REPORT TO
THE NON-EXECUTIVE DIRECTORS OF THE COURT OF THE BANK OF ENGLAND
ON MONETARY POLICY PROCESSES AND THE WORK OF MONETARY ANALYSIS

by

Donald L. Kohn*

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* Director, Division of Monetary Affairs, Board of Governors of the Federal Reserve System.
The views expressed in this report are those of the author and do not necessarily reflect those of the Board of Governors of the Federal Reserve System or other members of its staff.

I. Introduction

This report to the non-executive Directors of the Court of the Bank of England gives the results of the review I was asked to undertake of a number of aspects of the monetary policy processes of the Monetary Policy Committee (MPC) and the staff work supporting those processes.

More specifically, I was asked to assess the materials being made available to the MPC, including the staff briefings; the inflation forecast process and the quarterly Inflation Report; and the work of Monetary Analysis (MA), the staff group providing most of the material to the MPC. With regard to the material being supplied the MPC, I was asked to assess its quantity and quality, its objectivity, how it measured up against the type of material available to policymakers at other central banks (including the Federal Reserve,) and whether the material supplied adequately covered regional and sectoral developments, among other criteria. I was asked my views on the efficiency and effectiveness of the inflation forecast process, and the contribution of the forecast and the Inflation Report to enhancing the transparency of the policy-making process. The issues with respect to Monetary Analysis included the quality of its work, the mix of its work in terms of research and analysis, the adequacy of its resources, and turnover among the staff.

My review took as given the overall legal structure established by Parliament, including an inflation target set by the Chancellor to be carried out by a nine-member Monetary Policy Committee meeting 12 times a year and issuing quarterly reports detailing how it was accomplishing its objectives.[1] In addition, policy choices and economic outcomes were outside the bounds of the review. Moreover, as an outsider, understandably, I was unable to observe the meetings where decisions on interest rates were made. Consequently, while this review covers the

[1] Parenthetically, one nearly universal recommendation of policymakers and staff I talked to was to change the legislation to allow fewer meetings each year. The monthly frequency was seen as not justified by the amount of new information becoming available between meetings, and in that context, as imposing considerable and unnecessary demands on policymakers and staff.

inputs into the rate-setting process, it does not include a discussion of the decision-making procedures.[2]

The review is well timed. The MPC has been in existence for a little over three years. This is long enough for both strengths and weaknesses of the policy processes to begin to emerge. From a number of perspectives, the structure of policymaking has had very favorable results. Although, as noted, it is not within the scope of this report to judge policy outcomes, in fact they have been good. The inflation rate has hovered near the target set by the government, and output fluctuations have been damped. This may be partly "luck" resulting from the nature of the developments affecting the U.K. economy and the general tendency around the world for inflation to be low and steady. But it also likely reflects in some part a well-functioning policy process resting on objective and comprehensive information and analysis. The inflation target has acted to anchor decisions and market expectations. The MPC has emphasized the role of forecasts in its decisions, given the lags between policy actions and inflation outcomes, and, apparently, these forecasts and the procedures used to arrive at them have been sufficiently good to contribute to successful policy. In addition, the considerable emphasis the MPC has put on explaining its decisions and revealing its thinking on relevant issues likely has enhanced confidence, built support, encouraged stabilizing price movements in asset markets, and facilitated its democratic accountability.

But, not surprisingly after only three years, the process of adjusting to the new policy regime is ongoing. The MPC has needed to adapt many of the procedures and structures put in place when the Bank in the person of the Governor was advising the Chancellor to a situation in which a committee, the MPC, is making the decisions about interest rates. Among other issues, the committee structure greatly complicates transparency; it is far easier to determine and publish

[2] In my conversations with people who do attend, these meetings were reported to work quite well. Discussions were said to be lively and well focused on the relevant information and the decision to be made, with ample opportunity for examining key issues and for airing a full range of views by all MPC members.

the views of a single person than it is to those of a Committee with nine individually accountable members.

To conduct my review, I spent seven weeks in London with an office at the Bank. I conducted interviews with all the members of the MPC, with many staff members, and with other individuals currently or formerly associated with the MPC. In addition, I attended the meetings of the MPC at which the May inflation forecast and Inflation Report were put together and two pre-MPC briefings and received all the associated written material. I was given access to all the material going to the MPC and any information I requested associated with the work of MA. I also participated in research seminars given by the staff of Monetary Analysis. I have consulted with a few individuals associated with other inflation-targeting central banks that are addressing issues similar to those facing the MPC in making and publishing forecasts. I did not talk with market participants or others outside the MPC/central bank circle. All those I talked to at the Bank were extremely open and cooperative in their assessments of the strengths and weaknesses of the policy process and of the work of Monetary Analysis, and forthcoming in their suggestions for changes.

This report is based primarily on these conversations and observations, on my experience at the Federal Reserve, and on background reading. But the Court should be aware that the input and the time available to the task have been limited. Moreover, since I gathered most of my information, changes have occurred that likely are only incompletely reflected in this report. Finally, it has been difficult to measure what I observed against other central banks. My knowledge of what goes on at most other banks is sketchy, except for the Federal Reserve, and in that instance, differences in structure and functioning may reduce the value of the comparison. In particular, the roles of the staff and policymakers and the relationships between them differ in significant ways in the United States and the United Kingdom.

Lastly, for the most part, I do not have specific recommendations. The Bank and the MPC are already well aware of the issues I highlight and are moving to address them. For most there are no easy or obvious answers, or they would already have been implemented. And it is the policymakers and staff that are in the best position to identify and evaluate possible courses of action. My one strong recommendation is that the process of addressing these issues not be allowed to flag.

II. The Flow of Information to the MPC[3]

In general, the flow of information and analysis to the MPC is impressive--providing timely, comprehensive, and objective inputs focused on the needs of policymaking. The level of research and analysis is highly advanced, comparable to that done at the Federal Reserve, with both staff members and policymakers clearly aware of and utilizing recent developments in relevant economic theory and empirical research. Policymakers and staff appeared to have broad and deep knowledge of economic developments, not only in the United Kingdom, but also in other economies that might affect the United Kingdom. A key precept of the flow is that relevant information and research is shared among all MPC members so that each has the same knowledge base at the policy meeting.

Policymakers were mostly satisfied with the information they were getting, recognizing that any such flow naturally is constantly being adjusted to better serve their needs. Areas they and staff raised for further consideration included whether the information about current developments could be pared down a bit to be more directly focused on the decision at hand, whether that information might not be presented with more emphasis on analysis rather than data reporting, and whether the procedures now driving the research agendas were flexible enough to accommodate the full variety of projects that might prove useful.

Research. As the Court is aware, the procedures for setting the long-term research agenda were altered to more closely involve all the members of the MPC, both to set the agenda and to participate in the research. While this is a relatively new procedure, most thought it promising. Staff were eager to work with MPC members, many of whom have special expertise and international reputations in various areas of macroeconomics, and welcomed the regularization of the procedures for such contacts and joint work, which they hoped would promote more interaction with both internal and external members. Care will need to be taken

[3] The material in this section covers the general flow of information and analysis to the MPC. The particular requirements of the inflation forecast round are discussed in the next section.

that the agenda allows adequate opportunities for proposals to "bubble up" from the staff and does not become too "top down" from the MPC, depriving the Committee of some potentially useful work, affording the staff insufficient outlets for their own creativity, and complicating hiring and retention problems. And the MPC and the Bank will need to be certain that promotion and rewards to staff economists continue to depend on the quality and quantity of output, without regard to whether the work is associated with internal or external members.

The Bank has several research economists making important contributions to policy-related research that have been disseminated through papers, conferences, and publications. In addition to my familiarity with some of the work of these economists, I was able to sample work in progress at two "research away days" held during my stay at the Bank. These are seminars organized by Monetary Analysis at which several preliminary research papers are discussed by staff and MPC members. The research presented was of high quality, taking account of the most recent work going on in the field. Projects were tightly focused on, and highly relevant to, the policy issues facing the MPC. Participation by senior staff (including people from the financial stability and markets side of the Bank) and MPC members (including external members) was active and constructive. This is a good way to keep policymakers current on the progress of research projects and to provide feedback and encouragement to research economists.

Efforts to improve the statistical models used by the staff and MPC should continue to place a significant, if not rising, call on research resources. A number of projects were aimed at improving the modeling of the supply side of the U.K. economy, an issue of growing importance as questions about technological change, capital investment, profit margins and long-term growth trends become increasingly prominent in policy deliberations. Models play an important role in MPC deliberations on the inflation forecast, in many respects substituting for a staff forecast as a focus for discussion. They help to organize consideration of how developments in the economy had deviated from expectations and how to treat those deviations in the new projections. Consequently it is particularly important to the MPC that MA to be able to incorporate the most recent research in policy-relevant models into its work.

At the Federal Reserve, as at the Bank, the staff and policymakers use a variety of models to inform forecasts and policy decisions. Federal Reserve models include a large-scale model of the economy and many smaller models of particular sectors or markets. These models are continuously upgraded as the economy changes and previous deficiencies are revealed. There is considerable productive interaction among the modelers and among the modelers and the judgmental forecasters and the Federal Open Market Committee. Models are used to analyze past developments, predict the future, and, often, to discuss possible implications of alternative policies or economic developments. This latter type of exercise can be especially useful for analyzing the risks to the forecast and the range of possible outcomes–the “skews” and “variances” the MPC places around the central tendency of its inflation forecast.

MA produced a large number of <u>shorter-term research</u> projects aimed at the next quarterly Inflation Report or MPC meeting. Naturally, these were tightly focused on the policy or forecast issues at hand. Many respond to questions and issues raised by MPC members in the course of the pre-MPC briefing or the forecast round. Key issues bridging short-term research and current analysis are covered as well in the pre-MPC notes received by the MPC members with the chart pack before the MPC meeting. Judging from the sample I saw, they are comparable to similar very short-term work at the Federal Reserve. Often at the Federal Reserve Board such projects utilize the large-scale staff model as a starting point, reinforcing the usefulness of model development at the Bank. The results of these projects are circulated to all MPC members to ensure that each has the same access to staff work as background for policy deliberations. To meet this objective fully, staff and MPC members will need to take care that research is circulated far enough ahead of time to allow its evaluation by all MPC members.

A concern expressed by several staff members was that research seemed to be driven either by the current forecast round or the long-term agenda, leaving inadequate opportunities for intermediate-term research. More such research, stretching over more than one forecast round, might allow somewhat more thorough analysis of important topics, and greater review of that analysis before it influences the forecast.

Current Analysis. There are several avenues through which MPC members get information from staff on current developments in the economy. One is through reporting on new data releases. The data themselves are summarized as they become public and the original releases made available by link through the Internet. In addition, a short analysis, posted to the intranet, draws out the implications of the new data. Overall, the quantity and quality of this response to new data were very similar to that at the Federal Reserve, and the delivery through the day by e-mail was timely, convenient, and complete. Supplying the link to the original data helps MPC members to obtain the information to form their own views of the implications of the data. At times, follow-up memos are circulated that draw several strands together and provide more interpretation. A strong and deep staff of experts who are familiar with the characteristics of the various data series and the underlying economic concepts needed to analyze them is essential to helping the MPC make sense out of a vast and often contradictory flow of information.

Data becoming available through an intermeeting period are summarized and put into perspective in the pre-MPC briefing. I sat in on a full-day pre-MPC briefing in April and a half-day briefing in May (though the differences in time consumed are less than implied by these descriptions.) Many members of the Court have also attended these meetings, and the Court has received several reports on outside evaluations of them. As you are aware, they are comprehensive reviews of incoming information on the economy, including Agents' reports (discussed separately below.)

For the most part, policymakers gave the briefings good reviews. They liked the opportunity to see all the new data summarized just before the meeting and put in some perspective, and to raise questions about the data and its implications. They thought the staff did a good job presenting the information and responding to questions.

Many, though not all, would welcome more analysis and assessment by the staff. However, within the group of those who favored more analysis, views differed as to how far they would want the staff to go in drawing implications for the outlook; some would like only a little more analysis of the particular sector or series in question, others would welcome a drawing out of the implications for the inflation outlook. Views differed as well on the coverage of the briefing. Some welcomed the complete and detailed scope of the coverage–especially those who had less time to follow the daily data analysis; others would prefer a shorter presentation that was more focused on the most important new information becoming available. Among the latter members, however, there was no consensus on what was essential and what was not.

Staff welcomed the opportunity to present information to the MPC and those attending but not normally presenting came away from the meetings with a better understanding of the issues and questions the MPC considered of special importance, which helped them shape their own research and analysis agendas and enabled them to put their assignments in a broader context. At the same time, staff emphasized the considerable burden imposed on a relatively small number of people by having to do the pre-MPC briefings each month.

My own assessment is that they are indeed very complete briefings, presented with a high degree of technical competence, which, taken together with the chartpack, should provide the policymakers with all the information they require on the flow of data and surveys since the MPC's previous meeting. I could detect no biases in the presentations, in which staff, in fact, seemed to be expending special efforts to provide a complete set of data in an objective manner. Sectoral information was included in nearly every segment of the briefing and the chartpack; such information can be important in coming to an understanding of emerging trends in financial markets and the economy, and it was highlighted when the analyst considered it would be useful to do so. Regional information was provided by the Agents reports, discussed below; such information was related to the overall developments in the U.K. economy, as indeed it must be to assist in making a national monetary policy. The briefings included information from the markets group, giving useful interpretations of recent price movements in financial markets and the expectations built into the structure of interest rates.

At the Federal Reserve, the briefings just before policy meetings are more focused on the outlook–centered around the underlying forces shaping the staff forecast of economic activity and prices. Material like that in the pre-MPC and chartpack is presented in weekly briefings to the Federal Reserve Board and in a background document prepared for the FOMC that reviews developments since the last meeting of the Committee in the domestic economy and financial markets, and internationally. Compared to these materials, the pre-MPC was similar in its sophistication and coverage.

The staff and the MPC might work at meeting the expressed desire by many MPC members for briefings that are better focused and more analytical. The half-day briefing appeared to be just as helpful as the longer one, and perhaps more to the point under the discipline of the slightly tighter time frame.[4] Even the half-day briefing might have been trimmed a little by reducing occasional redundancies and concentrating more on the new information most likely to be important to the policy decision. Staff made special efforts to sort through the data, highlighting potential conflicts among data series. However, if the MPC desires, staff experts might more often attempt to assess the information content of the individual series and draw conclusions about emerging trends, especially in sectors, markets, or relationships that may have particularly important effects on the inflation outlook.

Some presentations compared recent outcomes to assumptions or expectations in the most recent inflation forecast, but consideration might be given a more complete and systematic use of such comparisons. Indeed, if the MPC would find it helpful, the staff might attempt to pull together the implications of the new data since the last meeting or since the last forecast round for the inflation forecast–using either general characterizations of effects or precise new estimates of inflation 8 quarters out. Such an exercise would give a more forward-looking flavor to the presentation even in the absence of a staff forecast and might help to focus staff and MPC members on the most important developments.

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[4] My understanding is that the MPC has decided that all pre-MPC briefings will be a half-day.

Agents reports are an important part of the briefing and input into the policy process. Such reports should help the MPC on occasion spot emerging trends before they become apparent in the data, which lag. Moreover, by helping the MPC understand regional and sectoral developments from the perspective of individual businesses, they should contribute to understanding and explaining the circumstances and decisions that lie behind the aggregated data and hence shed light on the likely course of future developments.

The Agents' reports appeared already to be useful, and they are under constant improvement. The reports encompassed a noteworthy attempt to systematize and attach quantitative values to the flow of anecdotal reports received from around the country. By achieving comparability over geography and time, the reports should enable the MPC to track the evolution of the information and apply it to national economic trends. In addition, it will facilitate research to establish the value of the information they contain. The presentation of this information to the MPC appropriately emphasizes the national picture assembled from the regional reports, but the regional data are presented in detail in the chartpack for the use of MPC members. In addition to the regular questions, a special set of questions is developed each month to address particular concerns of the MPC. Since these are focused on particularly puzzling and important developments, they have the potential to be quite useful to the MPC as it interprets incoming statistics.

Agents and staff reported that MA and the Agents had developed a good and cooperative relationship. This was contributing to making the Agents' reports and resulting series more rigorous and more useful to the MPC. Agents were building relationships with businesses and other groups in their areas and attempting to make their data collection represent something like the mix of GDP in order to increase its usefulness at spotting and analyzing national trends.

In my observation, the MPC took considerable interest in the Agents' reports, especially the special questions. Presentations sparked questions and comments from MPC members, suggesting that the reports in fact were playing a useful role in their evaluation of the economic situation and the prospects for inflation. The questions from the MPC often elicited interpretations and anecdotes from Agents that gave a fuller flavor of what was occurring in the regions and sectors. Systematizing the collection of reports should not be allowed to become overly rigid and stifle unexpected and unanticipated flows of information, but overall I found the systems put in place both to collect regular information and to zero in on particular questions quite impressive and useful.

III. The Inflation Forecast and the Inflation Report

Background. The inflation forecast and the inflation report are key elements in making policy under the inflation target set by the government and in explaining the policy to the public. MPC members agreed that the process of arriving at the forecast has many useful aspects. It has helped the Committee come to some common understandings on a basic framework for analysis of economic developments, the causes of inflation, and the transmission of monetary policy. Within that framework, the forecast is a comprehensive look at all aspects of the economy and financial markets that entails identification of the important factors that will be affecting the course of inflation and economic activity over coming years and fosters discussion among members of alternative possibilities and analyses of these factors. By focusing not only on most likely outcomes but also on the developments that might cause outcomes to deviate from forecasts, the process and associated discussion should help the members recognize significant new trends more quickly and improve the odds on responding appropriately when they occur. Through this forecast process, the members are effectively forced to organize their own thoughts and analysis, and they come to a better understanding of alternative positions and possibilities put forth by their colleagues. The questions that arise in the course of the round also help to focus staff research--both short- and long-term--on the issues of most concern to the MPC.

The output gives a focus and discipline to policy decisions--the inflation forecast two years out. Although the MPC's remit calls for RPIX inflation to be at 2½ percent at all times, if forces push or threaten to push inflation away from target, given the lags between policy decisions and their effects on inflation, the Committee can not always achieve it in the short run without considerable, unnecessary, economic dislocations. In these circumstances, a forecast is a sensible intermediate policy objective, which if reasonably accurate over time should tend to keep inflation from straying very far from the objective, while avoiding sharp, policy-induced, fluctuations in economic activity. It is readily explained to the public and provides an important element in transparency and accountability. The published forecast should help the public understand the motivation behind the most recent policy decision. The dimensions and discussions of the skews and variances around the forecast should alert the public to the risks the MPC sees to meeting its mandate, and the assumptions and analysis underlying the forecast provide a benchmark to the public and the MPC for judging the possible need to alter policy when events do not transpire as expected.

But in my discussions, both MPC members and staff saw a number of difficulties in the current process and outcome, which my observations tended to confirm. In brief, the process was very time consuming and in the view of some, the time not always well allocated to the most important issues. In addition, the outcome was not precisely defined or clearly understood by the MPC and the public. Consequently, the forecast round and Inflation Report perhaps may not be as helpful as they might be to the Committee, or to the public, the Parliament, and the markets in understanding, predicting, and judging policy actions.

The process I witnessed involved around 10 meetings, not counting those to review the drafting of the report. The number of meetings arose in part because it was a "bottom up" procedure, in which the forecast was built from judgments on many aspects of the economy on a piece by piece basis. Those "pieces" can range from factors that could have a major effect on the course of the economy and prices over coming years to those whose impact is likely to be small or temporary. The staff comes to the MPC for decisions on each of those factors and the staff is not expected to provide much help to the Committee on the appropriate choices, beyond background analysis. One consequence of this is a considerable amount of time can be spent on items that may have only a small effect on the ability of the MPC to meet its mandate. In addition, while the Committee has moved to looking at the potential final result earlier in the meeting rounds, the line-by-line approach has meant that consideration of the overall shape of the forecast and the key underlying forces and relationships driving the outlook can get less consideration than some saw as desirable.

Moreover, a number of members perceive some game playing with regard to choices on individual assumptions; that is, members argue for particular assumptions not out of conviction on those assumptions, but rather to shape the overall outcome in a direction they are most comfortable with. Several also saw the process as “contentious,” though in my experience the discussion was fair and civil, if at times appropriately vigorous. And the process is so complex, the Committee tends to shy away from late changes after the MPC meeting that would accommodate the evolution of Committee members’ thinking in the course of policy discussions.

In addition, the outcome is not clear. The MPC needs to continue examining what it means by “best collective judgment” to refine its understanding and possibly to consider alternative approaches. Originally, apparently, the forecast was a consensus of Committee members, forged through compromise and trade-offs. But as views became more diverse, compromise to achieve a single forecast was no longer possible, and members created Table 6B, which contains alternative assumptions and outcomes for the inflation forecast eight quarters out. Although the Outlook section indicates generally how far from the central tendency some members’ forecasts might be, that indication is not explicitly related to the information in table 6B. The public does not know the number of members at odds with the central projection, and except for that general statement, the distribution of forecasts around the center. Table 6B also has complicated the construction of skews, since members who would have argued for skews to allow them to join the consensus now see themselves on Table 6B.

As a consequence of uncertainty about the meaning of the forecast, and of the bottom-up approach by which the forecast is built from the transformation of a series of assumptions, the overall result has not always been a forecast that is consistent with and helps to explain the MPC’s most recent decision. The center of the forecast and the variances and skews around it may not consistently represent the views of the center of the Committee likely to be determining policy and influencing economic outcomes. Although the forecast and the policy decisions cannot be linked mechanically, the higher the degree of coherence, the more useful the forecast will be for transparency and accountability.

Some MPC members and outside observers also have questioned several other aspects of the forecast and report write up–including the conditioning assumption of a flat policy interest rate and the strong emphasis on keeping the eight quarter ahead inflation rate at or quite near the target. The former introduces complications by often being obviously inconsistent with the most likely path of interest rates. With respect to the latter, there are a number of circumstances in which allowing the forecast to deviate from target under an unchanged interest rate assumption will improve the odds on realizing the best possible performance of the economy and prices consistent with achieving the inflation target over time.

The MPC recognizes these problems and has taken steps to address them. Since my visit to the Bank, I understand that the MPC has met to discuss both the inflation forecast output and the process. Changes were made to streamline the process, and the August Inflation Report contains a helpful box on the forecast, which addresses the role of the forecast in policy and clarifies the contingencies included in the skews, or risks, to the forecast. The discussion that follows highlights the issues as I saw them last spring, and gives some possible alternative approaches to the forecast and the process of producing it, but it may not fully reflect these more recent changes. Moreover, these are complex issues, which do not admit of easy resolution, and only the MPC and its staff have the knowledge and experience to address them properly.

The inflation forecast

The central tendency. As noted above, the inflation forecast has evolved in ways that have tended to obscure precisely what it is. In particular, the greater dispersion of forecasts among MPC members that has led to table 6B has made it more difficult to interpret the phrase "best collective judgment" that is applied to the forecast, and discussions with and among MPC members revealed differences of opinion on how the forecast should now be viewed or should change. To achieve at least rough alignment between policy and the forecast, whatever is published should reflect the "center of gravity" of the Committee that made itself felt in the most recent policy decision. However, determining and presenting a view that would explain actions and shape expectations constructively is difficult in the context of a Committee, especially one with emphasis on individual accountability.

Against this background, the MPC would seem to have a number of alternatives to consider if it wished to alter current practice for representing the central tendency of the basic forecast:

1. Publish no explicit forecast, but an extended discussion of general tendencies and concerns. A forecast is not required by law, and this alternative might be a better representation of what in fact the MPC feels it can most usefully say about the future; precise forecasts, even with fan charts, may give the impression of more accuracy and confidence than is felt by the Committee or warranted by experience. Numbers may deflect attention from the underlying analysis of the fundamental trends and tendencies that the Committee sees as the most significant influences on its decisions and sources of its concerns about the future. However, the MPC may feel that it can be more helpful to the markets and the public than implied by only a general discussion, that a numerical forecast is an important element in accountability in as much as it allows the public to judge the technical competence of the Committee, and that the forecasting process itself has value as a technique by which the MPC identifies and debates elements affecting the inflation outlook and reaches conclusions about the stance of policy.

2. Publish a staff forecast and the views of the members arrayed around that forecast. Several MPC members made this suggestion in my conversations with them. A staff forecast would provide a benchmark for MPC discussions, and one that was arrived at with considerably less effort than the "best collective judgment". In arraying members' forecasts around the staff benchmark, the MPC would be fully as transparent as it is currently, if not more so.

However, the staff currently does not produce an independent forecast, and it would require more resources if it were to do so. Before a staff forecast were produced, especially one to be published, the responsibilities for that forecast of the Chief Economist and Deputy Governor for Monetary Policy, who vote in the MPC, would need to be clarified. Moreover, publishing the forecast might focus considerable attention on the staff outlook, and the staff might be reticent to present its best judgment if that were greatly at odds with the Committee or likely to have effects on markets. Largely for these latter reasons, the Federal Reserve does not publish its staff forecast for five years.

3. Publish a Governor's or Bank forecast, submitted to the MPC but not necessarily approved by it.[5] This would be a transparent expression of a particular view, and would avoid the complications of the divergent views on table 6B. However, if the views of the Governor, or the Bank speaking through the Governor, were not representative of the views of the center of the MPC, such a forecast might not be very useful or well related to past or future Committee decisions. If other MPC members disagreed significantly with the Governor, presumably they would want to have their own views represented in some form, giving rise to alternative forecasts, perhaps a number of alternatives in some circumstances. In such circumstances, publishing a Governor's forecast could well complicate efforts to form a consensus about policy.

4. Publish an average (probably a median) of separate MPC members' forecasts for economic activity and prices, which would represent, literally, the "center of gravity" of the Committee.[6] The median could be accompanied by some indication of the dispersion of forecasts as well. The MPC could adopt some explicit common underlying assumptions–in particular, the assumption about the path of short-term interest rates–or it could allow each member to chose an expected path for interest rates and exchange rates and publish the median of those choices.[7] Over time, the median forecast should line up with the median vote on policy, so that policy and the forecast would be reasonably well related, though that might not be the case for each published forecast. With each member's forecast weighted equally in determining the median, members should not have the same opportunities or incentives to game the forecast process.

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[5] Presumably a "Bank" forecast ultimately would have to be the responsibility of the Governor rather than a Bank consensus since the other internal members of the MPC, themselves individually accountable, might not agree with the Governor.

[6] This alternative resembles the practice followed by the Federal Reserve, in which a full range and center two-thirds of FOMC member forecasts of a few key variables are published.

[7] FOMC members do not specify the monetary policy or other assumptions underlying their forecasts.

Still, with possibly nine individual forecasts, it would become difficult to weave together a coherent story about the common concerns and expectations that are likely to be factored into policy decisions, losing an important element of the information helpful to markets and the public. Another key aspect, the MPC members' sense of risks to and uncertainty around their forecasts, probably also would be problematic to determine and portray relative to the median forecast. With individuals rather than the Committee taking responsibility for forecasting, the MPC might find it harder to achieve the benefits of the forecast process–the grappling together over the forecast, testing ideas, coming to a better understanding of alternative positions, and reaching compromise on many issues. And those members finding themselves well away from the median might still feel the need for an outlet to express their views.

5. Finally, a more incremental change would be to make the forecast explicitly the view of the majority of the Committee, allowing dissents.[8] This would help clarify "best collective judgment", eliminate the need for table 6B and its associated ambiguities, and retain many of the benefits of the current process and outcome. Especially if dissents were limited to a paragraph either in the Inflation Report or in the minutes of the relevant meeting and not shown as alternative fan charts, the majority view would get most of the attention, and incentives to join and shape the majority would persist. The public would be better informed about how many of the MPC members were associated with the forecast, while dissenters would be free to be as specific as they wished about their alternative forecasts and the reasons for them.

Skews and variances. It is not only the middle of the forecast range, however defined, that is important for policy transparency, but perhaps equally, if not more, critical are the skews–the risks the policymakers see to realizing their forecasts and objectives. Especially when the central tendency is often very close to the target, the most important information the MPC can convey may be in the discussion of risks. Explanations of the types of contingencies the policymakers are concerned about and how they might react should they occur, should alert financial markets to

[8] This is the model followed by the Rijksbank in Sweden.

noteworthy potential developments and foster responses in those markets to those developments that the central bank is more likely to find constructive and stabilizing. In this regard, the clarification in the last Inflation Report that the skews include possible future asset prices movements as well as economic developments that may already be in train, like alternative paths for earnings and margins, was useful. The Report also discussed the role perceptions of potential risks might play in determining the current stance of policy. Further clarification of the central tendency of the forecast will have implications for the definitions and clarification of skews and variances.

Constant interest rate assumption. The assumption used to condition the forecast that the policy interest rate would be held constant over the forecast horizon has been criticized by the IMF and others on the grounds that it is predictably at odds with reality, gives as a consequence a misleading and inconsistent perspective on the forecast, and is less informative and transparent than an alternative that gave the MPC's expectations of how it would react to the expected evolution of the economic environment.

In concept, telling people about the most likely path for policy in the future may well be preferable. In some cases, the MPC may expect that raising or lowering rates over the next few years is likely to be necessary to keep inflation around its objective. These sorts of expectations can arise from several sources. On occasions when the MPC is especially uncertain about some aspects of the evolving economic situation it may want to proceed cautiously–raising or lowering rates only part of the way to what it thinks will ultimately be needed, and awaiting added evidence on whether the full adjustment is called for. In addition, in some circumstances the path of inflation as the two-year horizon is crossed gives strong indications of the MPC's sense of what policy actions are likely to be needed as the forecast rolls forward. To the extent the MPC has expectations about how the economy will evolve beyond two years and how it most likely would respond to such developments, letting markets know would be a step in the direction of greater transparency that should promote helpful market reactions to new data. Giving the Committee's expectations for interest rates would tend to produce a more credible and consistent forecast–one based on a more likely path of rates and the MPC's best estimate of how financial markets and spending by businesses and households would respond to such a path.

Nonetheless, what is desirable in concept may be problematic or even counterproductive in practice. If the MPC adopted the "median" approach to its forecast, discussed above, it might allow MPC members to choose their own path for policy rates associated with their forecasts and show a median of those paths as well as of the results for the economy and prices. However, whether MPC members individually would want to do this and whether the medians of the forecasts of interest rates and economic outcomes would be sensibly related and informative are open questions.

If the MPC continued to seek consensus or majority forecast, the problems are even larger. In my conversations on this issue, many MPC members stressed the difficulty of the Committee coming to agreement on a possible future path for interest rates. They noted the closely argued nature of the debate on current rates, and their inference that agreement on future rates would be essentially impossible. There are many different paths of interest rates that will achieve the same inflation objective, even when members are in rough agreement on the outlook. The MPC itself has too short a history over too few economic circumstances to rely on its "typical" past reactions as a foundation for a hypothetical future policy path. Moreover, the MPC already publishes a lot of information about its view of underlying economic relationships, in part by showing how it would anticipate economic activity and inflation to evolve if interest rates follow the path expected by the market, in addition to its forecast with rates unchanged. By giving two forecasts based on different interest rate assumptions, the MPC is conveying quite a bit about its views on the interest-sensitivity of spending and the spending-sensitivity of inflation, which should help observers predict future policy actions. In practice, making the constant rate forecast the centerpiece of the Inflation Report has not deterred the financial markets from building in future rate changes, even when the forecast is for inflation to be at target in two years.

An additional potential problem is the degree to which markets might take such an expected path for policy rates as indicating a greater degree of commitment than the Committee intended. Experience in other countries suggests that problems arise not so much in reaction to the announcement of a path, as in market responses to subsequent developments. Central banks making announcements about future paths for policy-related variables try to emphasize that they are conditional and contingent on the expected evolution of the economy, and that deviations from those expectations would require paths to be adjusted. However, it is impossible to foresee all possible developments–every situation is different, and the differences, possibly subtle, may not be clear to markets, which then react inappropriately. The central banks of both Canada and New Zealand found that publication of expected monetary conditions indexes (which include both exchange and interest rates) tended to produce inaccurate and counterproductive interest rate movements when certain unexpected shocks hit the exchange markets.[9] And in the United States, when the FOMC gave its sense of the odds on possible future rate policy actions, market responses to subsequent policymaker statements and data tended to build in much stronger rate expectations than appropriate, given policymaker intentions. As a consequence, the Federal Reserve has changed its announcement to a form that more closely resembles the MPC skews–that is, emphasizing the risks to hitting its objectives, rather than its possible actions on interest rates.

In light of these difficulties, the first priority of the MPC might be to improve the clarity and usefulness of its current forecast made under constant interest rates. To further aid the public in forming expectations about future interest rate changes, the Committee might consider extending the forecast beyond two years either formally in the fan chart, or informally in a discussion of tendencies. Such an extension, together with information about the risks to the forecast, should help the public make informed judgments about the likely course of interest rates. In addition, the Committee might encourage research on how it could determine and publish any views it had about the possible future evolution of the policy rate.

Focus on two-year ahead forecast. Another aspect of the process and the outcome that the MPC may want to give some attention to is the extent of its focus on having its forecast of

[9] The Reserve Bank of New Zealand now gives its expectations for interest and exchange rates separately.

inflation eight quarters ahead at 2.5 percent. A two-year ahead intermediate inflation target has a number of advantages: It is clear and obviously related to the MPC's ultimate objective; it underlines the inevitable forward-looking nature of policy actions; and it is far enough in the future to allow many short-term disturbances to die out and so helps to emphasize the underlying forces determining inflation and to avoid possibly disruptive reactions to these short-run disturbances.

But too close attention to this metric can have disadvantages as well. Such an emphasis can give insufficient attention to inflation before and after the two-year mark, and too little weight to the possibility that under some circumstances projected inflation away from the target at the two-year mark may be appropriate for the economy. Such a deviation might be caused by an unusual degree of uncertainty that called for gradual policy movement, by shocks of certain type and dimensions after which a more gradual return to target would help damp output fluctuations, and by the possibility that to protect against the potential effects of an especially serious contingency, such as a major financial market disruption, the MPC might want to steer temporarily away from tight adherence to the intermediate target.

Several MPC members emphasized that they indeed understand the 2½ percent forecast to be just an intermediate target to help the MPC achieve the objective set by the government, and that they are not driven under all circumstances to adjust policy to align the 8-quarter ahead projected inflation rate exactly with this objective. However, others did seem to put considerable weight on keeping this projection very near the target, and many in the public apparently expect the Committee to adjust policy to achieve this intermediate target. The forecast round meetings are almost completely oriented to this standard, and in my observation, there was little discussion of whether it was appropriate under the circumstances, though this lack may have been related to the particular conditions at the time. One risk of the emphasis on the two-year out inflation target, taken together with the use of the unchanged policy assumption to present that target, may be a more active policy–one with greater movements in the policy rate–than might be optimal. To be sure, such an outcome would be preferable to a bias toward excessively sluggish policy changes, which could allow misjudgments to build and ultimately require a more wrenching adjustment to the economy.

Thus it might be useful to treat this forecast target flexibly in Inflation Reports as well as in policymaking. The MPC has already taken a step in this direction in the August Inflation Report, which included an inflation forecast a bit above the target. Under some circumstances, even larger deviations might be appropriate, and they should not cause problems for inflation expectations if the reason for them and likely policy response are carefully explained and if actual outcomes continue to be favorable. The MPC's inflation round discussions already include consideration of inflation and economic developments beyond the two-year published forecast horizon. More discussion of this sort might be useful in the Inflation Report itself to reduce the attention on the two-year horizon. As already noted, such discussion would also help with some of the issues raised in objections to the constant interest rate assumption.

Forecast evaluation. Periodic and systematic evaluation of the forecast can make an important contribution to improving performance over time. The MPC is already engaged in that process, comparing outturns to forecasts in the August Inflation Report this year and last. Such an exercise can be quite useful at suggesting very broadly areas in which forecasts have been closer and further from outturns. But more precision is difficult. As the Report states, the exact reasons for forecast misses are hard to sort out–whether they result from deviations of interest rates and exchange rates from their conditioning assumptions, or from not correctly anticipating the underlying relationships governing spending and prices. Analyses of these sort can be carried out in the context of forecasts developed from statistical models, but the Inflation Report forecasts are necessarily the judgment of the MPC, not the mechanical results of a model forecast. Still, models that embody the understandings of the MPC can be useful for this purpose.

The Inflation Forecast Process. As noted in the background for this section, members of the MPC saw both strengths and weaknesses in the process I observed last spring used to produce the forecast. As the MPC moves forward it will need to see whether it can design some alterations to the process that retain its beneficial aspects–a collective examination of forces shaping the outlook to come to a conclusion that belongs to most of the committee–while reducing its costs, including the burden on MPC members.

Among the goals any changes might consider are: Reducing the number of meetings and, except for agenda setting, beginning them only after the meeting the previous month–in part to be certain that incomplete inflation forecasts cannot influence policy discussions; and allowing sufficient time in the more limited number of meetings to consider the most important issues and risks and the underlying forces expected to shape how the economy and inflation are likely to develop.

In these regards, the staff might play a somewhat greater role, while the MPC still retained clear overall control. In particular, the MPC might consider asking the staff for a starting point forecast for deliberations, summarizing the effects of developments since the last Report, using as far as possible, the assumptions and expectations embodied in the last forecast. In addition, currently, the staff is deferring to the MPC for all decisions and judgments, and while ultimately this is appropriate, if the staff were allowed to recommend positions on small points, the MPC might be able to reach conclusions on them more expeditiously and focus more on the larger ones in fewer meetings. In this way, the MPC might get better value from its staff, reducing the MPC's burden while allowing the staff to play a more rewarding role in the process.

It is my understanding that the MPC has moved in this direction since my visit. Continuous re-evaluation of the process and the balance between its burden and its benefits are likely to pay dividends in terms of a more efficient and effective inflation forecast process.

Inputs into the Forecast. An extensive variety of information and analysis went into the inflation forecast. Regional and sectoral analyses, including the Agents' reports, were used to help gain a better understanding of emerging trends. For example, in the round I attended, the Agents' reports on earnings developments in various regions, in particular the influence of year end bonuses associated with the millennium, shaped the interpretation and forecast of labor costs. In making its forecasts, the MPC weighed all the relevant recent data, examined how that data affected their views of ongoing relationships in the economy, and used a number of research and analytical reports from staff.

The role of the staff in the inflation forecast of the MPC differs from its role in many other central banks. Often in other banks, the staff produces a forecast, sometimes with general guidance from policymakers, that the policymakers then react to and shape to conform with their own expectations.[10] At the MPC, the role of the staff has been to help the MPC build a forecast, without the staff at any point making its own forecast. Most (though not all) MPC members preferred this procedure as one that contributed to good policy making and that more clearly ended up with a forecast that reflected the preferences of the MPC, not the staff.

The Bank's staff did play an essential and constructive role in helping the MPC to arrive at its forecast. It organized and summarized information and identified key issues for MPC consideration. It presented analyses of many of those issues to the MPC with alternative outcomes for MPC consideration. And it followed up promptly on the many questions raised by the MPC with further data and analysis.

In this process the staff relied on statistical models to a considerable extent, both a main model and auxiliary equations, to organize the analysis and present options for MPC decisions. The use of a variety of models is entirely appropriate–no one model can capture all relevant aspects of every issue the MPC would want to consider. This practice conforms closely to that followed in the United States, where the Federal Reserve Board staff has a large multiequation model used for a variety of simulations and projections, but also makes extensive use of many smaller models to analyze developments in particular sectors and markets. Ultimately any forecast published by the MPC will necessarily be one informed importantly by the judgment of the policymakers. But models are useful inputs into those judgments, reinforcing the importance of continuing to allocate resources to improve these models.

[10] At the Federal Reserve the staff produces a forecast that then acts as a benchmark for FOMC discussion, with Committee members free to disagree with that forecast, which they often do.

The inflation forecast process takes substantial time and effort of key staff. In my observation, staff presentations and responses were objective and highly professional. The staff involved had detailed knowledge of the relevant issues and forecasting techniques. As desired by the MPC, they deferred to the Committee for all decisions.

The Inflation Report. The Report is a thorough analysis of factors affecting the U.K. economy and financial markets, and hence the outlook for achieving the government's inflation target. In addition to the Overview and Prospects for inflation sections, which are keyed very closely to the inflation forecast and the policy situation, it covers a wide range of financial and economic developments that form the background for the forecasts of economic activity and inflation and the conduct of policy since the last Report.

The Report is thorough in its coverage and logically organized. Recent developments in financial markets and the economy are interpreted and related to the forecasts and decisions of the MPC. The boxes seem especially useful in highlighting and explaining in greater depth elements affecting the forecast that are particularly important or puzzling.

One innovation of the Inflation Report is the presentation of the forecasts for economic activity and inflation in the form of a fan chart. Every forecaster must cope with how best to convey not only what he believes to be the most likely outcome in the forecast, but the uncertainty around that forecast. No method is perfect, but the fan chart has a number of favorable characteristics. It encompasses in one picture not only the most likely outcome, but the growing uncertainty about that outcome as one moves into the future, and any sense that the risks around the outcome are skewed more in one direction or the other. And comparing fan charts between Reports can convey shifts in uncertainty and risks over time, as well as changes in the central tendency.

A danger is that in a graph intended to illustrate uncertainty, the relatively fine 10 percent bands end up being read as connoting more precision about the variance and balance of risks around the forecast than warranted or intended. And the MPC will need to be clear about what the bands around the central tendency represent; in particular, in the past some users had been under the mistaken impression that the bands were intended to capture the disparate central forecasts of all the Committee members. In fact, they represent the "best collective judgment" of the Committee about the risks around its "best collective judgment" of the central tendency. As the MPC clarifies what the forecast is, it will have further opportunities to clarify and reinforce the proper interpretation of the fans.

Preparation of the Report places considerable demands on the time of staff and the Chief Economist, and lesser, but still substantial, demands on other policymakers. But it is important for the central bank to demonstrate publically that it has considered the broadest possible range of information and to show how it has analyzed those elements in arriving at its forecasts and policy decisions. The Report is the principal means by which the MPC can show that it has taken account of sectoral and regional information, as required by the Parliament. Analyses in the Report can influence how others approach the interpretation of important data and can help to stimulate research and a dialogue on the issues with market participants, academics, and other interested observers. Some other central banks publish two main reports each year and two, less complete, "updates", on the grounds that under usual circumstances not enough new data is available in one quarter to warrant a full new analysis. An update likely would require no less effort in terms of producing a forecast, but it would tend to save resources utilized for the background chapters. However, the MPC would be foregoing two opportunities each year to draw special attention to the interpretation of that background material.

IV. The Work of Monetary Analysis.

Overall evaluation. The work of Monetary Analysis has been addressed at several points in this report. As implied by the discussion, I found the staff in Monetary Analysis (MA) to be dedicated, highly competent, professional, responsive to the needs of the MPC, and employing advanced techniques to meet those needs. The staff is highly motivated to contribute to the policy process–in many cases connection to that process was what had brought them to the Bank and keeps them there. Increasingly, MA has adapted itself and its work and research orientation to serve the needs of the policymakers. The output was of high quality and closely linked to the policy issues being addressed by the MPC. While several possible adjustments to research and analysis (i.e., more intermediate-term research and added resources for model building) have been identified for consideration, these would involve potential small shifts in existing emphasis, not a major reorientation of programs. As a general matter, I did not perceive that MA was expending significant resources on tasks they should not be undertaking, or that there were significant holes in the research and analysis that need to be filled.

MPC members universally rated the staff of MA highly for technical competence and dedication. They had a variety of views on the allocation of staff time and on the relationship of the staff to the MPC. As discussed above, many MPC members would prefer more research and analysis, though they differed on how much and what type. Both staff and MPC saw the relationship of the staff to the external MPC members as having been clarified and improved by the agreements of late last year. Lines of communication and responsibility were better defined; the dedicated resources of the externals should relieve some of the pressure and uncertainty in MA-external interactions; and the new methods for creating and carrying out long-term research should help to focus research on a broad range of MPC issues and allow productive interactions between MPC members and staff on research projects. During my period at the Bank the programs had not yet been fully implemented, in that the externals were just getting staffed up and research was just getting under way, so questions persisted on how a number of issues would work out in the end. Those issues included: complications from incongruent spans of authority and responsibility for directing staff, in which external members necessarily had broad authority for directing work, but responsibility for oversight and staff development lay with a few internal members; the exact nature of the limits, constraints, and protocols for staff-MPC interaction, including access of policymakers to work-in-progress; the role of a potential alternative research operation under the externals; and greater emphasis on a top-down research agenda. Many of these will naturally be clarified and dealt with as experience with the new system is gained. Staff hoped that this evolution would facilitate closer direct interaction with MPC members, including more guidance from the internal members responsible for MA and monetary policy. [11]

The level, mix, and turnover of staff resources in MA. The MPC schedule of 12 meetings and four Inflation Reports each year puts considerable pressure on key staff, and burn-out was an issue among these staff members. With little down time between meetings, their ability to focus on anything but the short-run analysis for the next meeting or inflation forecast was severely limited. Nonetheless, most staff and MPC members did not think that greater numbers of people were needed in MA. Rather the keys to relieving this pressure and enhancing the performance of MA within current authorized staffing levels were seen to be: filling authorized slots; spreading the work burden around more–allowing greater numbers of people to have prominent roles in briefing the MPC and helping with the inflation forecast; making sure MPC demands on staff were necessary and reasonable; continuing the trend toward a mix of hires better suited to the new higher-level research and analysis demands of the MPC; and reducing staff turnover.

Shifting the mix of hires toward a greater number of Ph.D. level economists may require continued adaptation by the MPC and by management in MA. Good researchers will want to have time and opportunities to originate research ideas, related to monetary policy but not necessarily

[11] A common comment of staff was that they welcomed opportunities to work closely on research and analysis with both external and internal individual MPC members, and that previous ambiguities about relationships had impeded achieving this goal. Concerns persisted to some extent that the full potential for collaboration with both types of members would still not be realized.

within the tight framework of the MPC research agenda; they should require less detailed oversight of their research by managers and will desire more direct interaction with MPC members; they will expect responsibility and credit for the research to reside importantly in the individual as well as in the managerial unit; and they will expect tolerance (within limits) for publication of ideas and results that may not conform in every respect to MPC or Bank views.

Both staff and MPC perceived staff turnover to be high and costly in terms of meeting the objectives of MA and the MPC. In particular, staff was relatively young, and although quite talented, turnover had meant that its overall level of experience was low, and so the buildup in the type of judgment that comes with experience had been impeded. To some extent, the turnover was seen as inevitable, reflecting the exit of staff not well suited to or interested in the new more demanding policy environment and the unavoidable inability of the Bank to keep up with rapidly escalating City salaries. However, a number of factors other than salaries were seen as important causes of high turnover–in effect adversely affecting the job satisfaction and quality of worklife that can substitute for higher salaries. One such factor was the work stress discussed above, and the associated lack of time for research. Another set of issues concerned governance within MA. Staff recognized that steps had been taken to enhance communication within MA, but several felt that more would be useful reaching well down in the organization. They wanted to know about and to be able to contribute to the consideration of issues beyond those confined to the relatively narrow area in which they worked, and they saw broader knowledge of the concerns of MPC and top MA staff as better enabling them to direct their work in more productive directions. In addition, staff felt there was a lack of career paths for advancement, especially since turnover had meant that management were relatively young. There had been considerable discussion of creating a "senior economist" job slot that would give people something to move up to before they got into management, but to date no such category had been created.[12]

[12] Such a job category includes about 30 percent of the (nonofficer-rank) economists on the research staff at the Federal Reserve Board. It is awarded to those economists who have demonstrated a high level of performance on a consistent basis over time and who often are looked to for guidance and expertise by other staff economists, by policymakers, or by external observers.

A final set of issues contributing to turnover involved relationships between the staff and the MPC. One aspect related to the research agenda. While many staff were pleased with the new procedures for generating longer-term research projects, others chafed under what they perceived to be the more limited scope for staff-initiated research, and for research not directly related to the MPC's agenda. A more difficult issue related to the general tone of the relationships with the MPC. While MPC members often stated that they desired more analytical presentations from the staff, many staff perceived that this would not really be welcome. In their view, the MPC tended to see the staff more as suppliers of data than as expert analysts whose opinions were sought and respected. The staff recognized that their function was to help the MPC carry out its responsibility for making monetary policy, the necessity for the MPC to establish clear bounds between its and the staff's responsibilities, and the possibility that settling in difficulties in the early years of MPC had contributed to the evolution of the relationship of the staff to the MPC. Nonetheless, within the necessary bounds, many staff members thought they could be more helpful to the MPC than the MPC was allowing them to be, and that being allowed to make more of a contribution would improve their job satisfaction and reduce turnover.