



BANK OF ENGLAND

# Speech

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## **Inflation targeting and flexibility**

Speech given by

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## Introduction

Today I would like to share with you a few reflections on inflation targeting – why it has been the *raison d'être* of monetary policymakers at an increasing number of central banks over the past 20 years, and why it is important that it remains so.

I may not look it, but am old enough to have personal experience of the high and volatile inflation of the 1970s and 1980s and the damaging effects it had on the livelihoods of British households and businesses and the economy at large.<sup>1</sup> Indeed my colleagues on the Monetary Policy Committee (MPC) are old enough to remember those times too. We are part of what Mervyn King has referred to as the “inflation generation”.<sup>2</sup>

But anyone under the age of about 45 will not have an adult memory of high inflation. That is of course a good thing. It is proof that the inflation genie has been successfully kept in the bottle for quite some time. But it also means that there is a risk that the low and stable inflation of the past two decades is now being taken for granted. To quote one of my colleagues on the MPC, there is perhaps a creeping sense in some quarters that fighting inflation has become “yesterday’s war”.<sup>3</sup>

I think that would be a mistake. As we continue to tackle the legacies of the financial crisis and support the economy in its recovery from the deep recession that ensued, I believe it is important that we as a nation do not lose that understanding of the importance of low and stable inflation, which would leave us in danger of repeating the mistakes of the past.

## A short history of inflation targeting in the United Kingdom

Inflation targeting was introduced in the United Kingdom in October 1992, on the heels of the forced exit from the Exchange Rate Mechanism (ERM). The motivation for its adoption was two-fold.

First, by providing a nominal anchor, an explicit target for inflation can reduce the degree of uncertainty about future prices, making monetary policy more predictable. This helps shape inflation expectations and behaviour.

Second, for monetary policy to be effective, it needs to be credible. This requires policymakers to explain their understanding of economic developments and the significance in setting policy to deliver the inflation target. This was initially achieved through the publication of the *Inflation Report*, which started 20 years ago, and was further enhanced in 1997, when the government gave the Bank of England operational

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<sup>1</sup> For a review of the costs associated with anticipated and unanticipated inflation, see Briault, C (1995) “The costs of inflation”, Bank of England Quarterly Bulletin: February 1995.

<sup>2</sup> King, M (1997a), “Monetary stability: rhyme or reason?”, Bank of England Quarterly Bulletin: February 1997.

<sup>3</sup> See Dale, S (2013), “Inflation and growth: what role for monetary policy?”, speech given on 15 March.

responsibility for setting interest rates, thus freeing the conduct of monetary policy from political interference.<sup>4</sup>

**Chart 1** shows UK inflation and the associated monetary policy regimes in the aftermath of the Second World War. It is obvious from looking at this chart that the period that preceded and accompanied the use of money targets in the late 1970s and early 1980s – when I was starting out on my economics career – was associated with high and volatile inflation, while the adoption of inflation targets in the 1990s was followed by low and stable inflation – even including the turbulent period since the financial crisis.

Now of course correlation is not causation. And what the chart does not show is the nature of the shocks that buffeted the UK economy through the 1970s, in particular the rise in oil prices. But the high and volatile inflation of that period cannot be blamed solely on the oil price shocks. Inflation had already risen before the first oil shock occurred, averaging more than 7½% over 1970-1972. It then got out of hand pretty quickly. By late 1975, annual inflation had reached almost 27%, roughly 6½ times its average of 4% over the previous two decades. It fell back somewhat through the late-1970s, but by mid-1980, was again above 20%. It took another two years, until mid-1982, for inflation to return consistently to single-digit rates.

For the policymakers of that period, there was a case for looking through those oil price shocks as one-off increases in the price level, much as the MPC did in 2009 as the price of oil climbed to \$100pb. But without the credibility of an inflation-targeting regime in place, this simply amounted to letting inflation expectations rise. As such, it gave rise to dramatic “second-round effects” on wages and in turn prices – the well-known wage-price spiral. It subsequently took substantial losses in employment and output to rein in wage inflation and bring down expectations again.

The experience of the past 20 years could not have been more different. The current inflation targeting regime provides a credible framework for price stability, meaning that the shocks to energy and import prices have not generated second-round effects on wages and other prices. **Chart 2** shows that since the early 1990s and in contrast to the 1980s, there has been an inverse relationship between energy and import inflation on the one hand and domestic non-energy inflation on the other. This strongly suggests that, when inflation expectations are anchored, the response of domestic prices to cost shocks tends to be muted.

### **Credibility is the prerequisite for flexibility**

So the crucial difference between the 1970s and the experience of recent years is that, this time round, the commitment of policymakers to low and stable inflation was well-established before the cost shocks hit the economy. It is this inflation-fighting credibility that gives the MPC the flexibility to look through the short-term

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<sup>4</sup> The gain in credibility is evident in the fall of financial market-derived long-term inflation expectations upon the announcement of Bank of England independence and the creation of the MPC.

inflationary impact of such cost shocks without dislodging long-run inflation expectations. That is why the UK economy has been able, since 2008, to absorb the largest sterling depreciation since World War Two, the increases in indirect taxes, commodity prices and more recently government-regulated prices, and still experience average inflation of only 3.2%.

This contrast, between the 1970s and 1980s – prior to the introduction of inflation targeting – and the more recent experience, is not unique to the United Kingdom. In Australia and the United States, loose monetary policy, not backed by a credible framework for price stability, meant that inflation also spiralled out of control following the onset of the first oil price shock in 1973, reaching several multiples of averages over the previous decades (**Chart 3**). And, similarly, it was not until the mid-1980s that inflation in those countries fell back to single-digit rates.

More recent experience, based on inflationary episodes in a number of countries that have adopted inflation targeting, shows the importance of anchoring inflation expectations. In those episodes, inflation reached a peak level roughly twice as high as the upper threshold of the range targeted by the central bank within a year of the shock, and took on average about two years to fall back to within the target range.<sup>5</sup> However, short-term inflation expectations<sup>6</sup> rose by up to 2.5 percentage points (standardised) relative to their average before the inflationary episode, no more than the rise in inflation itself, and fell back by more than 1 percentage point within the second year of the episode (**Chart 4**).

The recent inflation dynamics in the United Kingdom have not been dissimilar. Inflation in this country has been persistently above the 2% target for the past three years, and over 3% for roughly two-thirds of that time – peaking at 5.2% in September 2011. And we expect that on balance it will remain above the 2% target until at least the end of next year.

Over that period, short-term inflation expectations have picked up in response to the shock – on a par with past cross-country experience, based on the same metric (**Chart 4**) – but they have shown little sign of becoming permanently de-anchored. In the latest data, measures of one-year-ahead inflation expectations stand on average only 0.5 percentage point above their pre-financial crisis averages (see Table). And although longer-term (two- and five-year ahead) survey measures of inflation expectations (highlighted in blue in the Table) have also risen slightly since their introduction in 2009, and relative to pre-2007 averages, those increases have been contained, especially at the five-year horizon.

But this must not lead us into complacency. Recent evidence derived from financial markets has been a little less encouraging. Longer run implied measures of expected inflation - five-to-ten years ahead - currently

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<sup>5</sup> The inflationary episodes are those of Australia (2000Q2-2001Q4), Brazil (2001Q2-2004Q1), Chile (2007Q3-2009Q1), Iceland (2005Q1-2007Q2 and 2007Q4-2010Q3) and South Africa (2007Q2-2009Q4).

<sup>6</sup> Survey measures of long-run inflation expectations are not available. Survey measures of household and business short-term inflation expectations are not available for Brazil.

stand about 0.5 percentage point above their average before the financial crisis (Table). And there is evidence that such longer-term market-derived inflation expectations have become more responsive to economic developments over the past year, in particular to news about consumer price inflation. A Quarterly Bulletin article published yesterday uses regression analysis to show that since May last year, instantaneous forward inflation rates between two and ten years have moved by more in response to inflation news than they did over the 2004-2007 period. This is illustrated by the shift from the navy blue to the pink diamonds in **Chart 5**.<sup>7</sup>

That greater sensitivity to short-term inflation news could suggest that expectations are becoming less anchored than they have been, and that markets perceive that the MPC has become more tolerant of inflation. This is certainly not the case, though it would be easy to see why some might think so, given the recent history - inflation having overshoot the target for the past three years and not expected to return to target for much of the next two. In this environment, I believe it is important to continue to be mindful of the need to keep expectations well-anchored when setting policy.

### **Flexible inflation targeting and the new mandate**

That recent combination of above-target inflation and depressed activity is possibly the worst such trade-off faced by the MPC in its 15-year history. Clearly such economic circumstances have made the conduct of monetary policy more challenging.

Our new mandate, which the Chancellor announced in March, clarifies the objectives of the MPC under such circumstances.<sup>8</sup> Those objectives, originally set out in the Bank of England Act (1998), are two-fold: to maintain price stability, defined as a target for annual consumer price inflation of 2%, and, subject to that, to support the government's objectives for growth and employment.<sup>9</sup>

In reaffirming the primacy of the inflation target, the Chancellor clearly recognises the damage that is done to longer-term output if inflation is allowed to run out of control. But, over-strict adherence to the inflation target can also be damaging for short-term output. So if keeping inflation in line with the target comes at the cost of undesirable volatility in output, the new mandate clarifies that the MPC is able to use its discretion to allow inflation to depart temporarily from the target, in order to provide a more stable path for output.<sup>10</sup> This has been referred to as flexible inflation targeting (FIT).

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<sup>7</sup> See Maule, B and A Pugh (2013), "Do inflation expectations currently pose a risk to the economy?", Bank of England Quarterly Bulletin 2013 Q2.

<sup>8</sup> See Remit for the Monetary Policy Committee, 20 March 2013.

<sup>9</sup> See [http://www.legislation.gov.uk/ukpga/1998/11/pdfs/ukpga\\_19980011\\_en.pdf](http://www.legislation.gov.uk/ukpga/1998/11/pdfs/ukpga_19980011_en.pdf), Part II, p.5.

<sup>10</sup> In addition to the recognition in previous remits that "...inflation will on occasion depart from its target as a result of shocks and disturbances. Attempts to keep inflation at the target in these circumstances may cause undesirable volatility in output.", the new remit specifies that "...the Committee may therefore wish to allow inflation to deviate from the target temporarily."

But what exactly do we mean by flexible inflation targeting? Under what circumstances is that flexibility beneficial for the economy? Is it a new element in the MPC's thinking? And how best to communicate with the public to make flexible inflation targeting even more effective? It is to these questions that I would now like to turn.

Of course, a flexible approach to targeting inflation is not new. Indeed it has always been a consideration in the inflation targeting framework in the United Kingdom. As far back as 1997, Mervyn King described those who focussed on the inflation target to the exclusion of everything else as "inflation nutters".<sup>11</sup>

It is also built into our remit. The remit defines price stability as a target for annual consumer price inflation of 2% "at all times".<sup>12</sup> I emphasise "at all times" because this is where the "F" in FIT is nested. It means that the MPC is not expected to achieve the target within a specified period of time, but over the medium term. Another way to put it is that the remit leaves undefined how quickly inflation should be returned to the target when unexpected shocks have taken it off course.<sup>13</sup> It is up to the MPC to make that judgement.

This gives us a degree of "constrained discretion"<sup>14</sup> – the discretion to decide how to respond to particular shocks and how rapidly to bring inflation back to the target, constrained by the requirement to return inflation to the target ultimately.

So if the remit says nothing about a specific time frame, why has the MPC focussed, in practice, on bringing inflation back to the target over a two-year horizon? The answer is that two years is roughly the amount of time it takes for changes in interest rates to work through the economy. So it makes sense to highlight the two-year point in our communications about monetary policy.

But over the years it seems that the notion of the two-year horizon has led commentators to an over-narrow interpretation of the remit – the idea that achieving the target *within the next two years* is the end-game of monetary policy. But, if taking longer to return inflation to the target ensures that the target is not missed at a later date, then that is entirely consistent with the remit.<sup>15</sup> Put differently, FIT does not necessarily mean hitting the target less frequently, but rather at different points in time, including outside the two-year window.

It was this logic that underlay our decision in February, when we chose to maintain the large amount of stimulus already in place in spite of our forecast that inflation was likely to exceed the target until well into 2015. We judged that removing it to bring inflation back to the target within two years would both risk derailing the recovery as well as risking undershooting the target further out.

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<sup>11</sup> See King, M (1997b), "Changes in UK Monetary Policy: Rules and Discretion in Practice," *Journal of Monetary Economics* 39: 81-97.

<sup>12</sup> For a list of the current and previous MPC remits, see <http://www.bankofengland.co.uk/monetarypolicy/Pages/remit.aspx>

<sup>13</sup> See Bean, C (1998), "The New UK Monetary Arrangements: A View from the Literature", *The Economic Journal*, 108 (November), 1795-1809.

<sup>14</sup> See King, M (1997c), "The Inflation Target Five Years On", speech given at the London School of Economics, 29 October.

<sup>15</sup> This assumes of course that inflation expectations remain anchored.

But it is important to note that our decision not to disrupt the recovery was not just a means of achieving the inflation target further out; it also addressed the other element of our remit: supporting the real economy. The new remit requires us to deliver price stability in the medium term, but in a way that avoids “undesirable” fluctuations in output in the short run – in this case plunging the UK economy into another recession. So the pace at which we return inflation to the target needs to be considered alongside the consequences for output and employment, and a balance struck.

Such examples of the flexibility afforded by the inflation targeting framework can be found throughout the history of the MPC,<sup>16</sup> and belie the early fears that it would rely overmuch on rules, responding to target misses by mechanically changing the policy rate.<sup>17</sup>

But relying on a simple rule would risk ignoring the source of the shocks to inflation, for an understanding of the nature of the shock and its implications for the economy is the cornerstone of a flexible approach to inflation targeting.

### **It's all about the nature of the shocks**

The decision to accommodate higher (or lower) inflation, or to adjust policy in response, crucially depends on the source and persistence of the specific shock to inflation.

There are two main types of shock. Demand shocks, such as an increase in household spending on the back of higher expected income, will cause output and inflation to rise together. This unambiguously calls for tighter policy and so poses no dilemma for the MPC. But there are other types of shock, supply or cost shocks, which make our life much more difficult because they move output and inflation in opposite directions, giving rise to a short-run “trade-off” between output and inflation. It is in these circumstances that the MPC has to exercise the greatest discretion: return inflation to the target quickly at the cost of swings in output or more slowly with less impact on output.

Since the financial crisis, the UK economy has seen a series of supply and cost shocks, which the MPC has been willing to accommodate to shore up the economy. Such shocks are also called price-level shocks, because their impact on the price level may be permanent, but, importantly, their effect on the rate of inflation is temporary.

A good example of a price-level shock is a rise in indirect taxes. The increase in VAT from 17.5% to 20% in 2011 added about one percentage point to inflation during most of 2011. But that contribution to inflation fell to zero in 2012, as the tax change dropped out of the annual comparison.

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<sup>16</sup> For example, see paragraph 27 of the Minutes of the MPC meeting held on 4 and 5 August 2004.

<sup>17</sup> See, for example, Woodford (2004).

Three other such shocks have also hit the UK in recent years:

- 1) Rising global energy prices in 2008 and again in 2010 and 2011. The direct contribution of these prices to inflation, both via petrol prices and domestic utility bills, was substantial over that period (**Chart 6**).
- 2) The 25% depreciation of sterling over 2007-2009 lifted sterling import prices (**Chart 7**) and added as much as between 2.5 to close to 4 percentage points to inflation by early 2010.<sup>18</sup>
- 3) The increase in administered and regulated prices, such as university tuition fees and network charges for domestic utilities, has contributed roughly one percentage point to inflation recently and will continue to do so in each of 2013 and 2014 (**Chart 8**).

While it might be obvious why we have chosen to accommodate the inflationary impact of rising administered prices – after all, they reflect regulatory decisions, and so are relatively insensitive to monetary policy – the question of how policy should respond to other supply-side shocks, such as the depreciation of sterling, is a more complex one.

As I argued in a previous speech,<sup>19</sup> to the extent that a fall in the currency reflects real factors, such as a need to rebalance the economy towards exports, it would not be sensible to prevent the real adjustment by tightening monetary policy. If, however, the weakness of sterling were to reflect concerns about the MPC's commitment to price stability, resulting in an increase in inflation expectations, then I strongly believe that the case for accommodation would be much weaker.

But, most critically, accommodating relative-price shocks is a suitable monetary policy response only if the first-round impact on headline inflation does not unhinge inflation expectations and lead to second-round inflationary changes in wages and prices.

In the United Kingdom in recent years, such second round effects have been remarkably absent. Nominal pay growth has been muted and profit margins have been squeezed. In fact the latest AWE data suggest a further weakening in recent months. The extent of that slowing has not been mirrored in pay surveys and settlements, but the Banks' Agents report that pay pressures remain very modest.<sup>20</sup>

### **The importance of communication and transparency**

That inflation expectations have remained anchored, and domestic underlying inflation remains modest is proof that our flexible approach to inflation targeting has not jeopardised our credibility. This is crucial for our

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<sup>18</sup> See Chart B in the February 2011 *IR* Box "Estimating the impact of VAT, energy prices and import prices on CPI inflation".

<sup>19</sup> McCafferty, I (2013), "The UK economy: the road ahead?", speech given at Women in Business, Coventry and Warwickshire Chamber of Commerce, 23 April.

<sup>20</sup> See Agents' summary of business conditions, May 2013.



ability to continue to achieve price stability in the future. We are well aware that a loss of credibility would effectively amount to a loss of flexibility.

So it is paramount for us to continue to ensure that inflation expectations do not drift up and feed through to wage and price-setting behaviour. That is why we need to continue to communicate clearly our resolve to hit the inflation target, and explain in some detail the reasons justifying temporary deviations from it.

The MPC has always put great onus on communication. As individuals, we share our personal views about the economy by delivering speeches and taking part in interviews, as well as giving evidence in front of Parliament. As a committee, we share our understanding of economic developments and inform the public of our policy deliberations through the monthly minutes of our policy meetings and the quarterly *Inflation Report*. And following the Stockton Review of our forecasting capability, further changes are in train to provide further detail on our thinking about the economic outlook and what that implies for monetary policy.

In this spirit, the new remit also calls for greater communication with the public, explicitly asking us to “...promote an understanding of the trade-offs inherent in setting monetary policy” – that is, how we combine the two parts of the mandate through flexible inflation targeting.

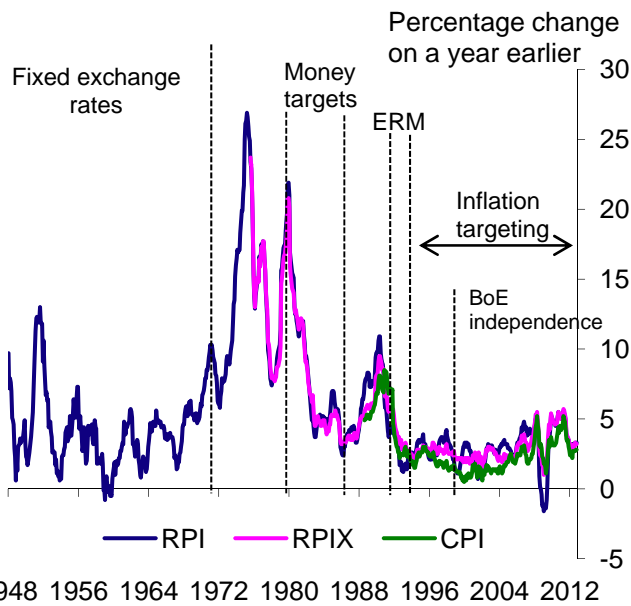
The past five years have been a stern test of the FIT approach. Since the financial crisis began, no less than 12 open letters have been written to the Chancellor to explain why inflation was more than one percentage point away from the target.<sup>21</sup> Yet domestic cost pressures have been muted and inflation expectations have remained anchored. Flexible inflation targeting has passed the test and proved its worth.

The MPC's new remit clarifies that flexible approach, but I think it also vindicates it. Yet it is important to stress that, as I said earlier, price stability remains the MPC's primary goal. The past twenty years have shown that the framework and the MPC's interpretation of it have been successful in containing inflation and overcoming the inflationary psychology of the 1970s and 1980s. But we still need to be vigilant. It is the MPC's successful track record of low and stable inflation in the decade that preceded the financial crisis that has given the public confidence in our commitment to price stability. We must not take it for granted.

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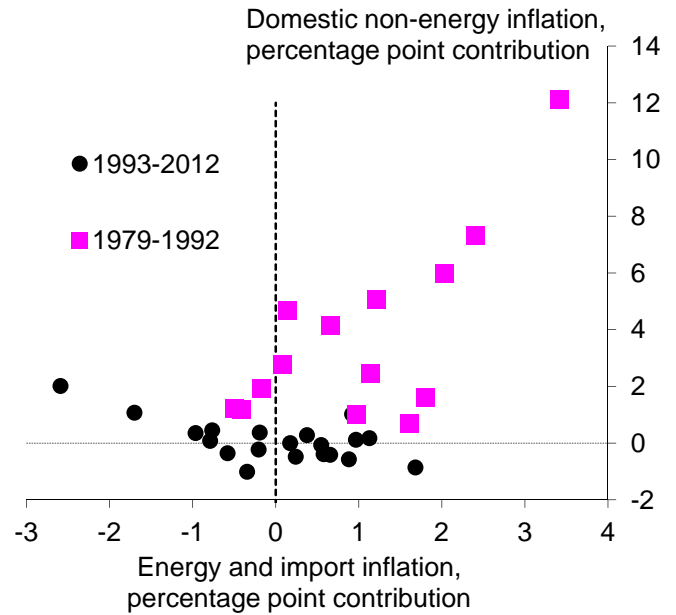
<sup>21</sup> It is remarkable in hindsight that the first such open letter was not written until April 2007, some ten years after the MPC was entrusted with operational independence. For a list of open letters, see <http://www.bankofengland.co.uk/monetarypolicy/Pages/inflation.aspx>.

**Chart 1: UK inflation and monetary regimes**



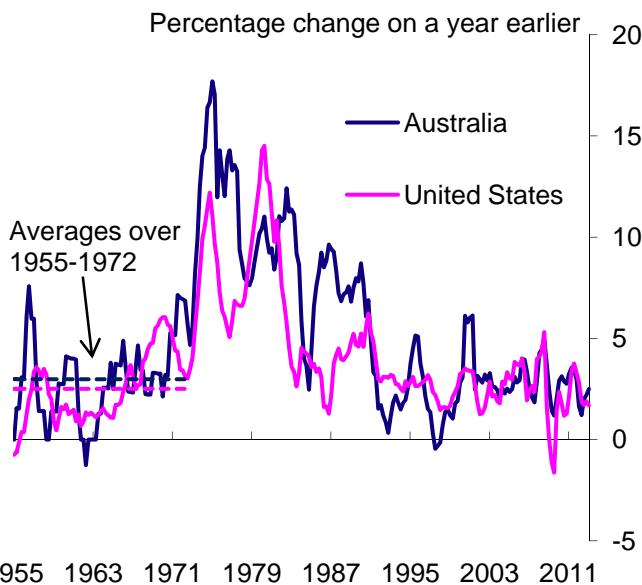
Source: ONS.  
 From October 1992 to May 1997, the target for RPIX inflation ranged from 1% to 4%. From June 1997 to December 2003, the target for RPIX inflation was 2.5%. Since January 2004, the target for CPI inflation has been 2%.

**Chart 2: Contributions to consumer price inflation**



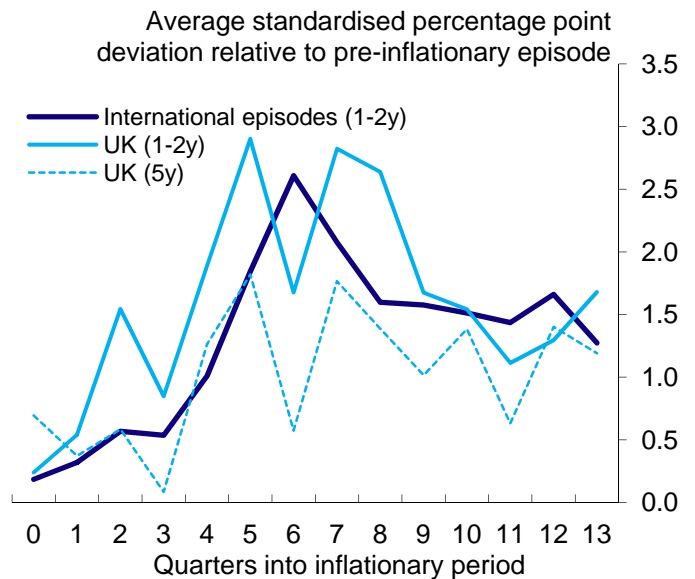
Source: ONS and authors' calculations.  
 Percentage point contributions to annual CPI inflation, deviations from 1993-2012 means.

**Chart 3: Australian and US consumer prices**



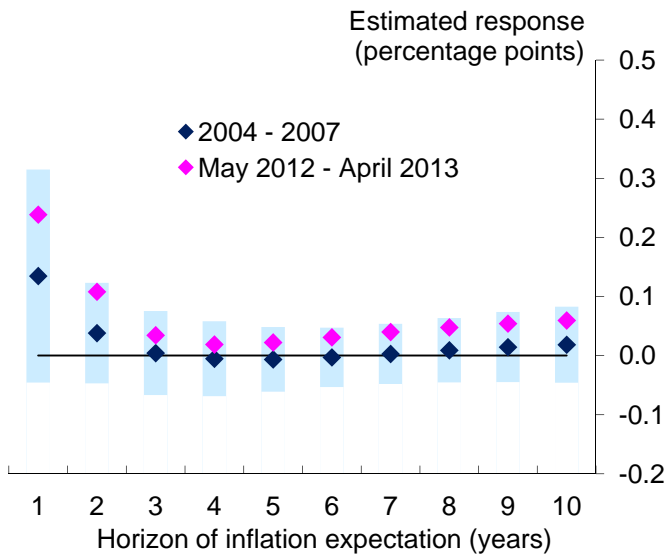
Source: Australian Bureau of Statistics and US Bureau of Labor Statistics.

**Chart 4: Survey measures of inflation expectations**



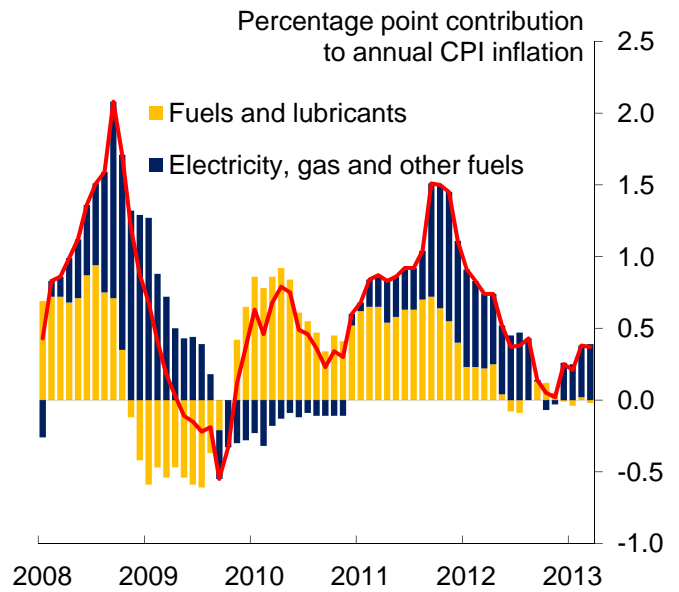
Source: Melbourne Institute Survey of Consumer Inflationary Expectations, Chile Central Bank Business Surveys (11 and 23 months), Statistics Iceland (households 1-year ahead), and South Africa Bureau For Economic Research (trade union and business representatives 1 and 2-years ahead). For the UK, Barclays Basix, Bank/NOP survey and Citigroup/Yougov.  
 Inflationary episodes are Australia (2000Q2-2001Q4), Brazil (2001Q2-2004Q1), Chile (2007Q3-2009Q1), Iceland (2005Q1-2007Q2 and 2007Q4-2010Q3), South Africa (2007Q2-2009Q4) and the UK (2010Q1-2012Q1). The deviation of inflation expectations is calculated relative to average expectations during the four quarters prior to the inflationary episode and divided by the series standard deviation.

**Chart 5: Estimated changes in instantaneous forward inflation rates derived from swaps in response to CPI news**



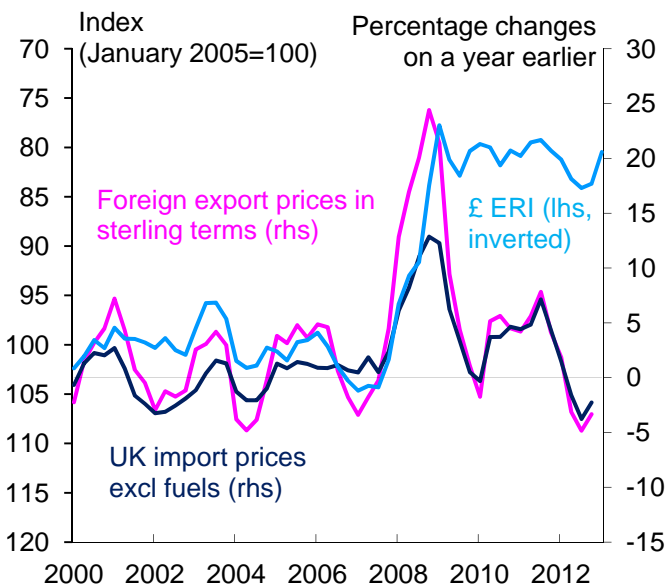
Source: Bloomberg, ONS and Bank calculations. The diamonds show the estimated slope coefficients from regressions of the change in instantaneous forward inflation rates at each horizon on the day on which CPI data were published against news in the CPI release. News in the CPI release is measured as the difference between the data and the Bloomberg median forecast. The bars cover two standard errors either side of the estimated slope coefficients for the 2004-07 period.

**Chart 6: Direct contribution of energy prices to inflation**



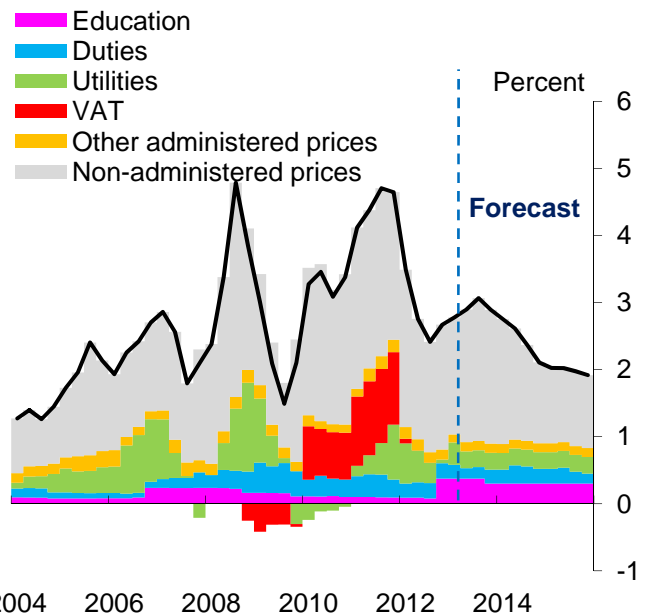
Source: Bloomberg, ONS and Bank calculations.

**Chart 7: UK import prices and sterling depreciation**



Source: Bank of England, CEIC, Eurostat, ONS, Thomson Reuters Datastream and Bank calculations.

**Chart 8: CPI and administered prices**



Source: ONS and Bank calculations. The CPI inflation forecast is taken from the May *IR*. Contributions of administered prices to annual CPI inflation over the forecast are staff estimates and therefore uncertain.

**Table: Measures of UK inflation expectations**

	Available Data		Average (%)		Difference (pp) between latest data and <sup>(d)</sup>		
	Earliest	Latest	1997-2007	2002-2007	2009 Q2	1997-2007 average	2002-2007 average
<b>Household survey measures <sup>(a)</sup> <sup>(b)</sup></b>							
<b>Monthly</b>							
Citigroup/YouGov (1)	Nov 2005	May 2013	na	2.5	0.7	na	0.0
Citigroup/YouGov (5-10)	Nov 2005	May 2013	na	3.5	0.3	na	-0.2
<b>Quarterly</b>							
Barclays Basix (1)	Q4 1986	2013 Q1	2.9	2.8	0.7	0.2	0.3
Barclays Basix (2)	Q4 1986	2013 Q1	3.3	3.2	0.5	0.2	0.3
Barclays Basix (5)	Q3 2008	2013 Q1	na	na	-0.2	na	na
Bank/NOP (1)	Q4 1999	2013 Q2	2.3	2.4	1.2	1.3	1.2
Bank/NOP (2)	Q1 2009	2013 Q2	na	na	1.0	na	na
Bank/NOP (5)	Q1 2009	2013 Q2	na	na	0.7	na	na
<b>Bank survey of professional forecasters <sup>(c)</sup></b>							
Survey of professional forecasters (1)	Q1 2004	2013 Q2	na	1.9	1.0	na	0.6
Survey of professional forecasters (2)	Q1 2004	2013 Q2	na	1.9	0.8	na	0.4
Survey of professional forecasters (3)	Q1 2004	2013 Q2	na	1.9	0.4	na	0.3
<b>Market-based indicators</b>							
5y,5y forward RPI inflation implied from gilts	02 Jan 1985	10 Jun 2013	2.9	2.8	-0.1	0.5	0.6
5y,5y forward RPI inflation implied from swaps	01 Oct 2004	10 Jun 2013	na	3.0	-0.5	na	0.4

Note: longer-run measures are highlighted in blue.

(a) The questions ask about expected changes in prices, but do not reference a specific price index. All measures are based on the median estimated price change.

(b) The number in brackets shows the window in years over which respondents are asked to report their expectations.

(c) The questions specifically refer to CPI inflation. Based on the mean estimated price change.

(d) A positive number (in red) indicated that expectations have increased since the specified time period/average. Falls in expectations are shown in green.

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