

Paul Tucker: Inflation, growth and stability – balancing the Bank of England’s economic priorities

Remarks by Mr Paul Tucker, Deputy Governor of the Bank of England, at The Institute of Economic Affairs’ 27th Annual Conference “The State of the Economy”, London, 23 February 2010.

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It is an understatement that the current macroeconomic conjuncture poses major challenges for policy. There are also major lessons for the overall framework for preserving stability in our economy. I shall talk about both.

Both the challenges and the lessons stem from the source of the crisis: a crash in the credit system affecting a domestic and global economy which had become severely imbalanced. Broadly, from the autumn of 2008 onwards, the sharp falls in economic activity were most pronounced in areas heavily dependent on credit and optimism (**Chart 1**). There was a vicious spiral down in world trade, where supply chains had become longer, with more counterparty risk and so more dependence on credit. Likewise in industrial production (**Chart 2**). Business investment collapsed (**Chart 3**). There was sharp destocking, helping to alleviate firms’ financial pressures.

Things **are** better than they were. Capital markets have mostly reopened, but spreads are still higher than before funding markets deteriorated during 2007 and bank lending has been very weak. World trade and manufacturing have bounced back, although remain below pre-crisis levels. Confidence has revived, but may not yet be resilient. The rate of job losses in the USA, the epicentre of the crisis, has slowed. But growth in the euro area, our largest trading partner, has been less encouraging recently.

In the UK, against a backdrop of massive monetary stimulus, **nominal** demand grew in the third quarter of 2009 for the first time for over around a year (**Chart 4**). And real output recorded very slight growth in the fourth quarter. “Bumping along the bottom” – but a lot better than might reasonably have been feared twelve months ago, when there was a tangible risk of the economy sliding away into depression.

The outlook is better. As we said in the recent Inflation Report, gradual recovery is in prospect. But it is still highly uncertain. As I have said before,¹ I think it will take at least until the middle of the year for us to have much of a sense of whether growth will be anaemic or robust enough to begin to absorb the slack in the economy. That view is broadly consistent with the MPC’s latest collective forecasts, published a fortnight ago. The central thrust of those projections is for growth in economic activity to revive quite quickly but for the level of activity to recover slowly (**Chart 5**), which is what really matters for welfare. After spiking over the next few months, inflation is, we believe, likely to drop below our 2% target due to the downward pressures from a weak level of demand on wages and prices (**Chart 6**). But it is then likely to climb back towards the target as the economy recovers. Compared with our previous collective forecast last November, there are differences of nuance in the “most likely” and “mean” paths for growth and inflation, but frankly to my mind those nuances are small beer compared to the main risks. My take on those risks is that, on the downside, the headwinds to demand and activity could prove stronger than currently foreseen. And, on the

¹ See Tucker P M W (2009e), “The Debate on Financial System Resilience: Macroprudential Instruments”, Barclays Annual Lecture, London, 22 October, 2009.

upside, that we (and our peers) could prove too slow to withdraw monetary stimulus if animal spirits revive across the economy or further spikes in inflation outturns raise medium-term expectations. Meanwhile, the data are bound to be mixed.

Four aspects of the conjuncture

Against that background, I shall briefly review a handful of the issues that, one way or another, the MPC will face over the coming months.

A balance sheet recession?

I have a good deal of sympathy for those who argue that the current downturn owes a lot to stretched balance sheets – in the private sector, public sector, and the national economy as a whole.

On average over the past decade the UK ran a current account deficit of around 2% of GDP, increasing in the years immediately before the crisis. That is about double the post-war average, but compares favourably with the United States, which had a deficit of around 5% of GDP before the crisis. Sterling's depreciation has already boosted the UK's external balance sheet, and net trade should benefit too over time.

Arguably, more serious imbalances were internal. Perhaps surprisingly, they did not show up in unusually strong output or consumption growth, in contrast to the inflationary booms that preceded earlier busts. In the five years leading up to the crisis, annual GDP growth averaged around 2½%, similar to the post-war "trend". Much the same was true for household consumption growth, and its contribution to GDP even declined slightly during 2005–07. But, with slower income growth, the household saving rate actually fell throughout this period. Household balance sheets expanded rapidly, with debt and house prices rising in tandem. Access to cheap and readily available finance, and a willingness to borrow, led to household debt rising to over 150% of annual income. That inevitably made the household sector more vulnerable to adverse shocks; that is what leverage does!

But there were also important distributional shifts. One way of thinking about the rise in house prices and increase in debt is as a transfer of wealth between older (house-seller) and younger (buyer) generations. In balance sheet terms, the younger buyers were acquiring housing assets and debt; and the older sellers were swapping free equity in houses for financial assets. In consequence, for a while, the ratio of aggregate household debt to assets remained fairly stable; and the ratio of financial and housing assets-to-income rose steadily. Taken as a whole, households were vulnerable to falls in asset prices.

Households now face lower asset prices, somewhat lower house prices, tighter credit conditions, a lower path of demand and output, rather less job security, and a much greater sense of uncertainty. Younger households in particular have a strong incentive to save more (**Chart 7**) to repair indebted balance sheets, or to accumulate the deposits that are once again needed to buy a home (given banks' policies on loan-to-value ratios).

By contrast, taken as a whole, the corporate sector has been running a cash surplus throughout – in the run up to the crisis, and since. Some of that is no doubt down to firms having learned lessons from flirting with excessive leverage during the "telco" boom nearly a decade ago. But quite a lot of the cash surplus has resided in oil companies and, since the crisis, in financial firms, which face the task of gradually deleveraging and reliquifying. Given how much debt banks will need to refinance or repay to the authorities around the world over the next few years, the Bank is keen – as reflected in the recently published minutes of the Chancellor's Council for Financial Stability – that individual banks agree indicative refinancing plans with their supervisors; and that at least aggregate national conditions be shared amongst international peers. That would help to avoid each bank thinking that it can

delay its effort, risking an almighty scramble in eighteen months or so when official-facilities will be running off.

As household sector saving has risen and as banks have deleveraged, government borrowing has increased very sharply as it helped to absorb the macroeconomic shock. Without too much exaggeration, this can be thought of as a rescheduling of private sector debt facilitated by the only balance sheet currently strong enough to bear it – HMG's. But, like financial services, the public sector had accounted for an increasing share of measured output in the run up to the crisis. And since a good deal of that was debt financed, this source of support is not unlimited. Indeed, those two sectors have to be part of the process of rebalancing demand and activity in the economy over the years ahead.

Overall, the rebuilding of balance sheets and the rebalancing of demand pose a downside risk to the outlook for activity.

Effective supply, and inflationary pressures

Repair of balance sheets will affect the path of demand. What of supply?

There is a great deal of slack in the economy. Around three-quarters of a million jobs (net) have been lost. And most surveys have firms working well within capacity (**Chart 8**). The MPC believes that that will tend to bear down on wages and consumer price inflation over the next few years, warranting our substantial monetary stimulus.

But the recession will obviously impair the economy's productive potential. Investment plans have been shelved and some discouraged people are likely to leave the workforce. Those effects are likely to accumulate over time. But there are important temporary factors too.

Typically when monetary policymakers talk about the potential supply of the economy, we have in mind the slow-moving accretion in productive capacity determined by growth in underlying productivity, the workforce and firms' *net* investment in the capital stock. Right now, that mindset would not quite capture what is going on. There are a number of reasons for thinking that the "effective supply" capacity of the economy has been depleted temporarily due to the shock to credit supply and confidence (**Chart 9**). How much, and how temporary, are major uncertainties.

In the months immediately after the Lehman crisis, the cutbacks in lending and in trade credit insurance were so severe that some firms were probably unable to maintain production at previous levels. Working capital is, after all, an intermediate input.² Those constraints have probably reduced over the months. But, given insipid and uncertain demand, not a few firms seem to have temporarily suspended part of their capacity: whether by putting part of their workforce on short hours or closing down a production line.

This makes it likely that supply conditions are going to depend heavily on the path of aggregate demand. If demand recovers robustly, firms are likely to bring some capacity back on line. If, on the other hand, demand proves anaemic, then suspended-capacity is more likely to be permanently scrapped. Under the first scenario, inflationary pressures could be weaker than would otherwise be the case in a recovering economy. Under the latter scenario, inflationary pressures would be greater than otherwise in a stalled economy. I do not want to go so far as saying that the path of aggregate demand won't affect inflation, but it may not be quite as potent as usual.

Viewed more broadly, provided we do not take risks with inflation – as we must not and will not – the robust-growth path would plainly be preferable as it would avoid wasteful impairment of the economy's productive potential, and so of living standards in the years

² See Blinder Alan S. (1987), "Credit Rationing and Effective Supply Failures" *Economic Journal*, June 1987, 97, 327–52.

ahead. To achieve the 2% inflation target over the medium term but at the cost of an avoidable depletion of the economy's supply capacity would not be congruent with the MPC's Remit, which includes supporting growth and employment *in so far* as that is consistent with the overriding goal of price stability. I was glad that the "effective supply" way of thinking about this was reflected in our latest Inflation Report. But I would readily concede that we must not lose sight of the potential "speed limit" effects that featured in our November Report. Given the need for some rebalancing in the pattern of demand and activity, and the likely lags in firms bringing even suspended capacity back on-line, bottlenecks are a distinct possibility. We will need to be especially alert to messages from the Bank's Agents, to survey evidence, and to data on productivity, wages and prices for any sign of inflationary pressures.

Volatility of inflation, and inflation expectations

The Committee's strategy has warranted maintaining the very substantial monetary stimulus notwithstanding the marked pick-up in inflation over recent months. As the Governor explained at our press conference a fortnight ago, we think that the recent rise in inflation is accounted for mainly by the increase in petrol prices, the restoration of VAT to 17.5%, and lagged effects of sterling's substantial depreciation. But we can't be, and aren't, comfortable about it. Not least because the country has to trust us that these will be temporary disturbances.

In the first place, our judgments about the pass through of the exchange rate depreciation could prove to be wrong. Second, we are vulnerable to further upward shocks to commodity prices if, for example, Asian growth remains robust, although I draw a degree of comfort from OPEC's excess capacity at present. Third, we cannot rule out that there has been a greater destruction of supply capacity than suggested by survey evidence, in which case underlying disinflationary pressures would be weaker than thought. And fourth, it is possible that, given still-tight credit conditions and an uncertain outlook for demand, some firms will take opportunities to raise prices in order to buttress cash flows, notwithstanding their operating within their potential capacity.

As ever, we must therefore interrogate the data and surveys, and we must be especially sensitive to medium term inflation expectations (**Chart 10**). So far they have remained broadly consistent with the target. Judging from options prices, financial market participants seem to think that there has been a rising probability that inflation will overshoot substantially on the upside. But there seems to be a perception of a roughly similar probability of an overshoot on the downside (**Charts 11a** and **11b**). The big picture is that the risks on both sides **are** tangible. The upside risk no doubt owes something to perceptions of the scale (and manner) of our monetary stimulus. I must therefore underline that there is no dilution in our commitment to the inflation target. This country suffered too much from the inflationary booms and busts of the past for us to take risks on that score – in either direction.

QE: the stimulus to nominal demand, and the financing of the banking system

To avoid the downside risks, we need to help to revive the economy. And the monetary stimulus is, of course, directed at a big deficiency of nominal demand in the economy. At our latest monthly meeting in early February, the MPC maintained Bank Rate at 0.5% and the stock of money injected via asset purchases at £200bn. The money market yield curve has edged down slightly since then.

Over the past year my colleagues on the MPC have variously set out the key mechanisms through which Quantitative Easing (QE) should work. I shall not go over all that ground today, but there is unavoidable uncertainty about the speed and potency of QE's effects. I am minded to think that **some** of the effects will come through fairly gradually. And therefore I would stress that the monetary stimulus from QE has not stopped. The **flow** effect of our bond purchases on gilt yields is not the beginning and end of how QE provides monetary

stimulus. Plainly the mechanisms through which our money injections affect the economy differ in **some** respects from the transmission of changes in Bank Rate, which in an economy with a lot of (net) floating-rate debt can affect household and business borrowers' cash flows quickly. By imbalancing the asset portfolios of the institutional investors that sell us gilts, QE works in part through shifting the risk premia (broadly defined) on a wider class of financial assets. I would not expect that to be over and done with quickly.

An analogy: it is sometimes alleged that the boom leading up to the crisis was in credit markets but did not really affect equity markets. I do not agree. Arbitrage does connect markets – eventually. The boom in Leveraged Buy Outs was precisely a mechanism for using underpriced debt to buy “cheaper” equity, which would have driven down the ex post equity risk premium had it taken its course uninterrupted by the crash. Similarly now, the effects of imbalanced investment portfolios will, most likely, spread through different capital markets – and so into wealth and the availability and cost of capital – **gradually**.

A second mechanism, rather less remarked – except perhaps in international central banking circles – is how QE here and the injection of money by other central banks effectively contribute to the financing of the banking system. By buying assets from the non bank private sector, we increase deposits with the banks: broad money. We also put extra reserves – balances with the Bank – into the hands of the banks themselves. To the extent that those reserves holdings exceed individual banks' demand for a liquidity buffer, they can use them either to expand lending or, alternatively, to repay (maturing) debt, and so help to deleverage their balance sheets. Another way of thinking about it is that, at an aggregate level, our purchases reduce the scale of assets that the private sector needs to finance by borrowing from the banks. This is not just a UK thing.

That being so, we should not be too surprised that there has been a sharp fall in the utilisation of central banks' liquidity facilities during 2009. The size of central bank balance sheets (**Chart 12**) remains much the same as about a year ago, just as QE was getting underway; but the composition of our asset portfolios has changed. The bottom line is that we are still providing an enormous amount of liquidity to the banking system as a whole, but with revived wholesale money markets distributing that assistance to where it is needed.

So our monetary instruments and financial stability instruments shade into one another – unsurprisingly. And that means that when planning our so-called exit strategies from monetary easing, central bankers will need to weigh the effects on bank funding conditions, which in turn affect credit conditions and demand in the economy.

Five issues for the policy framework for maintaining macro economic stability

I want to look beyond the immediate conjuncture. I don't plan to say anything today about financial sector reform, but will concentrate on the overall framework for preserving macroeconomic stability.

That there are lessons from the crisis is obvious.

Don't be seduced by the appearance of stability

The so-called Great Stability was, with hindsight, in some respects a surface phenomenon. We should not lose sight of the absolutely vital achievement of establishing monetary policy regimes that carry credibility with households, firms and markets. But, in terms of demand and output, underneath a surface of smooth growth at the aggregate level lay horribly imbalanced economies. And given the length of time this persisted, it may well have affected the pattern of investment, and so led to a distribution of the economy's supply capacity that would be out of line with better balanced demand. It is hard to tell.

I don't much like slogans, but the “Great Threat” might have been a galvanising refrain.

The monetary transmission mechanism: we must embed the renewed interest in financial markets, money and credit

As Mark Carney, the Governor of the Bank of Canada, observed at Jackson Hole last summer,³ economists developed a habit of thinking of the financial parts of the monetary transmission mechanism as more or less fixed for practical purposes. But, in fact, the evolution of the financial system – due to regulation, innovation, and animal spirits – can, subtly or not so subtly, alter the ways in which our interest rate changes flow through to the real economy. Twenty years ago there was great interest in this kind of thing, perhaps reaching its apogee in the BIS's Cross Report⁴ on the effects of interest rate and foreign exchange derivatives on monetary policy and macroprudential policy. Over the latest period, we needed to take greater account of the implications of the credit-market revolution, the emergence of major new financing markets, and declining credit and liquidity spreads.

What this amounts to is that, in assessing the outlook for demand and inflation, monetary policymakers need routinely to take a greater interest in financial markets and their workings, over and above looking at asset prices as an input to wealth and the cost of capital. This means trying to make sense of risk premia and liquidity premia.⁵ Not easy, but it needs to be done. And it will be important soon if there is a persistent rise in the margin that banks charge for credit over and above the risk-free rate. It might plausibly rise due to a higher cost of funds to banks themselves, a heightened assessment of risk of borrower default, or more demanding future regulatory requirements. Indeed, not a few bankers have argued in recent months that the international authorities should temper their regulatory reforms due to the prospect of higher credit costs for households and firms. But there may be offsetting factors. If in the steady-state equilibrium credit spreads were to be higher, then other things being equal there might be a lower equilibrium *risk-free* interest rate.⁶ In plain language, the Bank's policy rate might on average conceivably be lower in future than during the Committee's first decade. We shall have to wait and see.

The counterpart to placing greater weight on the level of and fluctuations in risk premia is being more attentive to money and credit *quantities*. There is plenty of such interest at present of course, as evidenced by the number of mentions in the minutes of the MPC's meetings. But we must ensure that interest is sustained.

And in a world of global banking and capital markets, that surely means looking at wider measures alongside our normal broad money (M4) aggregates. It is surely not at all uncommon these days for firms around the world to hold part of their currency liquidity with banks overseas.

At the Bank, we have had another go⁷ at creating a wider measure of UK money growth that takes account of international deposit-taking activity (**Chart 13**), and also at similar measures of "world money growth" (**Chart 14**). In both cases, the swings over the past decade are more pronounced on the wider measure, especially for the UK. I am particularly struck that these aggregates start to pick up during late 2003, just about the time when the Bank's

³ Carney M (2009), "Some considerations on using monetary policy to stabilize economic activity", remarks to a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming.

⁴ See Bank for International Settlements (1986), "Recent innovations in international banking", prepared by a Study Group established by the Central Banks of the Group of Ten Countries, known as the "Cross Report".

⁵ King M A (2006), Speech at a dinner for Kent Business Contacts in Conjunction with the Kent Messenger Group/Kent Business, Ashford, Kent, 16 January, 2006.

⁶ My colleague David Miles discussed this in "The Future Financial Landscape", a speech given at Bloomberg, 16 December, 2009.

⁷ An earlier estimate of world broad money growth can be found in Tucker P M W (2007), "Macro, asset price, and financial system uncertainties", *Bank of England Quarterly Bulletin*, 2007 Q1, pp. 122–130. This version takes into account resident foreign currency deposits and non-resident deposits with banks.

market intelligence began to report a revival in financial market “animal spirits” after the telco debt problems of 2002.⁸ Obviously these wider measures of money collapsed – and, again, by more than the standard M4 measure – after the Lehman crisis.

Broader measures can tell us about domestic as well as global conditions, and this may be especially important for the UK. The contraction in lending to our businesses and, to a lesser extent, to our households owes a lot to withdrawal by foreign-headquartered banks (**Chart 15**). Cross-border lending into the UK, particularly via syndicated lending, has shrunk. And so has lending by branches and by many (but by no means all) subsidiaries of overseas banks here. The same broad pattern seems to be true in other economies, but may be rather less significant. There is an unusually large presence of non-UK banks here, due to our hosting an international financial centre. The City is **not** purely an entrepot. It intermediates between domestic saving and investment, as well as international flows of funds and risk. And the connections into our domestic economy – via credit flows, as well as taxation – gives us a vital **macroeconomic interest** in the health of global capital markets and the international banking system.

“Mopping up” and missing instruments: macroprudential policy

I was always doubtful about the consensus around the authorities relying entirely on “mopping up” by slashing interest rates after bubbles burst, and frankly, with hindsight, I wish I had expressed my reservations more strongly.⁹ The mess created by this crisis – the cost to businesses and millions of people around the world – surely puts beyond doubt that if, using a wider range of instruments, we could tame the credit cycle, we should.

There is a debate about whether, around the world, monetary policy inflated the bubble. Research economists will take a long time to reach anything like a consensus. But I would make one observation today. The suggestion that I have heard most frequently from thoughtful market participants is not that monetary policy was **directly** responsible for the bubble, but that it contributed to an appreciation of asset prices which **then** got out of hand. Any easing in monetary policy inevitably pushes up asset prices (compared with the counterfactual) because it reduces the discount rate used to value the cash flows from securities and the rental income on property. The more long-lasting a monetary easing is expected by the markets to be, the greater the effect on asset prices.

In the early years of this century, those standard channels were powerfully at work around the world, led by dollar markets. And they combined with the ex ante imbalance in global savings and investment, which brought down yields on risk-free bonds. Big picture, all of that was basically warranted by economic fundamentals. It did not itself constitute a bubble. But bubbles often get going because, given risk illusion, market participants can extrapolate forward into ex ante required returns the windfall ex post gains they have enjoyed. And, once started, bubbles can keep going because a collective action problem – herding, to put it more straightforwardly – can make it hard for any individual firm or fund to step off the dance floor.¹⁰

The moral of this story is that the financial authorities need to be sensitive to when a marked appreciation in asset prices is becoming fuelled by rapid credit growth and looks likely to get

⁸ The Bank’s December 2003 Financial Stability Review highlighted the revival in markets and the “search for yield” as “spreads on high-yield and emerging market economy bonds...continued to narrow..., and estimate of the equity risk premium...declined. There has also been a sharp increase in inflow to hedge funds. Market contacts describe some investors willing to take more credit, interest rate or exchange rate risk in order to increase returns in the short run.”, pp. 13.

⁹ See Tucker P M W (2006), “Reflections on Operating Inflation Targeting”, a speech at the Graduate School of Business, University of Chicago, May 2006.

¹⁰ Tucker (2009e), op. cit.

carried away beyond anything warranted by fundamentals. Regulators need to be a bit less disposed to find fundamental explanations for **any** degree of financial appreciation, and a little more alert to market participants themselves saying, as many did, that risk is underpriced. That does not of itself mean that monetary policy should be more timid in trying to repair deficiencies in nominal demand. But it does underline the need, as I said a few years ago, to take care that the remedy for one set of imbalances does not lead to another. And this is especially important if, as would seem to be the case, monetary policy is capable of generating prolonged periods of stability at an aggregate level that lead financial market participants to believe mistakenly that the world is less risky than is actually the case.

It is all very well saying that the cognitive biases of economists and the authorities should change slightly, and that our mindset should at times be a bit more lateral. But do we, in actual fact, have any instruments for **doing** anything about threats to stability from credit bubbles that are not associated with burgeoning nominal demand and inflationary pressures?

That is precisely what the “macroprudential instruments” debate is about. There is increasing interest in these possibilities. The Bank of England’s own November Discussion Paper was only one manifestation. Another is the IMF’s recent review of the macroeconomic policy framework.¹¹

The basic question is whether the authorities could lean against **credit-fuelled** booms by tightening capital or liquidity requirements for lenders or, as some economists have advocated, by raising the amount of collateral that borrowers have to put up.¹² In principle, this could be aimed at aggregate or sectoral credit conditions, and it could have a goal of making our banks more resilient. It would need to be pursued by executive agencies under clear mandates from legislators, and it would benefit greatly from transparency. A painful lesson for the Bank of England is that our warnings of “underpriced risk” and system-wide fragilities in our Financial Stability Reports were perhaps admired by some but made no difference. And, alongside our domestic and international peers, we are not in this for plaudits! People – the markets, firms, households – take notice of our Inflation Report, MPC minutes and speeches on monetary policy not, essentially, because they might sometimes be interesting or well done, but for the simple reason that the MPC is the body that sets sterling interest rates in the real world. If the authorities were able to deploy credible macroprudential tools, their stability warnings would probably be taken more seriously in future, because they would be able to follow up words with actions.

Monetary policymakers would need to be attentive to the use of such instruments, as they would affect credit conditions. Such instruments would also help to underpin the consensus that monetary policy should focus on the path of nominal demand at the aggregate level, with macroprudential policy seeking to address over exuberance in particular sectors or in credit markets generally and the resilience of the banking system.

Slow moving threats to stability: a continuing challenge

If the authorities could make a regime along those lines work in practice, we would reduce one threat to stability: out-of-control credit booms that undermine the stability of the financial system and so jeopardise the supply of credit that lubricates economic activity. I do think that we should direct some of our energies to that, alongside making the financial system more resilient in case, as is inevitable, “credit boom and bust” cannot be eliminated.

But I should flag that this would not wave away all potential threats to stability. A lesson of this (and past) crises is that cumulative imbalances in the domestic and global economy

¹¹ Blanchard O, G Dell’Ariccia and P Mauro (2010), “Rethinking Macroeconomic Policy”, IMF Staff Position Note, SPN/10/03, February 12, 2010.

¹² A point made in conversation by, for example, Anil Kashyap.

eventually come home to roost. That would surely have been so on this occasion even if our banking systems had proved more resilient.

A great challenge for monetary policymakers everywhere is that external and internal imbalances typically grow slowly, and that the timing and manner of their unravelling is highly uncertain. In setting a course for nominal demand, we are usually trying to stabilise inflation in line with our target over a horizon of 2–3 years. Of course we care about longer horizons. As a number of us have argued over the years,¹³ that is nicely captured by approximating our objective with a so-called quadratic loss function that gives weight to deviations of inflation from target and deviations of the level of output from its sustainable course. In that set up, the policymaker cares about **future** volatility (or uncertainty) about the inflation rate and the “output gap”. Sizeable imbalances create precisely that uncertainty, threaten precisely such volatility.

All very useful as an abstract framework for thinking about policy. The trouble is that there is not a policymaker anywhere who has much of a clue about how to operationalise it in actual interest rate decisions. This matters because not all imbalances are associated with credit booms that pose a threat to financial stability. The development of a set of macroprudential tools would not be sufficient to insulate our economies from imbalances. But I do believe that it is necessary.

Governments as insurers against aggregate instability: the importance of government balance sheets

The Bank has said before and we shall carry on saying that no set of measures introduced by national and international authorities – whether by way of regulation, resolution, or the structure of the financial system; whether leaning against the wind; or all in combination – is **certain** to prove sufficient to **guarantee** macroeconomic stability in the decades ahead.

The final protection against economic collapse comes from governments – at the expense of their needing to take care about creating incentives for the private sector to take large risks. We have seen that amply demonstrated in this crisis. But, if society wishes, their role as catastrophe insurer can go beyond financial crises; governments can help smooth the adjustment of the economy in the face of any kind of disaster. They do so essentially by accumulating debt and so spreading the burden to future years, future generations.

The extent to which they can do so depends on the **starting position** of their own balance sheets – in other words, their levels of debt relative to their tax-generating capacity, proxied by GDP, before crisis hit. And that means the strength of their balance sheets when a crisis erupts and also **prospectively** looking forward, so taking account of ageing populations etc.

We are familiar with this from that part of our history when we regularly found ourselves at war. Spending, and so government debt to GDP, would balloon. But it would gradually be brought back to low levels, so that we were equipped for the next war. A big question in the modern world is what **level** of government debt/GDP would be needed by countries in economic peacetime if societies wished them to be able to offset economic disasters.

The immediate focus is on addressing “structural” budget deficits, with a view to stabilising debt/GDP. But there will be longer-term choices about the level of the debt itself. Those are choices for decades rather than for a Parliament. And they are not choices for central bankers. But I would say this from my own vantage point. The higher the steady-state level of debt society chooses, the more resilient our financial system would need to be.

¹³ For example, see Bean C R (2009), “Some Lessons for Monetary Policy from the Recent Financial Turmoil”, remarks at Conference on *Globalisation, Inflation and Monetary Policy*, Istanbul, 22 November, 2009 and Tucker P M W (2006), “Reflections on operating inflation targeting”, at the Graduate School of Business, University of Chicago, 25 May, 2006, pp. 4.

Conclusion

The title I was given for my remarks today was “Inflation, growth and stability: balancing the Bank of England’s economic priorities”.

Our priority as central bankers remains the same: stability.

Price stability, as encapsulated in our inflation target, is a necessary precondition for sustainable growth in output and for maintaining “full employment”. That is no less true today than before the current downturn.

Indeed, it is the credibility of our commitment to price stability that has enabled the Bank to cut interest rates and to inject money so aggressively in order to support nominal demand in the wake of the credit crisis. If, as in the bad old days, the monetary authority lacked credibility, I believe that the stimulus would have had to be smaller and the downturn would, in consequence, have been greater. That underlines the risks of tinkering with central bankers’ inflation targets, as some commentators have seemed to suggest.

When, unusually, we face any kind of choice in the path of demand and activity **consistent** with maintaining price stability, we obviously err towards the stronger path. As I have described, that is a factor today when some businesses have suspended but not yet scrapped capacity. In aggressively stimulating demand in order to absorb slack, we aim to keep inflation in line with the target over the medium term and also to reduce the extent to which the economy’s productive capacity is wasted. Due to the endogeneity of firms’ supply capacity, that is going to call for some difficult judgments in the quarters ahead about the evolution of slack in the economy and about pricing pressures.

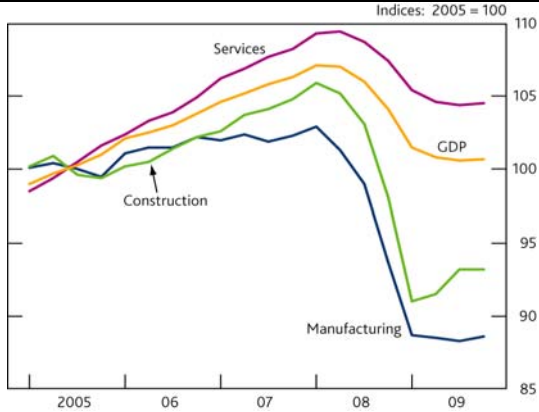
Another element of stability – in the financial system – is plainly necessary to maintain stability in demand, output and employment. As many researchers have shown, recessions associated with financial crises have tended to be longer and deeper.¹⁴ That is the backdrop to the debate on reforming the financial system. But it also makes the case for policymakers developing macroprudential instruments that could be used to lean against future credit booms and for making our financial system more resilient. If we could manage that, it might be the most significant extension in the overall international macro policy framework in a generation.

Price stability, financial stability and sustainable growth. They need each other.

¹⁴ For example, see Reinhart C M and K S Rogoff (2009), “The Aftermath of Financial Crises”, *American Economic Review: Papers and Proceedings* 2009, 99:2, 466–472 and Hoggarth G and V Saporta (2001) “Costs of banking instability: some empirical evidence”, *Bank of England Financial Stability Review*, Issue 10, June.

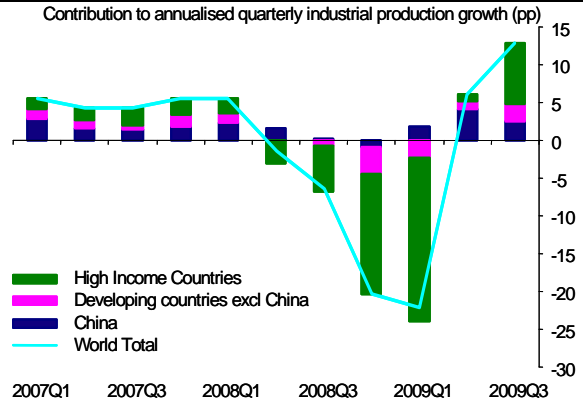
Charts

Chart 1: UK GDP and sectoral output^(a)



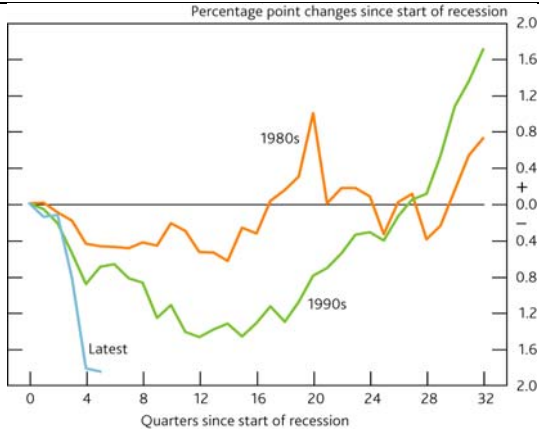
(a) Chained-volume measures. GDP is at market prices. Indices of sectoral output are at basic prices.

Chart 2: World industrial production



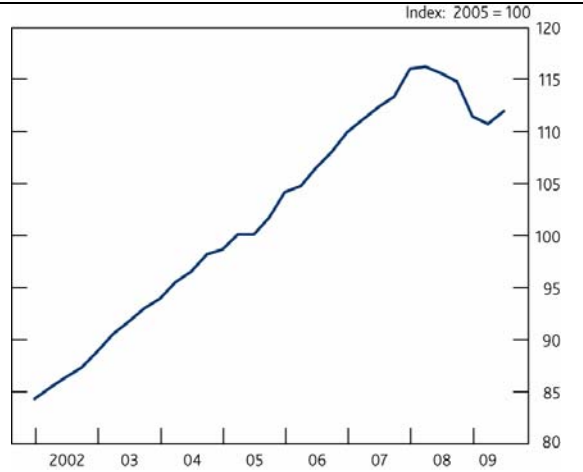
Source: World Bank

Chart 3: Business investment to GDP ratio^(a)



(a) Chained-volume measures. Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated using the latest data.

Chart 4: Nominal GDP



(a) At current market prices.

Chart 5: Projection of the level of GDP based on market interest rate expectations and £200bn asset purchases

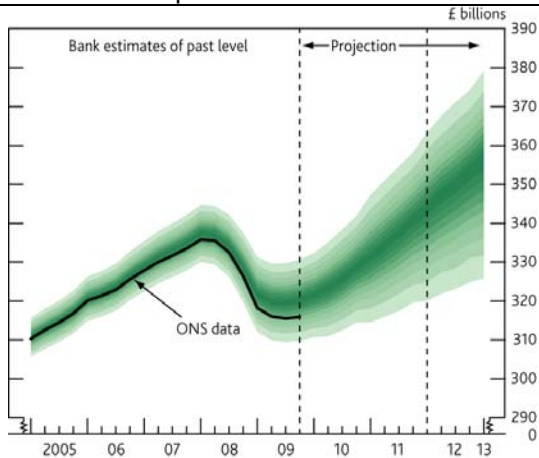
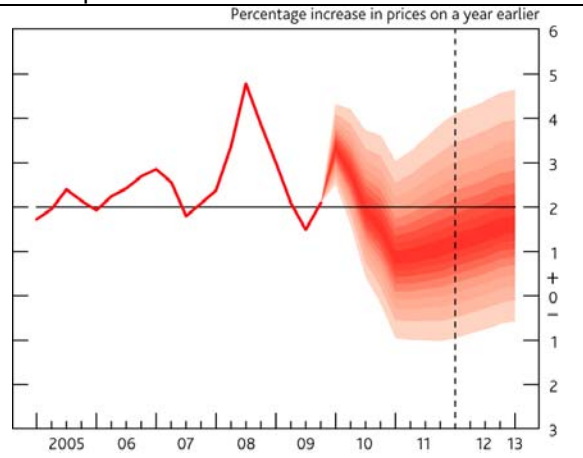


Chart 6: CPI inflation projection based on market interest rate projections and £200bn asset purchases




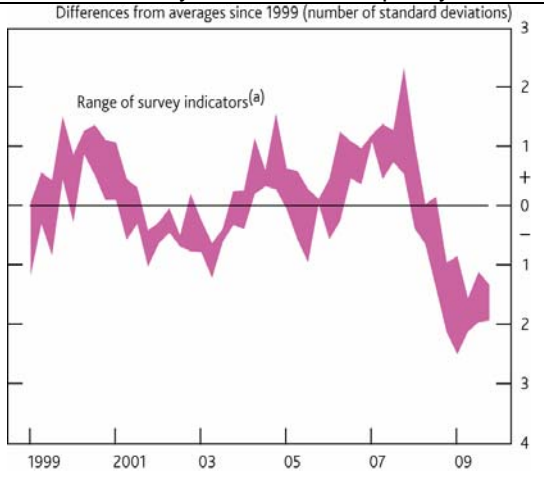
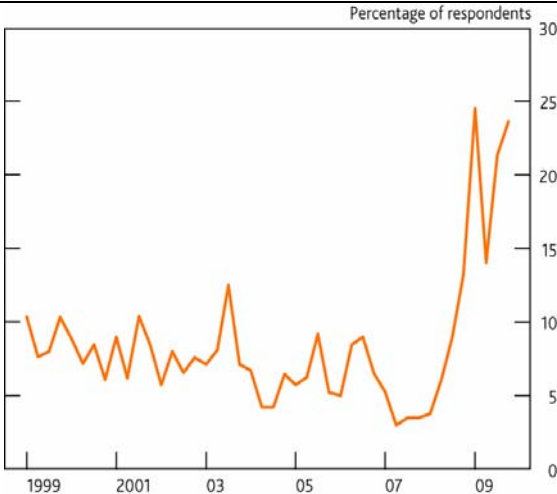
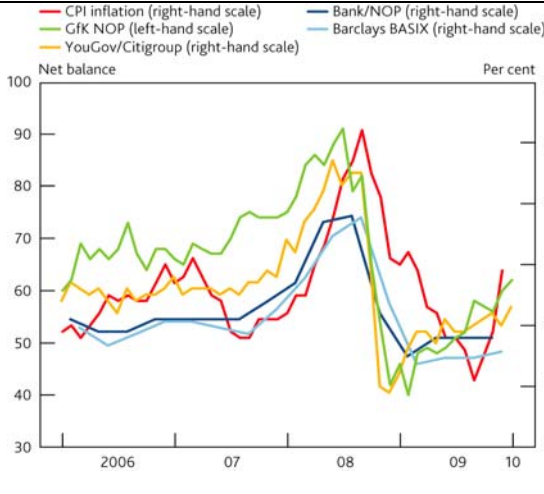
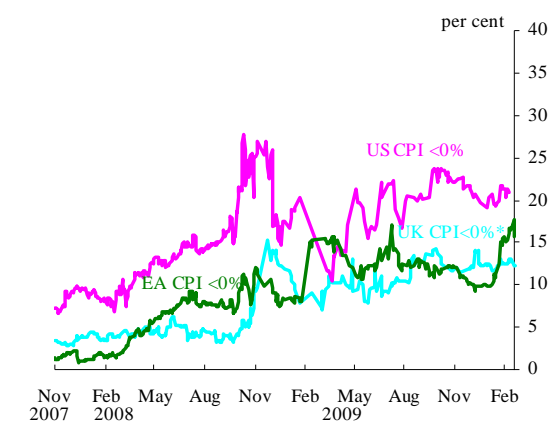
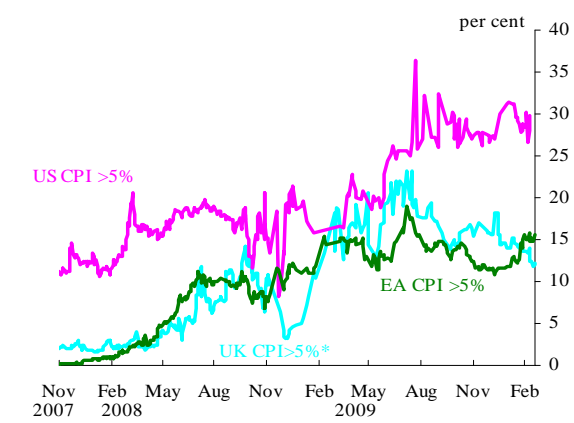
<p>Chart 7: Household saving ratio^(a)</p>  <p>(a) Percentage of household post-tax income.</p>	<p>Chart 8: Survey measures of capacity utilisation</p>  <p>Sources: Bank of England, BCC, CBI, CBI/PwC and ONS.</p> <p>(a) Three measures are produced by weighting together surveys from the Bank's regional Agents (manufacturing and services), the BCC (manufacturing and services) and the CBI (manufacturing, financial services, business/consumer services, distributive trades) using shares in nominal value added. The BCC data are non seasonally adjusted.</p>
<p>Chart 9: Credit and finance as a constraint on output^(a)</p>  <p>Sources: CBI and ONS.</p> <p>(a) This measure is produced by weighting together balances for the manufacturing sector and the consumer/business service sector using shares in nominal value added. Manufacturing companies are asked: 'What factors are likely to limit output over the next three months?'. Service sector companies are asked: 'What factors are likely to limit your ability to increase the level of business over the next twelve months?'.</p>	<p>Chart 10: CPI and households' inflation expectations for the year ahead, scaled to match CPI inflation^{(a)(b)}</p>  <p>Sources: Bank of England, Barclays Capital, Citigroup, GfK NOP, research carried out by GfK NOP on behalf of the European Commission, ONS and YouGov.</p> <p>(a) Survey-based measures (apart from GfK NOP) have been scaled to have the same mean as CPI inflation over a comparable period.</p> <p>(b) The questions ask about expected changes in prices over the next twelve months, but do not reference a specific price index. All measures are based on the median estimated price change, except GfK NOP which captures the weighted net balance expecting prices to increase.</p>

Chart 11a: Options-implied weight on falling consumer prices 5-7 years ahead



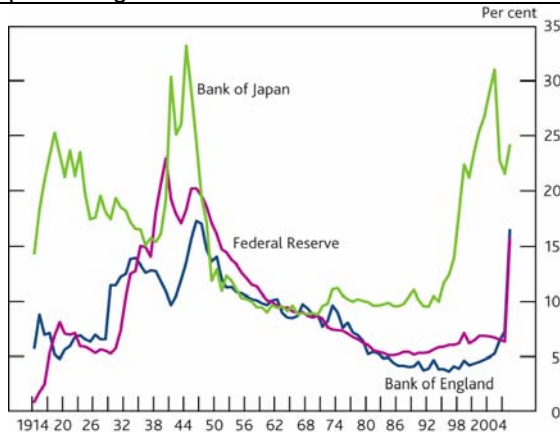
Sources: Bloomberg, RBS and Bank calculations

Chart 11b: Options-implied weight on inflation rising by more than 5%, 5-7 years ahead



Sources: Bloomberg, RBS and Bank calculations

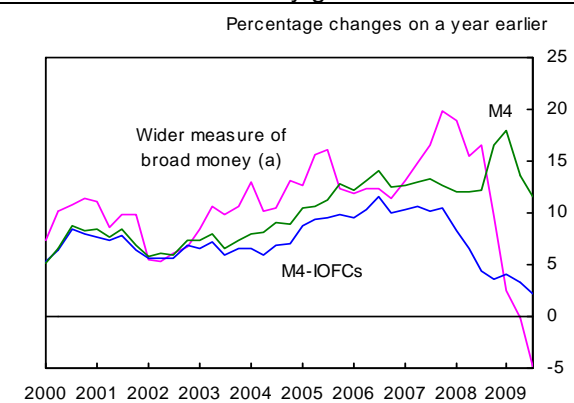
Chart 12: Central banks' balance sheets as a percentage of GDP^(a)



Sources: Bank of England, Bank of Japan, Federal Reserve, Thomson Datastream, www.measuringworth.org and Bank calculations.

(a) Bank of England balance sheet data: end-February 1914–66, end-year 1967–2008. UK GDP: annual data (nominal). Federal Reserve balance sheet data: end-year 1914–81, end-July 1982–95, end-year 1996–2008. US GDP: annual data (nominal). Bank of Japan balance sheet data: end-year. Japan GDP: annual data (nominal). Between 1914–51 National Income is used as a proxy for Japan's GDP. The National Income data point for 1945 is unavailable and estimated by the average of the 1944 and 1946 data points.

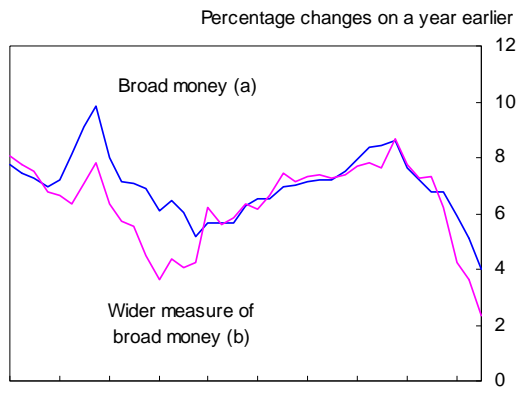
Chart 13: UK M4 money growth compared to wider measure of money growth^(a)



Source: Bank of England.

(a) Wider measure of UK broad money is M4 plus: resident foreign currency deposits; cross-border sterling and foreign currency deposits by non-banks; and local government deposits.

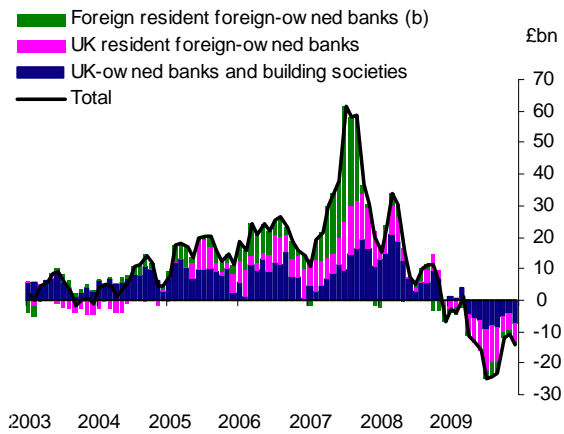
Chart 14: World money growth^(a)



Sources: Bank of England, Bank of Japan, Board of Governors of the Federal Reserve and ECB.

(a) Global broad money comprises: UK (M4), US (M2), euro area (M3) and Japan (M2).
 (b) Wider measure of global broad money also includes (if not already in the standard measure): resident foreign currency deposits; cross-border local and foreign currency deposits by non-banks; and local government deposits.

Chart 15: Lending to UK PNFCs by domestic and foreign lenders^{(a)(b)}



Sources: Bank of England and Dealogic.

(a) Rolling three-month flows.
 (b) Estimated using data on syndicated lending flows.