



BANK OF ENGLAND

# Speech

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## **Monetary policy in a changing economy**

Speech given by

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At Bloomberg, London

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I would like to thank Marilyn Tolle and Evan Wohlmann for their help in preparing this speech. The views expressed are my own and do not necessarily reflect those of the other members of the Monetary Policy Committee.

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## Introduction

One of the most useful pieces of advice I received on taking up my seat on the MPC last autumn was not to rush into my first external speech. It is a good advice, particularly in the current climate, so this is my first opportunity to reflect on some of the current challenges facing the MPC. I'd like to thank Bloomberg for hosting this event today.

A number of people have mentioned to me that this is my first opportunity to clarify whether I am a hawk or a dove, and where I sit on the committee relative to my predecessor, Adam Posen, and other previous External Members. Let's get this out of the way at the outset. I don't find such labels very helpful, particularly given the current complexity of the judgements faced by members of the MPC. If they ever did, such labels do not now represent a good predictor of how individual members view the economy, and even less about how they might vote in each meeting. One of the key legacies of the crisis is that some of the fundamental relationships that define the UK economy appear to be in a state of flux. Judging how these relationships are changing, whether such change is temporary or permanent, cyclical or structural, and whether these new relationships are stable through time, is particularly critical to policy-making at present, and does not lend itself easily to two-dimensional policy labelling. In this speech, therefore, I want to look at a number of the most critical, and most difficult, issues of judgement facing the MPC, to demonstrate the complexities of current policy decision-making.

## The changing nature of the labour market

For the UK economy, perhaps the most unusual feature of this cycle has been the behaviour of the labour market. The resilience – even the strength – of employment in the face of sluggish output continues to be puzzling. Relative to previous recessions, employment has not fallen as much as we might have expected given the size of the fall in output (**Chart 1**). This has translated into a very unusual pattern of measured productivity relative to previous cycles. Output per head remains below its level just before the crisis, while by this stage of the recovery, it had picked up markedly following the recessions of the 1980s and 1990s (**Chart 2**).

A number of explanations have been advanced to explain this weakness in productivity. Initially, many felt that it could be simple error in data measurement, though, given the size of the productivity shortfall, the error in measurement would have to be very large indeed.

My colleagues have put forward other hypotheses, including: forbearance on the part of banks and the low interest rate environment keeping unproductive firms alive; sectoral changes as the economy moves towards

new drivers of growth; stresses in the banking sector impairing the efficient allocation of capital,<sup>1</sup> and firms faced with uncertainty choosing to substitute labour for capital.<sup>2</sup>

All of these hypotheses are plausible, and certainly not mutually exclusive, and are likely to contribute to the shortfall evident in the data. But there is a further explanation of at least part of the puzzle I'd like to focus on – relating to changes in the way companies manage their labour force, and thus operate in times of sluggish demand for their products.

Let us look first at the employment decisions – the hiring and firing that underlie changes in total employment – that have occurred through the crisis. There are two distinct periods – during 2008 and 2009, at the height of the crisis, and more recently, as output has stagnated. During the crisis, outflows from employment (firing) rose by much less than they did during the early 1980s and 1990s recessions, even though the recent fall in GDP was more marked (**Chart 3**). Since 2010, flows out of employment have stabilised and even fallen. Both periods suggest that firms have been less willing to lose staff in the face of weak output than in previous cycles.<sup>3</sup>

Further support for the idea that firms have been reluctant to lose labour in the face of weak output comes from the fall in volatility of both employee numbers and hours worked with respect to GDP, relative to the 1990s recession. This is consistent with the idea that firms have been less willing to respond to fluctuations in output by adjusting their workforce (**Table 1**).

Why might this be the case? Economists call such behaviour labour hoarding – a rather derogatory term, but many conversations I have had with individual firms suggest that there are good reasons why employers might choose to behave in this way. Such behaviour is not the result of overburdensome labour market regulation (the normal bugbear of many employers). It is not that companies are not able, for regulatory reasons, to adjust the size and composition of their workforce. It is that they choose not to do so, for good commercial reasons.

There are many ways in which firms can improve their competitive position. For some, it is to invent and market new or innovative products. For others, it is to achieve differentiation through branding or perception of quality. But for many, indeed most, for whom these avenues are unavailable or difficult, it is to achieve productivity gain through process innovation, driving through incremental gains in the efficiency of the way the company operates. Increasingly this requires their employees to possess a high level of firm-specific skills – such as intensive knowledge of the individual procedures and processes used by the company and how they and their team contribute to the wider production process.

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<sup>1</sup> See “Productivity and the allocation of resources” by Ben Broadbent, speech given at Durham Business School, 12 September 2012.

<sup>2</sup> See “Monetary policy and the damaged economy” by David Miles, speech given at the Society of Business Economists Annual Conference, 24 May 2012.

<sup>3</sup> Since 2010, the strength of employment has also reflected a pickup of flows into employment (hiring). This may also reflect some aspects of “hoarding”, to the extent that companies are hiring to meet long-term objectives, independent of the level of short-term demand. However, recent movements in hiring rates have been more in line with those of the two previous recessions.

The growing importance of such firm-specific skills means that, even when faced with weak demand, firms are reluctant to lose experienced workers, as they are hard to replace, and their firm-specific skills take time to replicate. In that sense, the workforce is becoming less fungible.

Evidence that firms have been holding on to their employees for their company-specific skills comes from a survey by the Chartered Institute of Personnel and Development, which found that in the 12 months to June 2012, roughly a third of private-sector companies maintained staff levels higher than required for the current level of their output or service delivery. The single most important reason cited for hoarding labour was skill retention (**Chart 4**). And intelligence from the Bank's Agents confirms that business & professional services firms had learnt from their mistakes of the 1990s when aggressive shedding of labour resulted in an age cohort and skills gap lasting for many years thereafter.

It is important to be clear what happens in practice under such labour hoarding. It is not that employees are sitting idle but rather that they are working less intensively (a few more minutes at the coffee machine), or that more of their time is taken up with activities that may provide longer-term benefit, but which does not have a direct impact on the firm's immediate measured output.

A number of objections to such a hypothesis might be raised:

First, if a firm were profit-maximising, surely it would still not choose to hoard labour, particularly over an extended period of weak demand? But even if firms sought to maximise profits in the long run, there is plenty of evidence to suggest that this is not necessarily true in the short run. There are numerous examples of firm behaviour which may seem at odds with profit maximisation in the short run: some firms pursue a goal of growing market share at the expense of short term profits or spend funds to buy back shares in order to boost their share price.

Second, even if not profit maximisers in the short run, firms need to be financially sound if they are to hold on to a workforce greater than their immediate needs. Why is their financial position better in this cycle than previously, allowing them to be more flexible in the management of their labour force? I think that there are at least four factors.

- 1) Greater real wage flexibility. One of the characteristics of this cycle has been the greater flexibility in wages. As output and productivity have fallen, workers have priced themselves into their jobs, as low nominal wage increases have allowed real wages to adjust downwards.<sup>4</sup> Real product wages have

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<sup>4</sup> This is also mentioned by Spencer Dale in his speech "Sticky inflation", December 2012.

moved closely in line with changes in productivity (**Chart 5**).<sup>5</sup> This greater wage flexibility is shown by the increase in the volatility of real wages with respect to employment since the 1990s (**Table 1**).

- 2) More prudent financial management on the part of companies allowed them to weather the crisis and hold on to their staff. The median cash ratio of large UK listed non-financial corporations, a measure of company liquidity, rose markedly in the run-up to the financial crisis (**Chart 6**). Companies had sufficient liquidity buffers in place when the crisis hit, helping them to continue to meet their costs – including paying their workforce – in the face of slowing demand.
- 3) Bank forbearance on existing loans, together with the low level of Bank Rate, will have given companies more financial room. Liquidations have risen only slightly since the start of the recession, and much less than in the aftermath of the early 1990s downturn – even as the share of companies making a loss has picked up sharply (**Chart 7**).
- 4) Sterling depreciation. Following sterling's 25% depreciation, UK exporters have to a large extent priced-to-market – they have taken advantage of the depreciation to raise their sterling export prices. As a result, export prices have grown at the same rate as import prices throughout the crisis (**Chart 8**). But because imported inputs are only a fraction of total inputs, the increase in sterling export prices will have been greater than that of import prices, and that will have lifted exporters' margins.<sup>6</sup> This has provided a further financial cushion allowing firms to support employment.

If such labour retention is widespread, as is suggested by contact with companies, it would provide an explanation for a good part of the productivity puzzle we are currently grappling with. It would suggest that much of the productivity puzzle is a by-product – the “residual” – of companies' rational employment decisions. It would also suggest that the current productivity malaise is predominantly a cyclical, rather than a structural, problem, and that productivity performance will recover as and when demand and activity start to pick up. Finally, it would suggest that there is a good deal of “hidden” spare capacity in the economy, which, given its nature, is unlikely to be captured in the traditional measures of utilisation.<sup>7</sup>

That much of the current weakness in productivity is demand-driven, and therefore cyclical, seems more plausible to me than the alternative explanation that, outside the financial service sector, the crisis has delivered a shock to the economy representing a permanent hit to potential supply. Other than in the financial services sector, where certain pre-crisis activities are unlikely to be resumed, and in the oil and gas

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<sup>5</sup> When assessing labour costs from a company's perspective, wages should be compared with the value added in the production process, so wages should be deflated by the GDP deflator (real product wage).

<sup>6</sup> For importers, higher import costs reduce profit margins, which have been cushioned by rising consumer prices of imported goods.

<sup>7</sup> Surveys of capacity utilisation, which ask companies whether they are operating at or above “normal” capacity, have reported that there is little spare capacity. However, there are two reasons for doubting whether they are providing the full picture. First, answering practices suggest that as output levels change, companies adjust their response to the lower “new normal” levels, which could still be increased relatively quickly if demand recovered. Second, such slack capacity is manifest in terms of the intensity of work amongst the labour force, which is unlikely to be fully captured by such survey questions.

sector, where the gradual decline in North Sea output may well erode underlying productivity,<sup>8</sup> I see little evidence to suggest that our long-run productive capacity has so far been eroded to any meaningful extent. The rise of long-term unemployment has been muted relative to previous recessions, suggesting that any increase in structural unemployment has been small; and company bankruptcy rates have been low (**Chart 7**), which points to low rates of capital destruction.

If this interpretation of labour market developments is correct, then the UK economy is one in which productivity is becoming much more cyclical, and is increasingly acting, along with company profits, as the “residual”, or shock absorber, rather than employment. In this regard, the recent UK experience has been less like that in the US and more like that of other European countries such as Germany, the Netherlands and parts of Scandinavia, which have also avoided a labour market shakeout.

### **Implications for policy**

One intuitive policy conclusion from this analysis might be that the MPC should provide even more policy stimulus. Demand could be driven higher, but with productivity recovering, the implications for inflation would be minimal. Unfortunately, I do not see it as that simple, for two reasons. In the present environment, it is not clear to me, first, that current monetary policy instruments can easily generate a substantial increase in demand, and second, that such demand stimulus would have no inflationary consequences, even as productivity began to recover.

Let us look at each of these complications in turn.

#### ***The efficiency of a further monetary stimulus***

For “unorthodox” monetary policy, the nature and timing of the transmission mechanism, and hence the impact on the real economy, are still much less understood than those for movements in Bank Rate. But there are good reasons to think that the impact of Quantitative Easing (QE) on both financial markets and the broader economy varies significantly under different economic conditions, adding further complexity to the policy decision at the current juncture.

Let me explain what I mean by this state-contingent nature of policy by briefly reviewing the channels through which QE works, and how the impact of further QE today might differ from when we first started asset purchases in 2009.

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<sup>8</sup> As a highly capital-intensive sector, falls in output in the UK oil and gas sector (as North Sea production wanes) are unlikely to be accompanied by equivalent falls in employment, thus lowering measured productivity in the sector.

### *Impact on financial markets*

Broadly speaking, QE works through four main channels: confidence, signalling, liquidity and portfolio rebalancing.<sup>9</sup>

Let me tackle the **confidence channel** first. Most likely, this was at its strongest when the Bank first began asset purchases. The novelty of the instrument and the MPC's readiness to act quickly to loosen policy further at a time of ultra-low interest rates no doubt acted to lift "animal spirits". This effect has probably become weaker as QE has become part of the policy landscape.

The other three channels work through asset prices.

QE provides news to financial markets about the likely path of future interest rates. As gilt yields, both current and in the forward markets, are now close to historical lows, the marginal information we are able to convey through this **signalling channel** is likely to have become weaker (**Chart 9**).

The **liquidity channel** is also likely to have become weaker as market functioning has greatly improved since the start of the financial crisis (**Chart 10**). There is now considerably less scope for the conduct of asset purchases to increase liquidity and reduce investors' illiquidity premia.<sup>10</sup>

I am more sanguine about the effectiveness of the **portfolio rebalancing channel**. By reducing the supply of gilts outstanding, we encourage investors (pension funds, insurance companies) to rebalance their portfolios into higher-yielding, riskier assets, thus lowering companies' borrowing costs and raising net worth.<sup>11</sup> These portfolio balance effects are likely to depend on the degree of uncertainty about the potential return from the risky assets. Since measures of uncertainty in corporate bond and equity markets are now lower than when we started QE (**Chart 11**), this could make investors more willing to hold risky assets, making the impact on rebalancing from the current stock of asset purchases at least as strong as in earlier episodes.

### *Impact on the real economy*

But what of the impact of further QE on the real economy?

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<sup>9</sup> A series of potential transmission channels for QE was identified in the 2011Q3 Quarterly Bulletin article "The United Kingdom's quantitative easing policy: design, operation and impact" by M Joyce, M Tong and R Woods. For simplicity, this discussion considers only those deemed most effective.

<sup>10</sup> One must not conflate the extraordinary provision of liquidity which is part of a central bank's lender-of-last-resort function with gilt purchases, which are part of monetary policy operations. At the height of the crisis, the Bank was providing direct liquidity support to banks and the non-bank private sector, which would have also helped to reduce liquidity premia.

<sup>11</sup> The portfolio rebalance channel can also have an impact if investors choose to rebalance into foreign assets. The subsequent depreciation of the exchange rate supports the international competitiveness of the UK economy.

For the corporate sector, the ability of a central bank to boost investment by reducing the cost of capital is dependent on companies' willingness to invest. In recent years, the fall in the cost of credit has led to a significant rise in the issuance of corporate long term debt, but the recent Deloitte's survey of UK large company CFOs suggests that companies have yet to increase their intentions to invest (**Chart 12**). So far, in response to the fall in long-term yields, companies appear to have used such finance more to restructure their balance sheets by repaying relatively expensive short-term debt, with little immediate impact on new investment.<sup>12</sup>

For households, faced with heightened uncertainty about the future, monetary stimulus may have only a limited influence in bringing forward expenditure. Consumers may prefer to reduce debt or increase precautionary savings. Since the crisis, the household savings ratio has been persistently higher than pre-crisis levels (**Chart 13**).

The state-contingent nature of QE, and the implied limitations for monetary policy in stimulating demand when uncertainty is high and animal spirits are low can be summarised using the familiar Keynesian IS-LM framework.

Under normal conditions, a monetary policy stimulus will shift the LM curve to the right, pushing down on the equilibrium interest rate and boosting output. In this case, the central bank has successfully encouraged companies to invest more and households to save less, represented by the downward move along the IS curve (**Chart 14**).

But when private agents are less sensitive to changes in the price of money, the IS curve becomes steeper, so monetary easing becomes less effective as a means to stimulate the real economy (**Chart 15**).

With the IS curve currently likely to be significantly steeper than normal, and the strength of individual financial market transmission channels under question, the ability of QE to easily stimulate additional demand in the current climate is less clear than for earlier episodes. That does not mean that the scope for monetary easing to boost demand has been exhausted. QE still works, but it is important to consider carefully the timing of further flows and to be mindful of when any further policy stimulus, which is not costless, would be likely to have the greatest impact.

It is also important to consider other forms of monetary easing, and whether they, in today's specific circumstances, might be more effective if needed. That is why I welcome the early signs that the Funding for Lending Scheme is generating some traction, particularly in the mortgage market, where it is more likely that there is pent-up demand.

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<sup>12</sup> This idea has also been discussed in the context of the US economy. See Stein, J (2012), "Evaluating Large-Scale Asset Purchases", speech given at the Brookings Institution, Washington DC, 11 October 2012.

## ***Inflation risks***

The second complication for our policy decisions, in the present environment, is the risks around the current level, and outlook for, inflation (**Chart 16**).

Given the sluggishness of the economy, and my view that productivity will pick up as demand recovers, why should we be concerned about inflation pressures?

I think that there is a risk that, as the economy recovers, companies will feel obliged to reward their staff for their forbearance of recent years and compensate them for the recent squeeze in living standards with more generous pay increases. I hear this frequently when talking with companies, and from the tone of the conversations, it is not clear that such wage increases would be purely limited to increases in productivity, and might well be more “generous” to make up for the experience of recent years.

What we can conclude is that the longer inflation remains elevated, and hence the greater the cumulative squeeze on real incomes, the greater the risk of such “generosity”.

And there are reasons to think that inflation may come back to the target only slowly over the next two years, thus influencing both the 2013 and 2014 rounds of wage settlement.

- The contribution of “administered” prices – those components of the CPI index that are determined less by market forces and more by administrative or regulatory decisions – is unusually high at present, and inflationary pressures from this sector are likely to persist. Higher university tuition fees will add to inflation in each of the next three years, while on the face of it the recent increases in utility and rail prices, driven by regulatory and investment targets, will also remain a feature in coming years.
- The poor weather that drove up agricultural commodity prices over the second half of last year now appears to be affecting the prospects for the 2013 harvests too, at a time when stocks of grain and other agricultural products are low. There are therefore upside risks to domestic food prices in coming months.

Of course in the long run, inflation is a monetary phenomenon, and relative prices adjust to the monetary stance. But the upward pressures on both administered and food prices place a high burden of adjustment on other categories of the CPI basket, if, on average, prices in aggregate are to rise in line with the 2% target (**Chart 17**). To achieve this, on current projections, the prices of other components of inflation would need to rise over the next couple of years by no more than 1-1¼%, historically low for these components. As such, it is likely to take time for these other prices to make the necessary adjustment.

## Conclusion

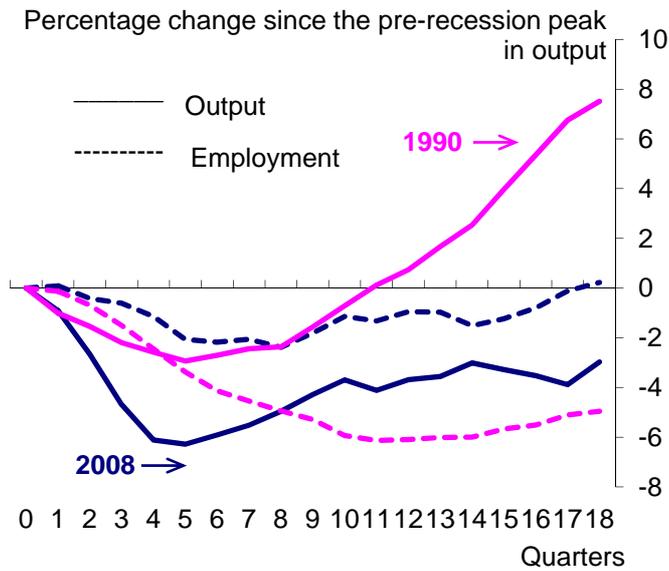
This morning, I hope that I have been able to set out my take on a number of the critical issues of judgement facing the MPC at present. We are no longer in the NICE decade that preceded the financial crisis,<sup>13</sup> and the UK economy is undergoing a period of fundamental rebalancing and adjustment. The crisis has changed the way that the economy works in ways that make the impact of monetary policy less obvious and decisions more challenging than before the crisis.

As a relatively new member of the Committee, wrestling with these judgements, I sometimes look back to the pre-crisis period with a certain wistfulness. Restoring the health of the economy after the shocks of recent years is a real challenge, but one I am looking forward to getting to grips with during my time as an External Member.

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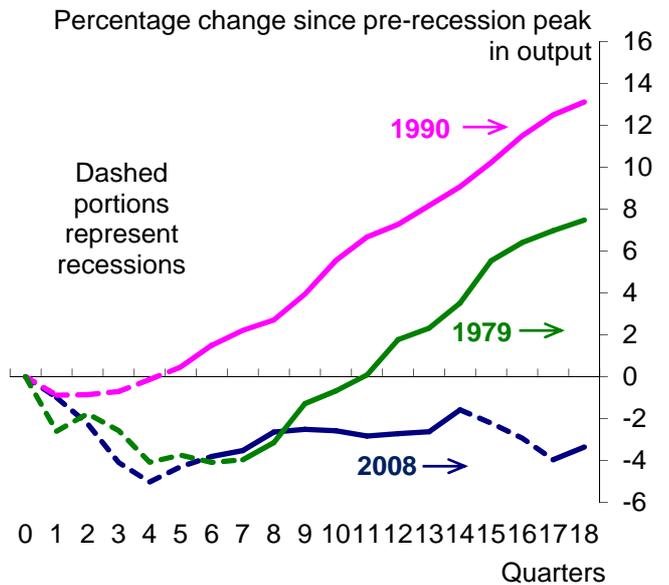
<sup>13</sup> The acronym NICE, which stands for Non-Inflationary Consistently Expansionary, was coined by Sir Mervyn King in his first speech as Bank of England Governor in October 2003.

**Chart 1: UK output and employment**



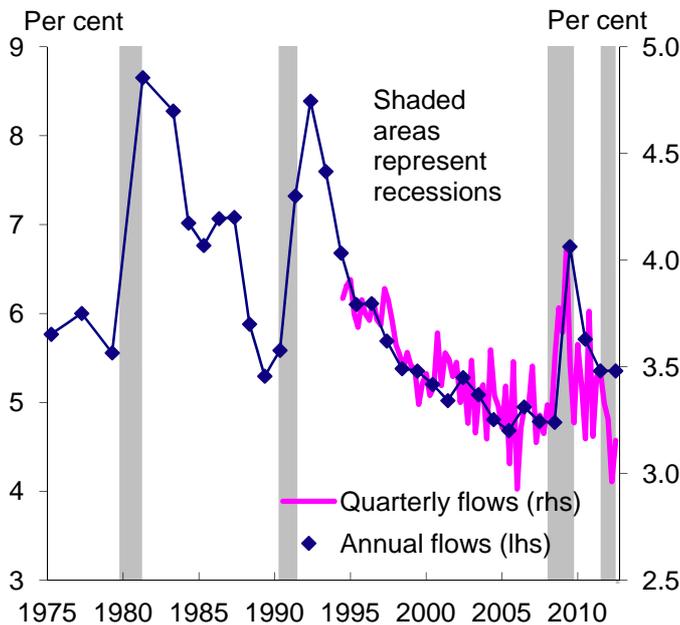
Source: ONS (including Labour Force Survey) and Bank calculations. The peaks in output were in 1990Q2 and 2008Q1

**Chart 2: UK output per head**



Source: Labour Force Survey (ONS) and Bank calculations. The peaks in output were in 1979Q4, 1990Q2 and 2008Q1.

**Chart 3: Outflow from employment**



Source: ONS (Labour Force Survey) and Bank calculations.

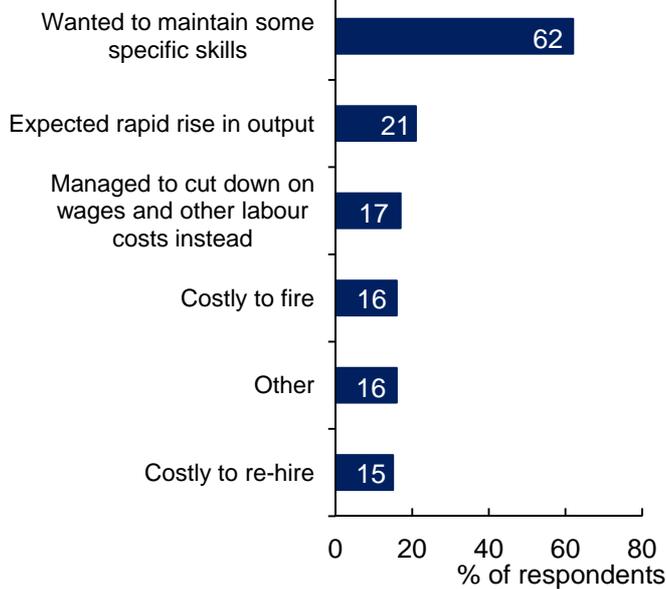
**Table 1: Volatility (standard deviation) of UK labour market variables**

	With respect to output	With respect to employment
	Employment / Output	Real Wage / Employment
1975 Q1 - 1993 Q4	0.84	0.97
<b>Post 1994</b>	<b>0.40</b>	<b>2.01</b>
	Average Hours / Output	Average Hours / Employment
1975 Q1 - 1993 Q4	0.40	0.47
<b>Post 1994</b>	<b>0.37</b>	<b>0.86</b>

Source: ONS (including Labour Force Survey) and Bank calculations. These statistics refer to the cyclical component of logged variables. All series were detrended using a standard Hodrik-Prescott filter with smoothing parameter 1600.

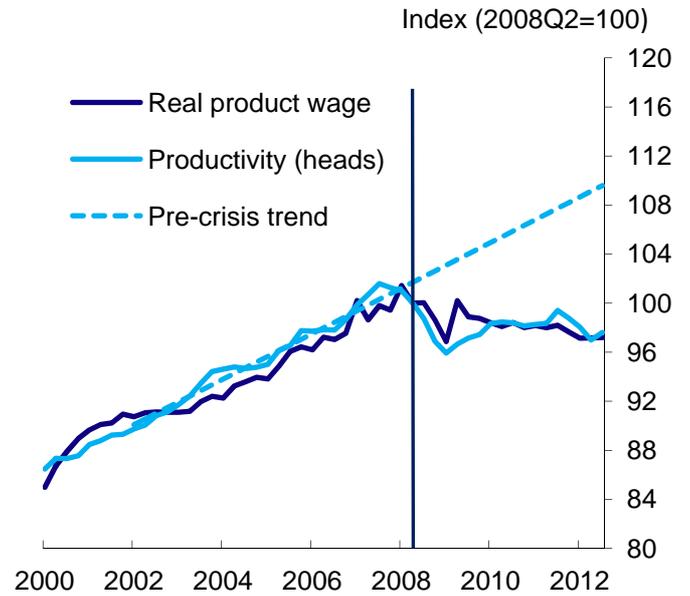
**Chart 4: Skill specificity and labour hoarding**

**Reasons for operating with staff levels higher than output/service delivery requires**



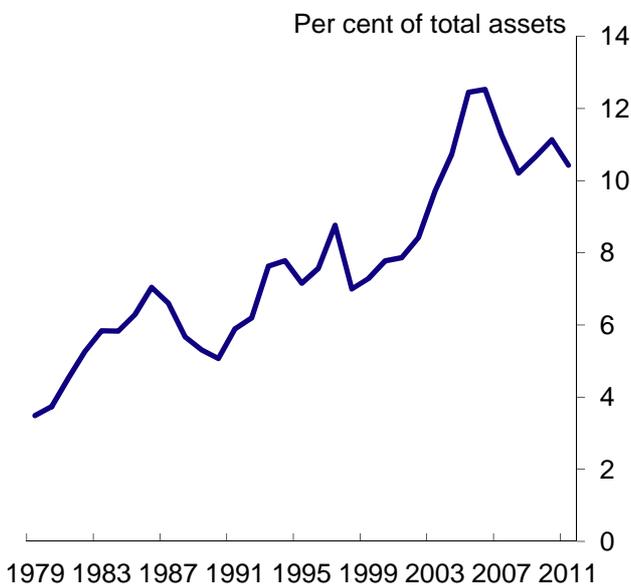
Source: Figure 9 in [Labour Market Outlook](#) (Summer 2012), Chartered Institute of Personnel and Development

**Chart 5: Whole economy real wage and productivity**



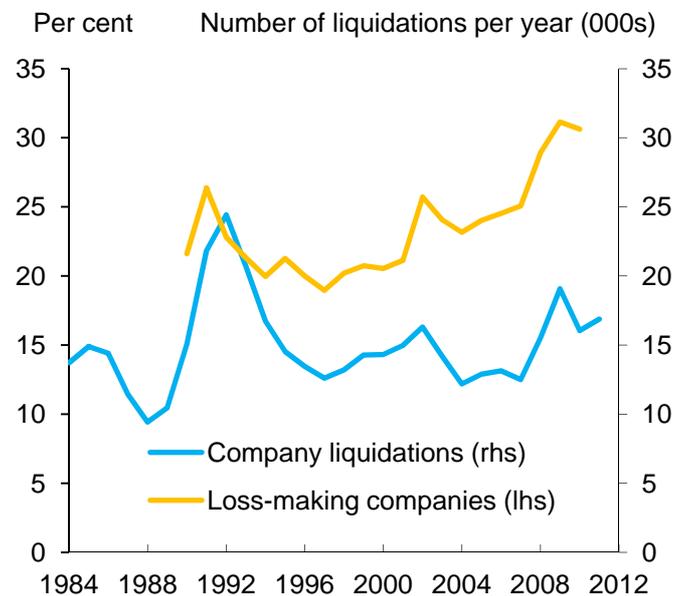
Source: ONS and Bank calculations. The real product wage is defined as Average Weekly Earnings divided by the GDP deflator. The pre-crisis trend of productivity is calculated over 2002Q1- 2006 Q4.

**Chart 6: Median cash ratio for listed UK Private Non-Financial Corporations**



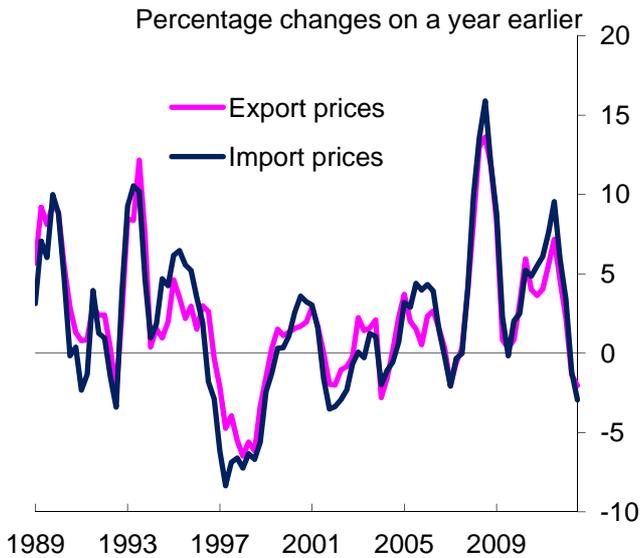
Source: DataStream and Bank calculations.

**Chart 7: Company liquidations in England and Wales and estimate of loss-making companies**



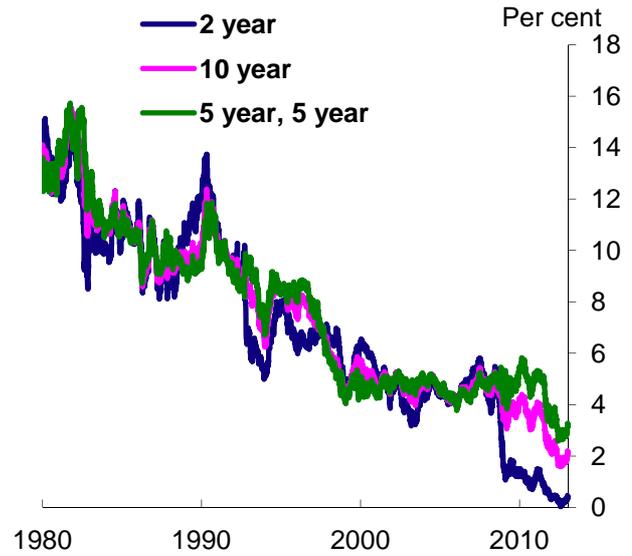
Source: Bureau van Dijk, The Insolvency Service and Bank calculations. See Chart 3.9 of the November *Inflation Report*.

**Chart 8: UK export and import prices**



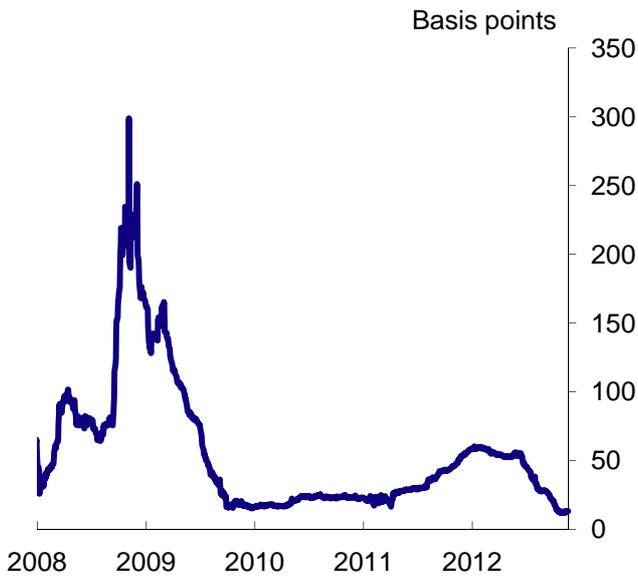
Source: ONS and Bank calculations.

**Chart 9: Spot and forward nominal gilt yields**



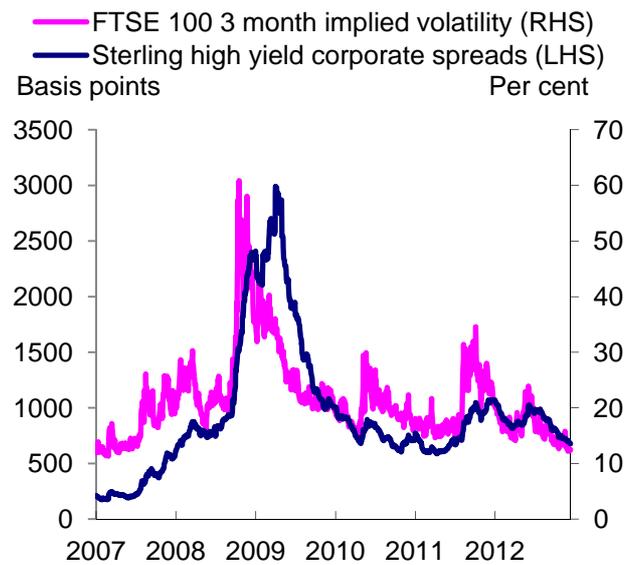
Source: Bloomberg and Bank calculations.

**Chart 10: The spread between Libor and OIS rates (3months, Sterling)**



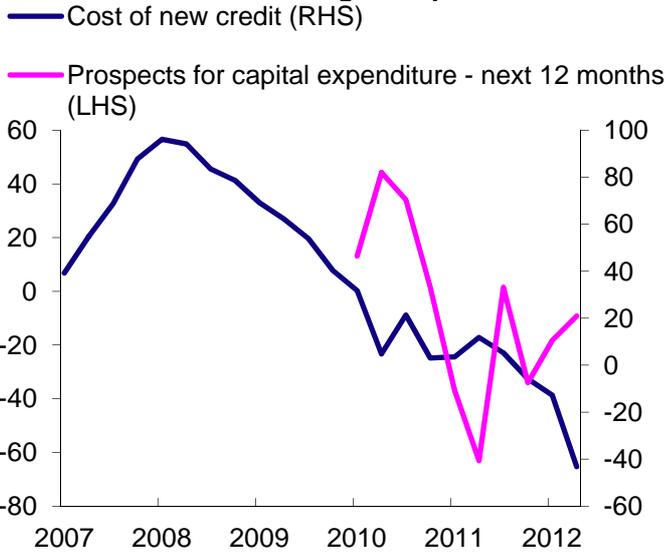
Source: Bloomberg and Bank calculations.

**Chart 11: Measures of uncertainty – FTSE implied volatility and Sterling high-yield bond spreads**



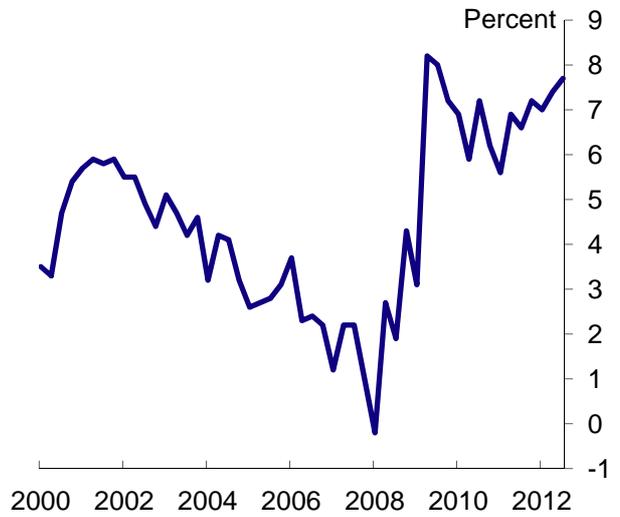
Source: Bank of America Merrill Lynch, Datastream and Bank calculations.

**Chart 12: Deloitte CFO Survey: cost of credit and investment intentions for large companies**



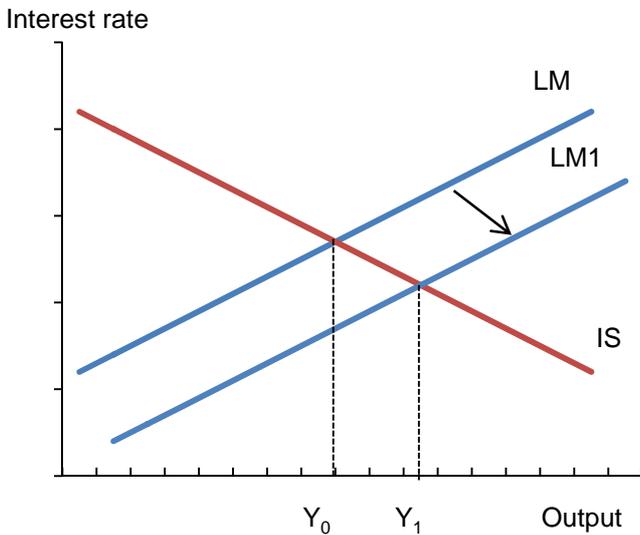
Source: Deloitte.  
 Note: Net percentage balance in answer to the following questions: "How would you rate the overall cost of new credit for corporates?" and "How is capital expenditure for UK corporates likely to change over the next 12 months?"

**Chart 13: Household savings ratio**

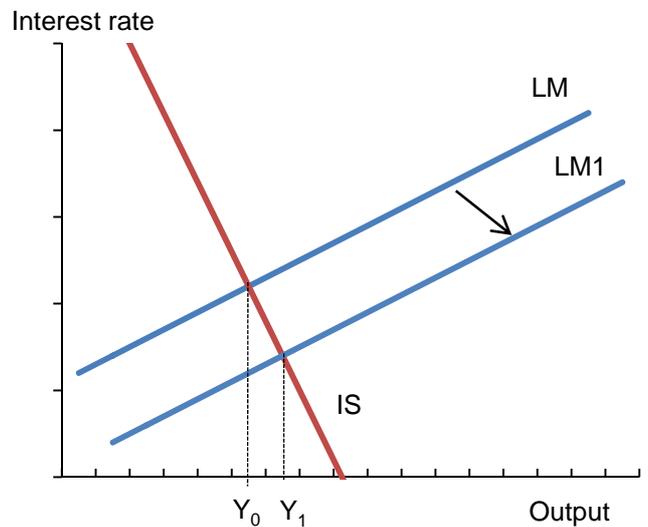


Source: ONS.

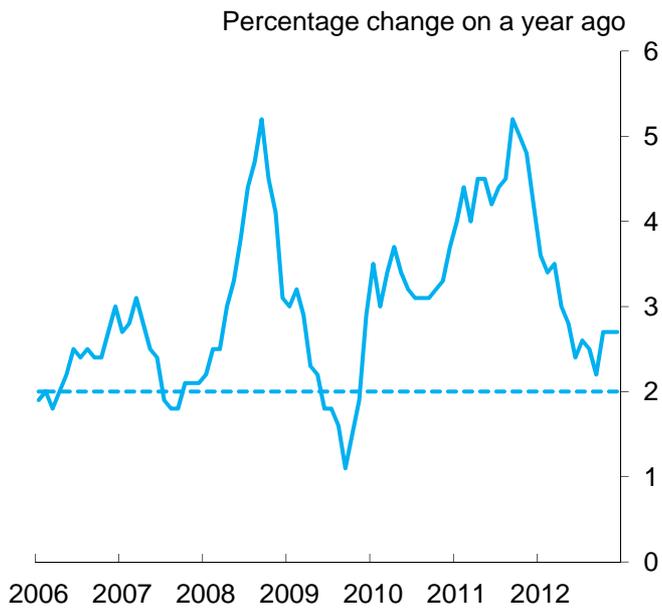
**Chart 14: Standard IS curve and monetary stimulus**



**Chart 15: Steep IS curve and monetary stimulus**

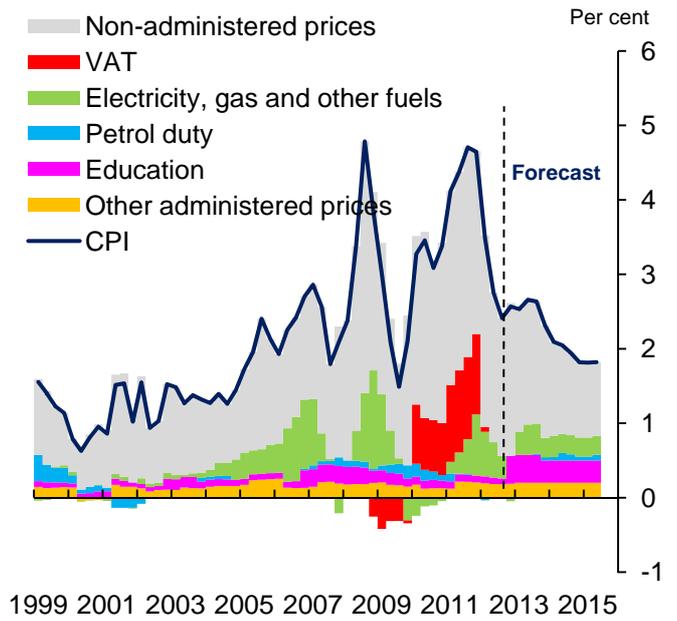


**Chart 16: CPI inflation and target**



Source: ONS.

**Chart 17: CPI and administered prices**



Source: ONS and Bank calculations.

The CPI inflation forecast is taken from the November *IR*. Contributions of administered prices to annual CPI inflation over the forecast are staff estimates and therefore uncertain.

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