Mervyn King: The MPC ten years on

Lecture by Mr Mervyn King, Governor of the Bank of England, to the Society of Business Economists, London, 2 May 2007.

I am indebted to Alex Brazier, Iain de Weymarn, Richard Harrison, James Proudman, Chris Salmon, Tim Taylor and Ryland Thomas who have worked closely with me on this lecture.

* * *

Not long before his untimely death, David Walton invited me to deliver this lecture. Anyone who knew David will be desperately sad not only that he is no longer with us to ask important questions and make us smile at his dry humour, but even more so that he is unable to take his place at the deliberations of the Monetary Policy Committee to which he contributed so much in such a short space of time. David had a wonderfully clear mind, an independence of thought, and was a warm and generous colleague. He is, and will continue to be, deeply missed. David asked me to look back on the experience of the first ten years of life with the MPC and to try to learn from that experience. So, in his memory, that is my aim this evening.

Although the announcement in 1997 of independence for the Bank of England was a bolt from the blue, it was a long time in the making. During the 1970s inflation in the United Kingdom averaged 13% a year and peaked at 27%. Only towards the end of that decade, with first a Labour and then a Conservative Government recognising that the control of inflation was the first step towards any semblance of a coherent macroeconomic policy, did the transition from the Great Inflation to the Great Stability begin. But the first steps were faltering. It took two painful recessions and sterling's exit from the Exchange Rate Mechanism in September 1992 to reach the goal of low inflation. Even then, the long-term commitment of the United Kingdom to low inflation was not fully believed by financial markets. Granting independence to the Bank of England was the dramatic constitutional change that convinced financial markets of the United Kingdom's conversion to stability as the basis of macroeconomic policy.

Next Sunday is the tenth anniversary of the historic announcement on the morning of Tuesday 6 May 1997 that the Bank of England would be granted independence. Although that decision was both unexpected and far-reaching, we had been preparing to implement the manifesto commitment to introduce a monetary policy committee to help the Bank formulate its advice to the Chancellor in the context of the previous regime, in which the Chancellor decided on the level of interest rates following a meeting with the Governor.

On the very day that Gordon Brown and Ed Balls entered the Treasury carrying a draft letter to the Governor setting out proposals for Bank of England independence, the Bank completed a paper for the incoming team setting out proposals for how an advisory committee might operate. It recommended a fixed timetable for meetings between Chancellor and Governor and for the announcement of decisions on interest rates. Many of the recommendations were carried over to the independent MPC that followed. The optimal time for meetings was thought to be the end of the first week of the month, and with minor changes the timetable of a two-day meeting culminating with an immediate announcement of the decision at noon on Thursday was adopted within a couple of weeks. The key difference was that a purely advisory committee would not have published minutes of its own deliberations – only the minutes of the meetings between the Chancellor and Governor would have been made public – and voting was not an agreed feature of such a committee.

My predecessor – Eddie George – was informed of the new and enhanced role for the Bank early on the morning prior to the announcement – a Bank Holiday Monday. Returning from the tennis court, I received a call from Eddie asking me to meet him in the Bank as soon as possible. That was the last I saw of the sun for quite a time. We sat in his office with a sense of excitement that now we really did have a chance to show what the Bank of England and price stability could do for this country. Eddie charged me with the task of preparing ideas on how the new committee – the Monetary Policy Committee – would decide and set the level of interest rates, and to draft the speaking note for the very last Chancellor-Governor meeting which was brought forward from Wednesday to 8am on the Tuesday.

By the next morning when the public announcement was made, a paper was ready setting out the questions that the Bank would have to answer on how the new Committee would operate. We had a script but, at this stage, the cast was incomplete. Only four of the five internal and none of the external

members were in place. With the support and hard work of some extraordinarily talented young Bank economists, the new arrangements were designed and put in place in not much more than three weeks. They included the arrangements for briefing the Committee, the pre-MPC meetings, the format of the decision-making meetings of the MPC, practical matters such as the ordering of a sound system so that, in a break with tradition, it was actually possible to hear what was said in the Bank's older meeting rooms, and rehearsals of the meetings and voting procedures with staff members playing the roles of the MPC members. So short was the time available that some of the dress rehearsals came after the first night of other parts of the policy process. Such was the adrenalin flow that at one rehearsal a row broke out about how a decision would be reached if the Committee split three-ways in equal numbers. Needless to say, such an eventuality has not occurred.[1] But all was resolved and the show opened on Wednesday 4 June. At that first meeting the MPC raised interest rates by 25 basis points, as it did at its two subsequent meetings.

A decade is a long time for any show to run. How has it fared? On the face of it UK macroeconomic performance has improved with the creation of the new monetary framework. The MPC arrived on the scene midway through what I have described as the *nice* (non-inflationary consistently expansionary) decade, and continued into the *not-so-bad* decade.[2] Since the MPC was set up economic growth has averaged 2.8% a year – a little above the post-war average rate – and there has not been a single quarter of negative growth. The average deviation of inflation from target has been just minus 0.08 percentage points.

Let me stress that the Committee does not dwell on the past. But an important question for all of us is whether our new found stability will persist. That is not a new question. On the tenth anniversary of the MPC we should remember that this is also the fiftieth anniversary of Harold Macmillan's famous claim that we had "never had it so good". But let me remind you too of the full text of his remarks. In a speech on economic prospects in July 1957, the former Chancellor of the Exchequer, who had recently become Prime Minister after the resignation of his predecessor following an unsuccessful military excursion in the Middle East, said:

"Indeed, let us be frank about it: most of our people have never had it so good. Go around the country, go to the industrial towns, go to the farms, and you will see a state of prosperity such as we have never had in my lifetime – nor indeed ever in the history of this country. What is beginning to worry some of us is, is it too good to be true? – or perhaps I should say, is it too good to last? … Our constant concern today is, can prices be steadied while at the same time we maintain full employment in an expanding economy? Can we control inflation? This is the problem of our time".[3]

Some of you may think that it is the problem of our time too. CPI inflation has now risen above 3%, the highest rate since the MPC was set up. Although I believe we are better equipped to maintain stability now than fifty years ago, largely because we have a monetary framework based on an inflation target and clearly defined responsibilities for the Bank of England, we should perhaps look in more detail at how the MPC has worked before coming to a final judgement on the likelihood of continued success. First, I want to look at the changes in the behaviour of the UK economy in recent years. How far is the improvement attributable to the MPC? Second, I want to review how the MPC has operated as a decision-making body. Has the process lived up to its billing as the most effective way of reaching technical judgements on the level of Bank Rate? Third, and most important of all, I want to consider the challenges to the MPC for the next ten years. What can we learn from the experience of the first decade that may help us to improve over the next?

1. Changes in the UK economy

In examining the first ten years of the MPC a natural starting point is to ask what has been its impact on the UK economy since 1997. The objective of the MPC is, of course, to meet its inflation target. Chart 1 shows that since the mid-1990s, inflation in the UK has been lower than for a generation. And

---

1 How a decision would be reached in such unlikely circumstances is explained in King (2002a).

2 Not-so-bad is an acronym for the "not of the same order but also desirable" decade. See King (2004).

3 I am indebted to Professor Peter Hennessy who, in his admirable book Never Had It So Good: Britain in the 1950s, drew attention to the context of Macmillan's remarks which were made in a speech in Bedford on 20 July 1957.

there have been significant changes in the dynamics of inflation since the MPC was set up.[4] Table 1 shows the mean, standard deviation and persistence of inflation over various periods. Inflation has been significantly lower on average, less variable, and fluctuations in inflation have tended to be less persistent.

More generally, the impact of the MPC is revealed by what I have called the "Performance" and "Stability" charts – charts 2 and 3. In terms of average rates of output growth per head and of inflation, charts 2a and 2b show the relative position of the UK economy among the G7 as a whole both before (taken here to be the period 1950 to 1996) and after (1997-2006) the creation of the MPC. Ideally, a good performance means that a country would be towards the top right hand corner of the charts – inflation is plotted on an inverted scale. The average record on growth and inflation over the period 1950-96 (chart 2a) was not good relative to the rest of the G7. Indeed it was arguably the worst. In contrast, after the MPC was set up the United Kingdom performed better than most if not all of the G7 countries. So although changes in the world economy may have proved helpful to achieving lower inflation, the fact that the UK improved not only its absolute but also its relative performance – moving from last to first in the G7 league table – is encouraging.

The stability charts – 3a and 3b – show the stability of growth and inflation in the G7 countries in the two time periods. In these charts a good performance is to be near the origin of the axes, close to the bottom left hand corner of the chart. The rather poor performance of the United Kingdom prior to 1997 is evident, as is the remarkable degree of stability in the United Kingdom relative to the rest of the G7 after that date.

Of course, correlation does not imply causation. And there is little reason to suppose that the MPC is responsible for the higher average growth rate over the past decade. That more likely reflects structural changes in the UK economy, associated with other policy reforms. It is the stability of the UK economy which appears to be the most marked contribution of the MPC. That is a surprise. The conventional wisdom is that, although there is no long-run trade-off between the **levels** of inflation and output growth, there is a trade-off between the **stability** of inflation and of output growth. Inflation can be kept closer to the target only by larger changes in interest rates and bigger fluctuations in output growth. Policy-makers thus face a choice between different combinations of inflation and output growth volatility, which, when plotted on a chart, describe a "stability possibility frontier".[5] They can choose a point on that frontier depending on the relative importance they place on stabilising inflation and output growth, but they cannot move inside it. That is, they cannot reduce the volatility of both inflation and output growth.

An example of that "stability possibility frontier" is shown in chart 4. Points B and C represent alternative choices by central banks with different reaction functions, corresponding to the different weights they attach to the costs of volatility in inflation and output. Central bank B tends to bring inflation back to target more slowly than central bank C. So the real surprise is that, over the past decade, we have moved not along the frontier, say from point B to point C, but instead to A. The frontier itself has moved significantly inwards.[6] The conventional wisdom has been overturned. Was that the result of luck: an absence of shocks and favourable structural changes in the economy? Or has the new monetary framework itself played a role?

How might the MPC have been lucky over its first decade? First, there might have been unusually few significant economic shocks to which the Committee had to respond. Output and inflation would have been more stable even without a change in the monetary framework. Second, when shocks did occur the economy might itself have responded in a self-regulating manner.

On the first, it is difficult to argue that there have been no major economic shocks since 1997. At the outset, the Committee had to confront the consequences of a 25% rise in the effective exchange rate and the resulting fall in import prices. Between 1996 and 1998 import prices fell by 20% relative to overall consumer prices – the biggest fall over any two year period since the early 1950s. That was

---

[4] Some of these changes in the inflation dynamics date from 1992 when the inflation target was introduced, although the fall in inflation expectations occurred in 1997.

[5] This is known in the academic literature as the 'Taylor Curve'. See Taylor (1979).

[6] I have defined the frontier for a given set of monetary policy arrangements – technically, for a given distribution of the inflation target. If the frontier is instead defined as corresponding to an optimal policy where the inflation target is believed with certainty then the movement from B to A is a move onto the frontier from a point outside it.

shortly followed by the Asian financial crisis and the Russian default and devaluation in 1998 which led to concerns about the stability of US and other financial markets. Later there was the world IT-led slowdown in late 2000 and 2001, and sharp falls in equity prices. The share of government final consumption in nominal GDP rose by 4 percentage points between 1998 and 2005 – the biggest continuous expansion since 1945 – and the share of taxes in total income rose. More recently, oil prices more than doubled and the labour force expanded by 1 ½% in 2006, a rate exceeded only once in the past 35 years. And the terrorist attacks on September 11 2001, and the wars in Afghanistan and Iraq, added to uncertainty.

So the environment in which the MPC has had to operate has not been without excitement. But did the economy respond to that excitement in a self-regulating way? It is clear from the performance chart that the supply side of the UK economy has undergone substantial change – the average rate of growth of output per head has increased from 2.1% between 1950 and 1996 to 2.4% in the past decade. It could be argued that the structural reforms of recent decades have made the UK economy and, in particular, the labour market, more flexible. Greater flexibility has enabled unemployment (and its natural rate) to fall steadily.

Structural reforms also led to more stable growth of employment and output. If businesses are to stabilise employment in the face of changes in costs, employees must accept fluctuations in the real value of their take-home pay. When import prices fell sharply, employees benefited from rapid growth in real take-home pay. More recently, however, businesses have faced higher energy costs and employees have accepted somewhat weaker growth of real take-home pay.

The acceptance of necessary adjustment in real take-home pay has helped to stabilise employment growth which, over the past decade, has been four times less variable than over the previous five decades. That has shifted the "stability possibility frontier" faced by the MPC inwards, enabling the MPC to keep inflation more stable than in the past.

Structural improvements in the labour market are, however, unlikely to explain the full improvement in the stability of inflation and output. They cannot explain the low and stable level of inflation expectations. Changes in the yields on government bonds indicate that investors' expectations of inflation over the medium-term – and the premium they require to compensate them for the risk of future inflation – have also fallen significantly. Chart 5 shows the sharp fall in expected inflation that resulted from the actual announcement of independence for the Bank of England in 1997.

It seems to me likely that the new framework for monetary policy has been a key, though not the only, driver in moving the frontier inwards. By eliminating uncertainty about the inflation target and ensuring that the objective of low and stable inflation is well understood and credible, the change in the framework in 1997 helped to anchor expectations of inflation in the medium term. By doing so, it has made it possible for the MPC to keep inflation closer to target with smaller changes in monetary policy, and hence fluctuations in output, than would otherwise have been the case.

The anchoring of inflation expectations has changed the way businesses respond to unexpected shocks. Faced with changes in their costs stemming from, for example, changes in import or energy prices, businesses can respond in two ways, each consistent with the necessary change in employees' real take-home pay. They can pass those cost changes forwards to prices or backwards to money wages. With inflation expectations well-anchored to the target, companies have restricted the pass-through of changes in costs to prices. The necessary adjustment of real take-home pay has taken place more through fluctuations in money wages than prices.

In short, the behaviour of the UK economy has improved over the past decade, both in terms of its performance and its stability, and that improvement has been more marked in the United Kingdom than in the rest of the G-7. Although structural reforms to the economy over several decades have made the economy better able to respond to economic shocks, the new monetary framework has also played a key role. Inflation expectations have been successfully anchored to the target. And that has meant that cost changes have affected wages and profits rather than prices. As a result, inflation and output growth have been remarkably stable.

2. The change in monetary policy decision making

It appears then that the success of the framework in anchoring inflation expectations has played a key role in the economic stability of the past decade. What was it about the framework that accounted for that?

Since its inception, the MPC has met 120 times.[7] At those meetings it raised Bank Rate 17 times, lowered it on 17 occasions, and left it unchanged 86 times.[8] Bank Rate has varied between 3.5% and 7.5%. The MPC has changed interest rates at just over a quarter (28% in fact) of its monthly meetings. Companies, households, trade unions and financial market participants can see that we change interest rates in response to news about the inflation outlook. That anchors inflation expectations. In the jargon of economists, people understand that we have a "reaction function" – we react to the economic data in order to keep inflation on track to meet the target.

If the economics profession could agree on a model which described exactly how the economy behaved, then it would be possible to set up a Royal Commission of the country's leading economists to determine the optimal "reaction function" for the Bank of England to follow. It would specify how interest rates should respond to the unfolding of economic data. It could even be implemented by a computer without any need for a Monetary Policy Committee at all. That sounds quite attractive (especially when you've attended 120 meetings!).

So why don't we set up a Royal Commission? As members of the SBE know only too well, none of us knows the true structure of the economy or all the shocks that might occur. How long do you think it would be before some other economists would argue, undoubtedly persuasively, that their own research had made the findings of the Royal Commission redundant? Who would have thought in 1997 that monetary policy would have to respond to the challenges posed by the largest inflow of migrant labour and the fastest fall in import prices since Harold Macmillan was Prime Minister?

Uncertainty is at the heart of practical monetary policy making. The best that we – as economists – can do is continually to learn about the changing nature of the economy. It is impossible to write down any stable "reaction function". Even if we could identify the shocks hitting the economy, judgement as to how we should react to each of them cannot be set in stone. The structure of the economy changes through time as does our knowledge of the way it works. The MPC is there to exercise discretion about how to react to shocks. Central to the design of a framework for monetary policy is our ignorance and uncertainty about how monetary policy works. The MPC is an institutional response to that ignorance.[9]

The best way to make technical judgements under uncertainty is by making use of the accumulated wisdom of a committee whose members can pool their knowledge and expertise. This is the motivation behind the MPC and explains its two key features.[10]

First, it is a committee of experts who, before making their decision, discuss their interpretation of the economic data and learn from each other.[11] Our Wednesday afternoon discussions take the form of a debate, not a series of presentations. And on Thursday mornings when the time comes to go round the table and make a decision, it is common, as, for example, happened at our most recent meeting in April, for members to want to listen to the views of other members before making up their mind which way to vote. That is why no-one is forced to cast their vote for a particular level of Bank Rate until they have heard the views of the whole Committee. As a result, there is often some suspense as to the final outcome. In January, for example, when the Committee raised Bank Rate by five votes to four, that outcome looked unlikely when at one stage opinion was four to two for no change with only three people to speak.

The greatest debate among the Committee usually occurs during the quarterly forecast round which often stimulates fresh thinking. So it is perhaps not surprising that this is when many, but by no means all, changes in interest rates are decided – see chart 6. Changes have been twice as frequent in *Inflation Report* months as in other months. But it is changes in economic conditions which are more important in determining the timing of our decisions.

---

[7] Including one emergency meeting following the events of September 11 2001.

[8] On 20 occasions the MPC has met with fewer than the full complement of nine members. 12 of those occasions were before the Bank of England Act came in to effect and the ninth member could be appointed. Since June 1998 it has also been short of its full complement on 8 occasions.

[9] The role of uncertainty and learning in monetary policy was discussed in my 2005 Mais Lecture. See King (2005).

[10] See, for example, Blinder (2004), Blinder and Morgan (2000) and Lombardelli et al (2005).

[11] The arguments for delegating decisions on interest rates to a committee of experts were discussed in my May 2002 lecture to the Society of Business Economists. See King (2002a).

Second, members of the Committee are individually and publicly accountable for their votes. Disagreement among the Committee is inevitable; it is also desirable because it represents the individual judgements of members, rather than an attempt to create a false consensus. It is a source of strength. Over the past ten years, there have been 153 dissenting votes, on average more than one per meeting.

This institutional encouragement of open debate is in contrast to many other central banks. We don't "do consensus", as one former member put it. Dissent is more frequent than on other central bank committees which publish individual votes, and is not just token. Table 2 reports the proportion of dissenting votes in four central banks during the period since the MPC was set up. Not only is the number of dissenting votes greater on the MPC, the frequency of more substantive disagreement – where one quarter or more of the voters dissented – is markedly greater.

Voting patterns on the MPC reflect the distribution of views about how to interpret the economic data, not a hint about where rates will go. Voting is certainly not used as a signal by the Committee. That is why you can discount claims that disagreements can be used reliably to predict future movements in rates. Sometimes they do, sometimes they don't.

Much of the commentary on the MPC has been subject to what I call the "small sample" problem. Descriptions of diversity of view within the MPC have ranged from the Committee allegedly acting as "the North Korean politburo" during periods when most of the votes were unanimous, to the view that it was "a bunch of squabbling senior common room academics" during an earlier period when split votes predominated. In fact, as chart 7 shows, there is no obvious pattern over the lifetime of the MPC. There are times when the state of the economy is difficult to read and there are naturally differences of interpretation leading to split votes. Equally, there are times when the nature of the economic shocks is not in dispute and the response of the MPC is agreed by all members. For example, a sequence of nine unanimous decisions starting in the summer of 2004 reflected a shared view within the MPC that Bank Rate at 4% was too low and that some of the monetary stimulus it provided should be withdrawn. Differences of view tell you more about the nature of the uncertainty confronting the MPC than the nature of the MPC itself.

Similar arguments apply to the question of whether the MPC has become more or less "activist". Large committees can be subject to inertia. At its very first meeting the Committee debated the merits of "gradualism" in adjusting interest rates. Although the debate attracted some interest, looking back over ten years it is hard to see that it had any practical impact. As chart 8 shows, there is no obvious persistent trend in the frequency of rate changes over the lifetime of the MPC. Economic conditions have determined the number and direction of rate changes. There is some indication that the number of changes was lower in the second than in the first five year period. But that reflected the size and nature of the shocks over the respective periods, and also the building of credibility which meant that market anticipations of future actions allowed the Committee to offset shocks by smaller changes in interest rates. It is striking that the MPC is in the middle of the ranking of the major central banks by the number of interest rate changes a year – see table 3.

My view, therefore, is that it is the economic data which lie behind the debate and decisions of the MPC. Do you agree? To answer that question the Bank of England asked the Society of Business Economists (SBE) to carry out a survey of its members. The aim was to discover what kind of information was of most use to private sector economists in trying to understand the future path of interest rates at different horizons, and how the communications of the MPC were perceived as part of that process. The survey consisted of an electronic questionnaire sent to 354 members of the SBE. 141 replies were received, a response rate of 40%.[12] Over 85% of respondents said that forming a view of interest rate prospects was important to them.

For those of us who have continually argued that the news on interest rates stems from developments in the economy rather than meetings of the MPC, it is heartening that, collectively, you place more weight on economic data than on MPC communications in forming a view of interest rate prospects. Respondents were asked to allocate a total of 100 points across the categories of information in terms of how useful they were in forming such a view. Twice as many points were given to economic data as to MPC communications, especially at the longer horizons – see chart 9. And the weight on data was divided roughly equally between financial data, official data on real activity, official figures for costs and

[12] The full survey is to be published in the next issue of the SBE's journal, the Business Economist.

prices, and business and consumer surveys. So the argument that the MPC responds to developments in the economy has been largely understood. This is welcome news for those of us who wish to be boring.

So far I have talked only about the past – the performance of the UK economy and the behaviour of the MPC since 1997. What of the future?

3. Challenges for the next decade

I want to devote the remainder of this lecture to the challenges facing the Monetary Policy Committee over the next ten years. That is not because I see major fault lines in the present arrangements. On the contrary, the careful institutional design that lay behind the construction of the MPC has proved its worth. Nor is it because I share some commentators' boredom with a system that has remained largely unchanged for a decade. After all, in the area of macroeconomic policy, boredom is a good thing. Rather, it is a conviction that to remain successful the MPC must always be engaged in a process of continuous improvement.

The anchoring of inflation expectations has been central to the stability enjoyed by the UK economy over the past decade. The key lesson from economic theory is not to take those expectations for granted – they depend on the actions of the MPC. Inflation expectations have been anchored because the MPC has responded to events that have pushed the outlook for inflation away from target, and households, businesses and financial markets have understood and anticipated our responses.

So the main challenge facing the MPC is to keep doing whatever is necessary to keep inflation on track to meet the target. In modern models of inflation, monetary policy is represented by a "reaction function" that is sufficient, **in that model**, to pin down inflation and, therefore, inflation expectations. But that just assumes away the challenge facing us. How do we know, in an uncertain and ever-changing world, what precise path of interest rates is necessary to stabilise inflation in the medium term? That raises questions about both what we do and what we say.

(a) What we do: The role of money and the nominal anchor

Let me start with what we do and how we provide an anchor to the price level in the long run. With a paper currency, expectations that the future price level will remain stable are an article of faith. Such expectations are the basis of the trust without which people will not willingly use paper money. They reflect beliefs about how the central bank will react to events. Given our current arrangements, the anchor for expectations of the future price level is the judgement and character of the men and women who currently, and will in the future, serve on the Monetary Policy Committee. That is a crucial difference between money as a standard of value, where its value is determined by the judgement of a group of experts, and the standards of weights and measures, such as the metre, kilo or second, which are based on objective scientific measurement. I hope that one day the Governor of the Bank of England will be regarded as occupying a position similar to that of the Chief Executive of the National Weights and Measures Laboratory.[13] For the time being the value of money will depend upon the discretionary judgements of the MPC.

For those judgements to command respect, it is vital that the Committee demonstrate their determination to react to all signals about the outlook for inflation. It is common – both in the press and within central banks around the world – for discussion of the inflation outlook to be dominated by an analysis of so-called real changes in the economy such as movements in demand or supply and changes in the relative prices of imports or energy. It is true that, in trying to stabilise inflation in the short-term, the MPC will take those events into account. But we know that, beyond the short-term forecasting horizon of up to around three years, inflation has nothing to do with these developments. It is, in the old adage, the result of too much money chasing too few goods.

That is why money growth rates and inflation rates are well correlated across countries and over long time horizons. Many of the great economists of the past from David Hume to Milton Friedman emphasised the link between money and the price level in the long run.

---

[13] At present the Chief Executive is Jeff Llewellyn.

Why, then, does money not play a more prominent role in discussions of the outlook for inflation and monetary policy? Monetary developments can reflect two different causes: changes in the demand for money and changes in the supply of money. They have very different implications for inflation. Movements in the demand for broad money, relative to spending in the economy, reflecting changes in the way different assets and liabilities are used in transactions or shifts in portfolio preferences, have no implications for spending in the economy or the path of inflation. They make the relationship between money growth and inflation unpredictable. That contributed to the poor outcomes when explicit money supply targets were used to guide monetary policy in the late 1970s and early 1980s.

Changes in the supply of broad money, however, will lead to an imbalance in the relationship between money and prices. Either spending and the price level will adjust or the central bank will have to alter its policy rate to eliminate the change in the supply of money.

The practical problem facing all central banks is how to distinguish between shocks to the demand for money and shocks to its supply. After a period of rapid financial innovation during which shocks are predominantly to the demand for money, it is understandable, though unfortunate, if monetary developments are given insufficient attention in the analysis of the inflation outlook.

How should a policymaker respond to developments in money and credit? One approach is to ignore them on the grounds that they contain no incremental information about the outlook for inflation. This approach – which is compatible with many modern models of inflation – may well appear appropriate when money growth is associated with shocks to the demand for money that have few, if any, implications for spending and inflation. Ignoring developments in money and credit would, however, be a mistake when there are shocks to the supply of money.

What can generate such shocks to the supply of money? Modern models of monetary policy tend to be silent on this point. Economic theorists continue to struggle to develop microeconomic underpinnings of the roles of money, both as a medium of exchange and a store of value. This explains why money is often hidden. By construction, models often ignore the role played by banks that extend credit to borrowers and, in the process, create liabilities that serve as money. In those models nominal interest rates are set according to a "reaction function" that always returns inflation to the target. The implicit assumption is that the supply of money passively and instantly adjusts to that warranted by the demand for money.

In reality, of course, our ignorance about the economy is such that we can never be sure that the level of Bank Rate at any point in time is consistent with bringing inflation back to the target over the medium term. And developments in the banking sector can lead to an expansion of the supply of broad money and credit even while Bank Rate remains constant. It is quite possible, in the real world, for there to be unwarranted money supply shocks – whether stimulus or restraint. The MPC must always be looking for warning signals of this.

The trap is falsely to conclude that, because some economic models contain no explicit reference to it, money cannot be one of those signals. The conventional riposte is that, if monetary policy were set incorrectly, warning signals would also be observed contemporaneously in other indicators such as measures of inflation expectations, demand or interest rates. I would not want to rely on that for three reasons, which together imply that the growth of money and credit may signal **in advance** of other indicators that Bank Rate is set at a level inconsistent with bringing inflation back to the target in the medium term.

First, we do not have good indicators of the expectations of businesses and employees and, in looking at measures of expectations in financial markets, we must be alert to the possibility that those expectations are formed by people falling into the same trap.

Second, the spending of many households and businesses is constrained by the need to use money in transactions and by the availability of credit.[14] For these households and businesses, changes in the availability of money and credit lead changes in their spending intentions.

Thirdly, official interest rates are not a sufficient statistic for the array of effective interest rates confronting borrowers and lenders – risk premia which reflect the creditworthiness of the borrower

[14] Goodhart (2007).

alter effective interest rates. Since many of those rates are unobservable by the MPC, money, credit and asset prices may contain valuable information about the likely outlook for spending.[15]

As chart 10 shows, there are times when monetary developments have represented shocks that have affected the supply of money and proved a warning sign of inflationary risks. At other times, its movements have been dominated by changes in the demand for money.

In 1973, for example, broad money growth had picked up sharply but inflation was subdued. Yields on gilts provided no indication that a rise in inflation was expected by financial markets. But the rise in money growth, which looked at first to be another instance of a change in the demand for money, was in fact an increase in supply and led to faster expansion of spending in the economy and, by 1975, higher inflation.

The 1980s illustrate shocks to both money demand and supply. The first part of the decade was a period of large structural change in financial markets. The demand for money rose sharply relative to spending in the economy so, for a time, broad money growth was rapid and inflation was falling. That structural change probably continued into the second half of the decade. But it now seems that there was also some unwarranted expansion of the supply of money. For a time, that shock was disguised as further structural change in the demand for money but, in 1988, inflation began to rise.

It is easy to be wise after the event. And it is never easy to distinguish between demand and supply shocks to money. But that is true for shocks to many economic variables and is no reason to assume that money supply shocks are simply absent. When we look at output data, we routinely ask ourselves the question: is it a demand shock or is it a supply shock? We do not rely on the simple correlation in the past between output and inflation. It was important for the Federal Reserve to identify output movements in the late 1990s as the result of a supply (productivity) shock rather than an increase in demand. The challenge is to carry this level of interrogation and questioning of the data to our analysis of money and credit. We are trying to develop models that help us to distinguish between demand and supply shocks to money and we shall be devoting more resources to this task, including our new Credit Conditions Survey.

(b) What we say: central bank communications

In recent years, a great deal has been written about how and why central banks communicate with financial markets and the public more generally. Communications are crucial to a central bank's ability to anchor inflation expectations. Only two questions really matter. What are central banks trying to communicate and to whom?

The first task for a central bank is to communicate the case for price stability in a simple and straightforward way to as wide an audience as possible. With our range of publications, films, the competition for schools *Target 2.0*, and our programme of regular regional visits, the Bank of England invests a good deal of resources in achieving this objective. We also monitor progress using opinion polls and report regularly their findings. Building a large constituency for price stability is an essential part of convincing people that low and stable inflation will be at the heart of macroeconomic policy for the indefinite future. For the MPC, there is the specific task of explaining that by price stability we mean our target of 2% inflation as measured by the CPI.

The second task relates to communication about the reasons for monetary policy decisions to financial markets, households and businesses. No communications strategy can ignore the fact that the Monetary Policy Committee was set up precisely because there is no timeless "reaction function" to be communicated to the public. It is as important to explain what we don't know as what we do know. We are trying to get across the fruits of our learning about the economy, not a static view of the world. Our aim is to help people understand the thinking behind the Committee's decisions, the various hypotheses that the Committee entertains about the current conjuncture and the data that we shall be examining in order to discriminate among them. That should help people work out how we are likely to react to future data as they come in. And it is why we place importance on the minutes of our monthly meetings and the quarterly *Inflation Report* to convey a full explanation of our thinking.

Explaining our analysis at some length is a richer source of information for markets than code words or statements about the future path of interest rates. Less weight should be placed on the short

[15] See my discussion of money and risk premia in King (2002b).

statements that are published with the announcements of our decisions because such statements, as we have seen elsewhere, run the risk of becoming monetary policy by code word. They do not help markets understand how we are likely to react to future data.

A number of academics have suggested that the MPC publish forecasts for the path of Bank Rate. Several central banks now do so, noticeably the Reserve Bank of New Zealand, the Norges Bank and the Riksbank. Although there is some superficial attraction in such a move, there are four points that suggest the need for caution.

First, what markets need more than anything is not an unconditional forecast of where interest rates might go, but an idea of our contingent response to data as they evolve. That is not easily communicated by a path – even when shown as a fan chart – for future interest rates. It requires a careful reading of the *Inflation Report*, the minutes of our monthly meetings and speeches by members of the MPC.

Second, there is little evidence that financial markets have in fact been particularly uncertain about the yield curve in the UK. Indeed, a survey of Goldman Sachs traders by their own economists showed that they thought, at longer horizons, interest rates were more predictable in the UK than in the euro area or United States.[16] We are less predictable one month ahead for the very good reason, which I have explained before, that we are unable to pre-announce or signal the results of meetings the outcome of which may sometimes be unclear to MPC members themselves until well into the second day.

Third, a key principle of our present arrangements is that decisions on Bank Rate are taken by majority vote of the members of the MPC. That is possible because they are voting on a single number – today's Bank Rate. But there is no equivalent voting procedure which can map from individual views on an entire future path of interest rates to an overall path in a sensible manner.[17] It might, or might not, be possible to find a consensus. But how would that square with making decisions on today's rate by majority voting? The problem illustrates the important principle that communication cannot be divorced from the way decisions are made.

Fourth, the Bank of England has tried extremely hard to ensure that forecasts are seen as probabilistic statements. The Bank of England has been publishing fan charts for inflation and output growth for more than a decade. Yet there are many commentators who still refer only to the central path. It would be extremely dangerous to start publishing fan charts for future interest rates unless we were confident that all commentators would understand the probabilistic nature of such statements. When the Riksbank first published a fan chart for its future policy rate in February this year, an article written by one of the most sophisticated investment banks totally ignored the probabilistic nature of the exercise. Against that background, would we be able to convince the media's huge audiences for personal finance advice that they should not base their decisions on our central projections for interest rates because they will almost certainly not come to pass?

Overall, then, I do not think that a compelling case has yet been made for the MPC to publish a forecast of the path for Bank Rate. But we must certainly provide the information necessary for financial market participants to form their own view as to the likely path of interest rates, and we must always be trying to improve the quality of that information. We shall also keep in close touch with our colleagues in central banks that do publish forecasts of policy rates to see what we can learn from their experience. If we feel that there are net benefits from following their example, then we will do so.

---

[16] See Goldman Sachs (2006).

[17] There are many ways of aggregating individual votes on paths of interest rates, but none is particularly attractive. Svensson (2003) has proposed that each MPC member declares a preferred path for Bank Rate. The collective path is formed by taking the median value of Bank Rate at each date in the future. In general this collective path is not the path preferred by any single MPC member and does not reflect an internally consistent set of views, posing a considerable communications challenge. The least bad idea my staff in the Bank have been able to come up with is one that aims to balance the preferences of all committee members – that is to maximise the Committee's overall satisfaction with the outcome. To operationalise this, there could be two rounds of voting. In the first, each Committee member would propose a preferred path for interest rates. In the second round, Committee members would vote on the paths proposed by the other members. This vote could be structured in a number of ways, for example: a simple ranking (with transferable votes to break ties); allocating a fixed number of points over the alternative paths (again with transferable votes to resolve ties); or an arrangement like the current one where, after discussion, the Governor proposes a motion which is likely to command a majority. How all this would be communicated to the public I leave as an exercise for the interested reader.

How successful are the MPC's communications to financial markets and business more generally, and should the Committee be considering other changes? The survey of SBE members I have already described is interesting in this respect.

The first, and most striking, result is that, although the survey was conducted in the weeks immediately following our "surprise" increase in Bank Rate in January, the response overall is very positive. Almost 90% of respondents found communications by the MPC to be either helpful or very helpful. But the interest in the survey lies in the more detailed responses.

There are some important differences in the types of MPC communications that are thought to be useful in forming a view of interest rate prospects at different time horizons. They are summarised in chart 11. At shorter horizons, such as three months, the voting pattern on the MPC, together with the minutes of meetings and the statement published when interest rates change, are thought to be more informative than when forming a view of interest rate prospects over a time horizon of 12 to 18 months. At those longer horizons, it is the judgements contained in the *Inflation Report* that are thought to be more useful. It seems to be that *differences of view* among committee members are more relevant to assessing near-term interest rate prospects than the MPC's *collective assessment* which carries more weight at longer time horizons.

MPC communications were thought to be helpful in understanding how the MPC interpreted the latest data and also in forming a view as to the prospects for interest rates. Over 60% of respondents thought that the balance of MPC communication was "about right", although around 20% felt that too much commentary was devoted to the central view of prospects rather than to the balance of risks. Given the emphasis which the MPC places on the fan chart as a means of conveying information about forecasts, it is striking that there is a demand for even more information about the risks surrounding the central projection rather than the central projection itself. There is, perhaps, a lesson here in the need to redress the balance of discussion in the *Inflation Report* towards the risks and away from the central projection. The view of respondents – largely City economists – in this respect seems to me entirely rational, but in marked contrast to the pressure on us from the press.

Some of the words of respondents to the survey convey the flavour of their views. Several commented on the benefits of more information about the range of views on the Committee. For example, "MPC members could do more speeches, interviews and meetings to explain their individual views on the macroeconomic outlook". And "the key difficulty in framing the communications is that they are clearly meant to convey the views of a group of people rather than one individual. At times when there is a broad consensus this may not be a problem but if there is a difference of views the reports do not always clearly convey the extent of this difference and how many people are in the various camps". Such comments reflect the inherent difficulty of communications by a committee with individual voting. It is important that everyone understands the distinction between those forms of communication which focus on individual views, such as the minutes, and those which present a collective viewpoint explaining decisions of the Committee as a whole, such as the *Inflation Report*.

As I said in my lecture to this Society five years ago, "it should be clear that there are both benefits and costs to a group decision-making process. The transparency and accountability of individual views helps to make better decisions. But it also complicates the communication of the decision to a wider audience, whose expectations of inflation matter for economic behaviour. The avoidance of confusion requires some forbearance by individual members of the Committee, and a clear understanding of which forms of communication are appropriate to explain individual views and which forms are suitable for explaining the reasons for a collective decision". Or, as Alan Blinder has put it in a discussion of individualistic policy-making committees, "a central bank that speaks with a cacophony of voices may in effect have no voice at all".

The results of the survey are broadly consistent with the propositions I put forward in my Mansion House speech last year. The inflation target and the MPC's response to data are well understood. Economists in the City know that economic data are the most useful source of information when forming judgements about future interest rates. And the most useful form of communication for economists when thinking about interest rates more than one year ahead is the *Inflation Report*. There is little indication that respondents are looking for publication of an interest rate path – either in the form of a central projection or a fan chart.

But there is room for improvement in the way we communicate. There seems to be an appetite for more information about the way policy actions are linked to economic data and for more forward-looking analysis of risks to the outlook. In other words, we should talk more about what lies behind the fan chart and how we might change our thinking in response to developments in the data. We could,

for example, provide more guidance on the sort of data that might influence the Committee's thinking on whether second-round effects from higher oil prices and national insurance contributions were materialising.

In thinking about its future communications strategy, the Committee is conscious that there are more or less sophisticated audiences to whom it is speaking. Inevitably, that will colour its judgements on how to communicate its thinking. But the results of the survey provide food for thought. And I am very grateful to all those who took the time and trouble to respond.

4. Conclusions

There has been a sea change in the way monetary policy is conducted in the UK. That is evident in the changing dynamics of inflation and in the stability of the economy more generally. It is not, I believe, credible to dismiss that solely as the result of luck. Our monetary policy regime is firmly based on an explicit target for inflation, a floating exchange rate, and clear institutional arrangements for decisions on interest rates which are decided by majority vote of the Monetary Policy Committee with individual accountability of its members. The MPC operates on a regular and pre-announced decision-making cycle which respects the principle of individual and accountable voting – there is no hiding place on the MPC. All this amounts to a revolution in the way decisions on interest rates are made in this country. As I said to this audience five years ago, "the MPC has proved to be one of those rare "instantly invented precedents" that seem to have worked". It is hard now to imagine policy being set any other way.

The crucial achievement of the MPC is to have anchored inflation expectations. But, as the saying goes, we are only as good as our last meeting. We fully recognise that we must keep our eye on the ball if we are to continue to anchor inflation expectations on the 2% target. I have talked tonight about some of the challenges facing the MPC over the next ten years. But there is no more important challenge than keeping inflation and inflation expectations anchored on the target. I have enjoyed the opportunity to look back over the past ten years, but, as the saying continues, the only meeting that matters is the next one.

When Eddie George and I sat in the Governor's office on that sunny Bank Holiday morning in 1997, we knew we had been given an opportunity to change monetary policy for the better. We had to grab it with both hands. That is exactly what the Bank has done.

References

Blinder, A S (2004), *The Quiet Revolution*: *Central Banking Goes Modern,* Yale University Press.

Blinder, A S and Morgan, R (2000), "Are two heads better than one? An experimental analysis of group vs individual decision making", NBER working paper no 7909, September.

Goldman Sachs Economic Research (2006), "Should the MPC Have Pre-Announced the Hike?", *UK Economics Analyst*, 6, 9.

Goodhart, C A E (2007), "Whatever Became of the Monetary Aggregates?", Peston Lecture at Queen Mary College, London.

Hennessy, P (2007), *Having It So Good: Britain in the Fifties*, Penguin.

King, M A (2002a), "The Monetary Policy Committee Five Years On", Speech to the Society of Business Economists, *Bank of England Quarterly Bulletin,* Summer 2002.

King, M A (2002b), "No Money, No Inflation: The Role of Money in the Economy", *Bank of England Quarterly Bulletin*, Summer 2002.

King, M A (2004), "Speech at the Eden Project, Cornwall", available at: http://www.bankofengland.co.uk/publications/speeches/2004/speech229.pdf.

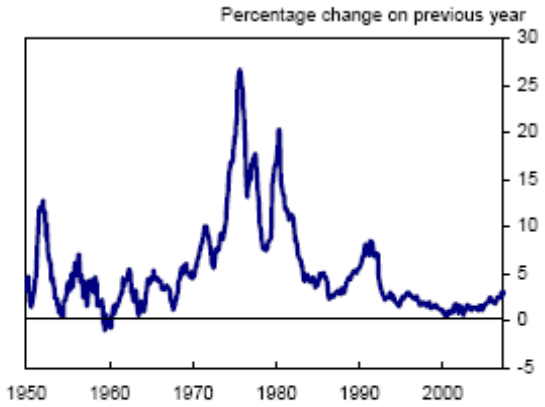
King, M A (2005), "Monetary Policy: Practice Ahead of Theory", Mais Lecture at the Cass Business School, London, *Bank of England Quarterly Bulletin,* Summer 2005.

Lombardelli, C, Proudman, A J and Talbot, J (2005), "Committees Versus Individuals: An Experimental Analysis of Monetary Policy Decision Making", *International Journal of Central Banking*, 1, 5.

Svensson, L E O (2003), "The Inflation Forecast and the Loss Function", in Mizen (ed.), Central Banking, Monetary Theory and Practice: Essays in honour of Charles Goodhart, London: Edward Elgar.

Taylor, J B (1979), "Estimation and Control of a Macroeconomic Model with Rational Expectations", *Econometrica*, 47, 5.

Chart 1: UK CPI inflation, 1950-2007[a]



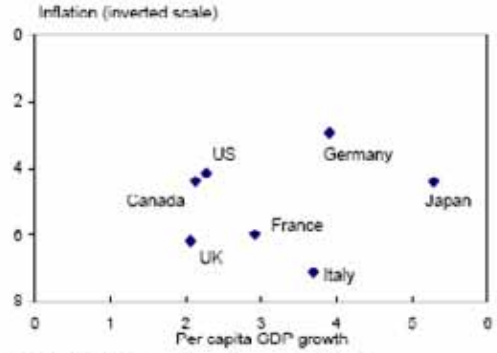
(a) Monthly data.
Sources: ONS and Bank of England calculations.
January 1989-March 2007, official ONS CPI estimates.
January 1976-December 1988, ONS CPI estimates; see http://www.statistics.gov.uk/articles/economic_trends/hicp_historical_estimates.pdf for further information.
January 1950-December 1975, RPI inflation less 0.25pp for the 'formula effect'.

Table 1: UK inflation dynamics, 1950-2007[a]

Period	Mean	Standard deviation	Persistence
January 1950 - April 1997	6.1	5.1	0.7
May 1997 - March 2007	1.5	0.5	0.5

(a) Inflation data as shown in Chart 1. Persistence measured as correlation between inflation in December and inflation in the previous December.
Sources: ONS and Bank of England calculations.

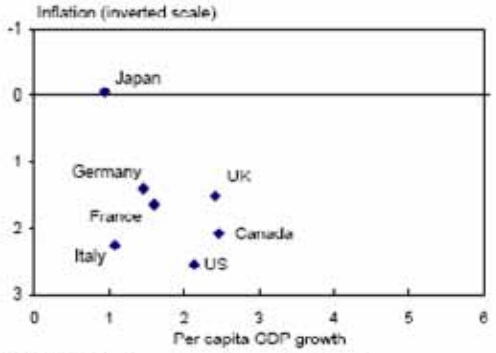
Chart 2a: G7 inflation and GDP growth, 1950-1996[a]



(a) Monthly CPI data and annual per capita GDP data.

Sources: GDP per capita data are from national sources, OECD, Madison tables and *IMF International Financial Statistics*. CPI data are from national sources, IMF *International Financial Statistics* and Global Financial Data. UK CPI data as shown in Chart 1.

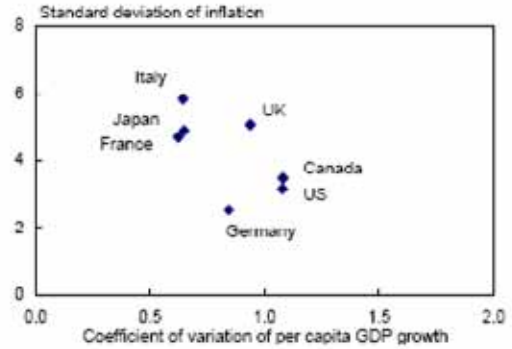
Chart 2b: G7 inflation and GDP growth, 1997-2006[a]



(a) Monthly CPI data and annual per capita GDP data.

Sources: GDP per capita data are from national sources, OECD, Madison tables and *IMF International Financial Statistics*. CPI data are from national sources, IMF *International Financial Statistics* and Global Financial Data. UK CPI data as shown in Chart 1.

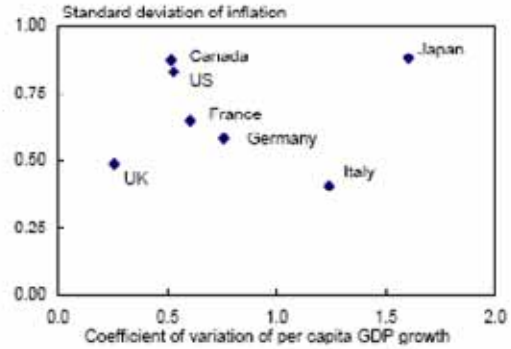
Chart 3a: G7 inflation and GDP volatility, 1950-1996[a]



(a) Monthly CPI data and annual per capita GDP data.

Sources: GDP per capita data are from national sources, OECD, Madison tables and *IMF International Financial Statistics*. CPI data are from national sources. IMF *International Financial Statistics* and Global Financial Data. UK CPI data as shown in Chart 1.

Chart 3b: G7 inflation and GDP volatility, 1997-2006[a]



(a) Monthly CPI data and annual per capita GDP data.

Sources: GDP per capita data are from national sources, OECD, Madison tables and *IMF International Financial Statistics*. CPI data are from national sources. IMF *International Financial Statistics* and Global Financial Data. UK CPI data as shown in Chart 1.

Chart 4: Stability possibility frontier ('the Taylor curve')

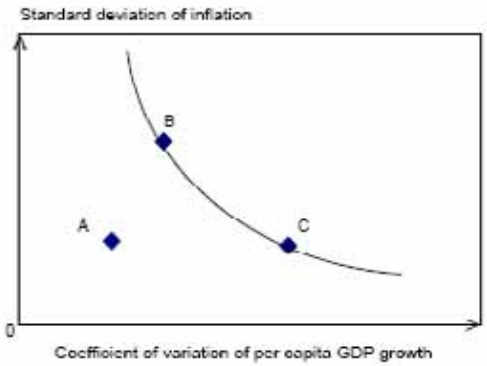
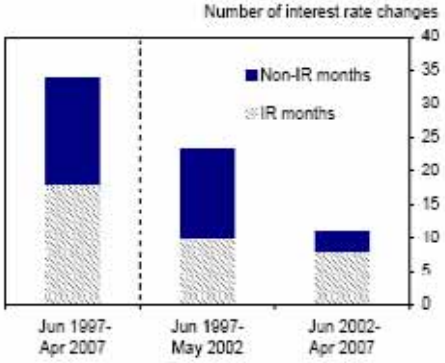


Chart 5: UK 20-year government bond yield, 1950-2000[a]

(a) Quarterly data.

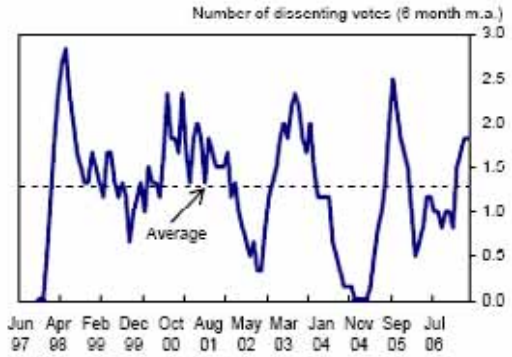
Source: Global Financial Data.

Chart 6: Interest rate changes in *Inflation Report* months, 1997-2007



Source: Bank of England, see http://www.bankofengland.co.uk/monetarypolicy/mpcvoting.xls.

Chart 7: Number of dissenting MPC votes, 1997-2007



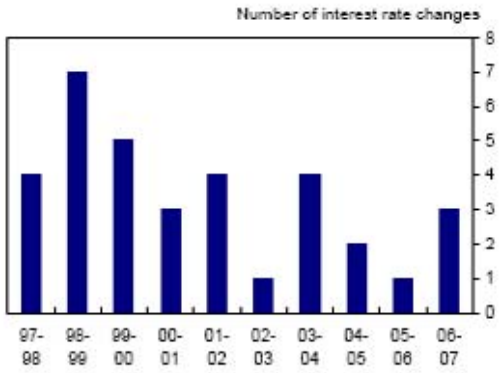
Source: Bank of England, see http://www.bankofengland.co.uk/monetarypolicy/mpcvoting.xls.

Table 2: Voting and dissent on monetary policy decisions

	Bank of England	Federal Reserve	Riksbank	Bank of Japan
Frequency of meetings	Monthly	Usually 8 per year	7-9 per year[a]	14-19 per year
Number of meetings in sample	120	85	77	148
Average number of voters	8.7	10.8	5.8	9
Average number of dissenters	1.3	0.3	0.4	1.0
Proportion of meetings with at least one dissenter (%)	65	24	32	58
Proportion of meetings where at least ¼ of voters dissented (%)	18	0	9	5

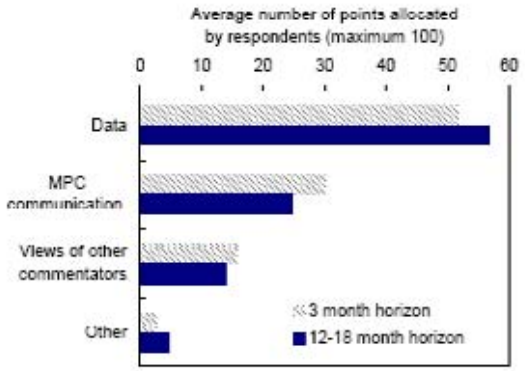
(a) There were 19 meetings in 1999, following the granting of independence to the Riksbank in January 1999.
Sources: Bank of England, see http://www.bankofengland.co.uk/monetarypolicy/mpcvoting.xls (May 1997 onwards).
Federal Reserve Board, see http://www.federalreserve.gov/fomc/default.htm#2007 (February 1997 onwards).
Sveriges Riksbank, see http://www.riksbank.com/templates/YearList.aspx?id=10809 (January 1999 onwards).
Bank of Japan, see http://www.boj.or.jp/en/theme/seisaku/mpm_unei/giji/index.htm (April 1998 onwards).

Chart 8: UK interest rate changes per year, 1997-2007[a]



(a) Rate changes counted from June of one year to May of the following year, except in 2006-07, for which data are only available to April 2007.
Source: Bank of England, see http://www.bankofengland.co.uk/monetarypolicy/mpcvoting.xls.

Chart 9: Factors thought useful in forming an interest rate view



Source: Society of Business Economists survey in association with the Bank of England. Questions 3A and 3B.

Table 3: Average number of interest rate changes per year, June 1997-April 2007

	Average number of rate changes per year
United Kingdom	3.4
United States	3.9
Euro area[a]	2.1
Japan	0.7
Canada	4.4
Sweden	2.9
Switzerland[b]	2.3
Australia	2.1
New Zealand[c]	3.5

Sources: Bank calculations using central bank websites and Datastream.

(a) Data for Germany before 1999. We have not counted the change in monetary policy regime associated with the implementation of the euro as a policy change.

(b) Data for June 2000-2007.

(c) Data for 1999-2007.

Chart 10: UK CPI inflation and broad money, 1950-2006

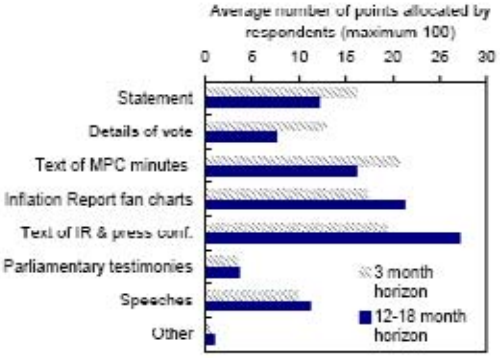
Sources: CPI data are as shown in Chart 1.

Broad money data are from:

1950-1963, Capie, F and Webber, A (1985). *A monetary history of the United Kingdom, 1870–1982, Volume I: data, sources, methods*, Routledge: London and New York.

1964-2006, ONS.

Chart 11: Forms of communication thought useful in forming an interest rate view[a]



(a) One respondent to question 5A and two to 5D answered "Don't know", which have been excluded here.

Source: Society of Business Economists survey in association with the Bank of England. Questions 5A and 5B.