructure, having things which are good for the economy as a whole rather than for particular sectors or firms, and if Government has a role there it is probably in addressing market failures.

What should Government do to get more growth generally? The key thing I think is more to facilitate diffusion of technology than to fixate on R&D. Not good news for Universities I'm afraid because we probably prefer the second policy - more spending on the science base and so on. But the UK actually gets over 90% of its technology from other countries in the world. The key is to diffuse it well, quickly, efficiently, and remove obstacles to doing that. We should certainly at the same time accept that it is day-dreaming to think that there will be a major re-industrialization of the economy. I do think, and we may come back to it as I am not going to stress it now, that some re-regulation of the financial system is required.

UK SUCCESS STORIES

- Have not been promoted by horizontal not selective industrial policy.
- Pharma: human capital, science base.
- Financial Services: human capital, deregulation, planning reform, transport.
- ICT Diffusion: human capital, industrial relations reform, less obstructive regulation than elsewhere in Europe.

If you think about UK success stories, I don't think these come from selective industrial policy, I think they come from horizontal policies. Success in pharmaceuticals has to do with the UK's human capital and perhaps the science base. For financial services, human capital again matters there, de-regulation in the 1980s was important, and since the size of the agglomeration matters there so too does transport infrastructure. With regard to ICT diffusion, I think we've gained there from human capital, in particular the large number of graduates now in the population but industrial relations reform was helpful and, generally speaking, we have less obstructive regulation than most European countries.



Sources of Market-Sector Labour Productivity Growth, 1995-2007 (%) (Haskel et al., 2009)

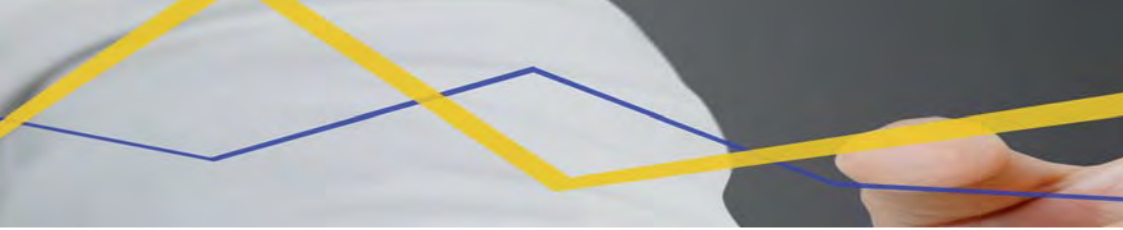
Tangible Capital-Deepening	29.3
Labour Quality	6.4
R & D	1.5
Other Intangibles	19.8
TFP	43.0

If you look where labour productivity growth came from in the years up to the crisis, let me emphasize once again, R&D is a very small part of it. The typical politician has got this completely wrong and I think that is important for thinking about supply side policy. Again, the typical person in the street has little idea which sectors have been contributing to UK productivity growth. Which is the biggest contributor in the period 1995 – 2007? It isn't rocket science, it's retailing, or more accurately, it is retailing and wholesaling, i.e., distribution. Why did productivity increase so rapidly in distribution? - because it is a sector which can benefit hugely from ICT. But it is the diffusion of ICT not our friends at Tesco having a massive R&D budget. If they did, it would be completely wasted.

Top 6 Contributions to Labour Productivity Growth, 1995-2007

	Contribution	Growth Rate of Y/HW
Distribution	0.38	3.05
Post & Telecom	0.28	9.00
Business Services	0.23	1.06
Financial Services	0.19	4.23
Electrical & Optical	0.14	6.64
Transport & Storage	0.12	2.58

Looking at these numbers, the growth rate of labour productivity is on the right hand side and the contribution is the growth rate weighted by the sector's share; distribution is a big sector. Was it Napoleon who rather sneeringly said we were a nation of shopkeepers? Well we still are, and jolly good for us because this has actually been welfare improving.



WHOLESALE AND RETAIL TRADE

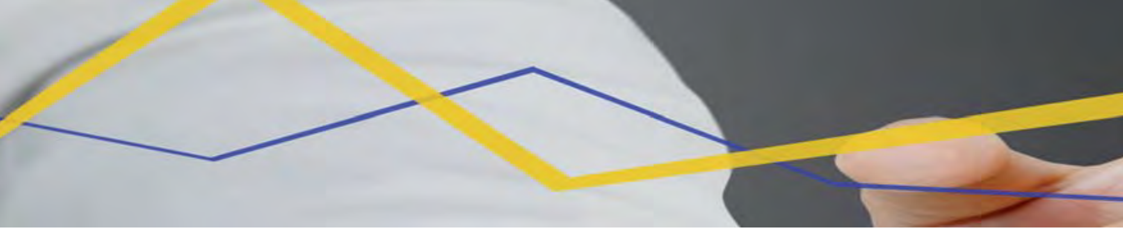
- Would be considered irrelevant by traditional industrial policy.
- Does not do much R & D (0.5% of UK R & D in 2008).
- Is the sector that contributed most to recent UK labour-productivity growth.
- Is a big user of new technology.
- Has been adversely affected by planning regulations.

Wholesale and retail trade would be considered almost completely irrelevant by traditional industrial policy. However, it is a big user of technology, and it is use of new technology that the Government should be facilitating rather than being gung-ho about invention. And here is a theme right for the end of the lecture. We could have had a lot more productivity growth in retailing, were it not for the fact that planning regulations have prevented it. Today's retail stores are less productive than the ones built 15 years ago, in particular, because on average, they are much smaller.

PLANNING RULES MATTER

- An important horizontal 'industrial policy'.
- Planning restrictions impose massive distortions in land use – make office space in Manchester more expensive than Manhatten (Cheshire & Hilber, 2008).
- Agglomeration economies matter most for the service sector (Graham, 2007).
- Successful British cities are too small.

More generally, I am sure that planning rules matter quite a lot in the UK. If we think of the notion of "industrial policy" as government actions which affect incentives to invest and to innovate, then regulation matters - and this is an important form or regulation. If we are to have a successful supply-side economy through exploiting our comparative advantage in sectors like financial and business services, then it makes little sense to introduce rules which make offices fantastically expensive in the UK. Paul Cheshire and Christian Hilber's estimates in the Economic Journal in 2008 show that as a direct result of planning rules office space in Manchester has been more expensive than in Manhattan. Successful British cities are basically constrained to be too small to exploit agglomeration economies fully and, as I say, they have expensive property.



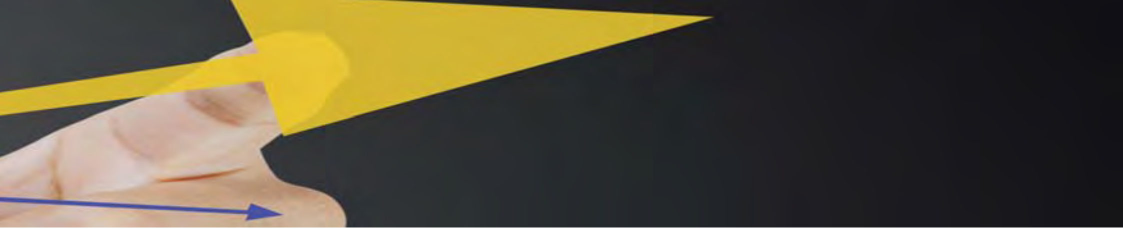
SUPPLY-SIDE REFORMS

- Could be an important way to stimulate private-sector investment and TFP growth (cf. 1980's) in context of limited scope to boost demand.
- Unfortunately, political constraints make this unlikely but the wish-list include.

So, I am going to suggest that the supply side reforms could be an important way to stimulate private sector investment and growth. This did in the end happen in the 1980. It might be a valuable avenue to explore now since, as I said early, we may have limited scope to boost demand. Unfortunately I think that such reforms are most unlikely to happen. Political constraints surely block the way. That may well be true in general but I think it is even more the case given the coalition in Westminster. It is also I think fair to say that Mrs Thatcher was a maverick who wouldn't have had the chance to fulfil her experiment had it not been for the mad Argentinean generals who generously gave her a second term in office. Not sure if that is accurate political history or not but let's stick to it for the moment.

FANTASY GROWTH FORMULA

- Abolition of VAT exemptions and corporation tax.
- Major relaxation of planning controls.
- An economically rational immigration policy.
- Road pricing and transport investments based on CBA.
- Take seriously addressing principal-agent problems in the public sector.



This is the sort of thing that economists dream about while wallowing in the bath. While normal people consider re-arranging their fantasy football team or choosing their 10 horses to follow or whatever, we are thinking of the fantasy growth formula. I don't think this is remotely ever likely to happen but if you were thinking of radical supply side reform and the Martian arrives, takes over Downing Street and it says "Never mind British politics, let's use evidence-based policies", after stepping back in amazement, here is what you might advise it to do.

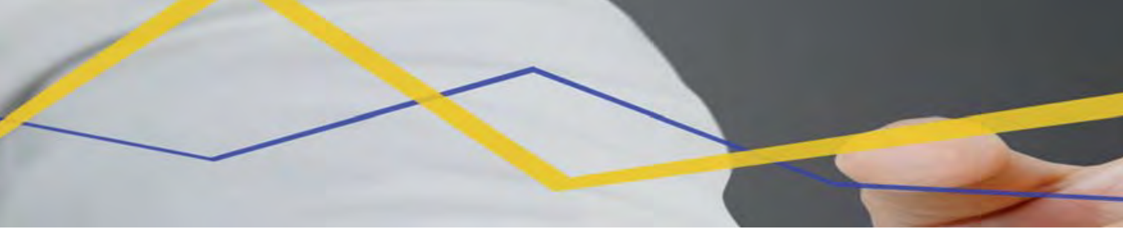
The first thing surely would be shift more towards indirect tax and away from direct tax. There are a number of ways of doing that but one very obvious thing about the UK is how narrow the value added tax base is. It is just about the narrowest in the OECD. Generally speaking, I think economics says you want a wide tax base and we don't have that. Broadly speaking, by abolishing the VAT exemptions, you could easily pay for abolishing corporation tax at the same time if that was the combination you chose. I am not saying that it is necessarily the optimal choice and there are other permutations but it shows what could be done.

Second, I really do think a major relaxation for planning controls is a very important part of this fantasy formula. In particular because we could actually get back to building a lot of houses as they did in the 1930's.

Third, as an economist, I find it hard to understand why we have the immigration policy that we do; as a politician, perhaps I could understand it, but the present policy is not in my view conducive to maximising the skill growth of the UK labour force.

Fourth, if we want a sensible infrastructure policy, we certainly won't have HS2 coming through my garden because we will respect the verdict of the cost benefit analysis which says it is not viable. But actually what we need here surely is a rational investment and pricing structure for our transport infrastructure. If it weren't for Government failure and the electorate's fear of that, road pricing would be quite a good thing to do. It reduces the amount of infrastructure you need, it gives you better use of what you've got, and it generates a lot of revenue. This is exactly the sort of policy which is fiscal-consolidation and potentially supply-side friendly.

Finally, given that we want to reduce the tax bill in the long term, we still have not taken seriously enough increasing efficiency in the public sector - except, of course, in Universities where you notice that we are now teaching about four times as many students per faculty member as when I started and they are getting three times as good degrees. That's got to be a massive productivity improvement.



FULL RELAXATION OF PLANNING CONTROLS ON HOUSE-BUILDING.

- Average real English house-price down by 30% and equilibrium housing stock up by 15%
  (Hilber & Vermeulen, 2010; NHPAU, 2007)
- A transition over 20 years entails 175k extra houses per year employing 750k (back to the 1930's).
- Massive efficiency (planning) gain from better use of land makes it quite possible to incentivize local communities to like the idea (Leunig, 2007).

Let us just check on the planning part of the story. These are recent estimates from the Centre for Spatial Economics at LSE. If you had a full relaxation of planning controls on house building, they find that it would drive down over time the average English house price by 30%.I see some property lenders round the room quaking a bit at that, it might not be nice for them, but it would be a welfare improvement generally speaking and the equilibrium housing stock might rise by about 15% (3.5 million houses).

You wouldn't ever dream of thinking you could do that overnight, so let's suppose it's quite a long transition. If you had a transition to that state of affairs over about 20 years, a back of the envelope calculation shows that you would build about 175,000 more houses per year while employing about 750,000 people. It does look a bit like "back to the 1930's" but the important point here is that the value of land for housing is so much bigger than the value of land for that drab agriculture that surrounds all southern English cities that the planning (efficiency) gain is actually massive. It surely can't be beyond our wit to incentivize local communities to want this by giving them some of the gains. In other words, when a policy like this massively passes the compensation test, you should arrange compensation for the losers and get on with it. Politics aside, it really could be done quite quickly.

OK we have got to the end so it is time for conclusions.

CONCLUSIONS

- The recovery is weak compared with the 1930's and 1980's after a credit boom and bust.
- There is limited scope to boost aggregate demand safely.
- Fiscal consolidation could be made more productivity friendly.
- Radical supply-side reform delivered growth in the 1980's and could do so again.

...In your dreams!

My first conclusion is – the recovery is weak compared with the 1930s and the 1980s. I think that to a large extent this is because we have had a credit boom and bust which is rather different from either of those two experiences and leaves us with a big hangover at the present time.

Second, I can quite see why people worry about trying to boost aggregate demand too much at the moment. There are worries about the output gap, there are difficulties of getting any agreement on the fiscal stimulus and it is hard to go down the real interest rate route.

Third, in that case, I think the right thing to do is try to make fiscal consolidation more productivity friendly and that's essentially the route I have tried to map out for you. To a significant extent radical supply side reform delivered growth in the 1980s. I hear you saying, yes I suppose it could do so again ... but, sadly, I don't think it will happen.

A HISTORY OF PAST LECTURES

The first Julian Hodge Institute of Applied Macroeconomics Lecture was delivered in 2000. Since this time the lecture series held in Cardiff has included some of the world's leading economists.

2000 - Sir Alan Walters - former Chief Economic Adviser to Mrs (now Lady) Margaret Thatcher.

2001 - Professor Otmar Issing - Board Member and Chief Economist, European Central Bank

2002 - Sir Alan Budd - Member of the Bank of England's Monetary Policy Committee and Chief Economic Adviser to the Treasury from 1991-1997.

2003 - Professor Bennett T. McCallum - H.J. Heinz Professor of Economics at Carnegie Mellon University, Pittsburgh.

2004 - Professor Danny Quah - Professor of Economics at the London School of Economics and Political Science.

2005 - Professor Nicholas Crafts - Professor of Economic History at the London School of Economics and Political Science.

2006 - Ludovit Odor - Member of the Bank Board of the National Bank of Slovakia.

2007 - Paul De Grauwe - Professor of international Economics at the University of Leuven, Belgium.

2008 - Colin Robinson - Emeritus Professor of Economics, University of Surrey.

2009 - Dale Henderson - Visiting Professor of Economics at Georgetown University.

2010 - Michael Beenstock - Professor of Economics, Hebrew University of Jerusalem.

2011 - Akos Valentinyi - Professor of Economics at Cardiff Business School.

Before this a series of lectures associated with Sir Julian Hodge commenced in 1970 entitled the Jane Hodge Memorial Lectures.

1970 - The Rt. Hon. Sir Leslie O'Brien GBE , Governor of the Bank of England.

1971 - M. Pierre - Paul Schweitzer, Managing Director of the International Monetary Fund (IMF).

1973 - David Rockefeller LLD, PhD, Chairman, Chase Manhattan Bank.

1973 - H.R.H. The Prince Philip Duke of Edinburgh.

1976 - His Excellency Sheikh Ahmed Zaki Yamani.

1984 - Robin Leigh Pemberton, Governor of the Bank of England.

1990 - Sir George Blunden, Deputy Governor of the Bank of England

The Julian Hodge Institute of Applied Macroeconomics therefore carries on the very proud tradition of promoting debate and understanding of present day economic issues.

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