



BANK OF ENGLAND

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Modelling and Forecasting at the Bank of England - The Pagan Report and the Bank's Response

The Bank is today publishing a report by Professor Adrian Pagan on the statistical and economic modelling and forecasting work carried out by the staff of the Bank for the Monetary Policy Committee (MPC), along with the Bank's response to the Report.

The Bank's Court invited Professor Pagan to undertake a review and evaluate whether the Bank's modelling and forecasting work is 'state of the art'. In particular, he was asked to focus on the technical aspects of the modelling and forecasting process, rather than procedural and presentational issues. The Bank welcomes Professor Pagan's perceptive and insightful report.

In relation to the quarterly macroeconomic model - the primary tool used for the construction of the projections contained in the quarterly Inflation Report - Professor Pagan concludes that the model does not represent the 'state of the art'. But he also concludes that the deficiencies of the model have not detracted from the accuracy of the MPC's forecasts.

Charlie Bean - Executive Director and the Bank's Chief Economist - said, "The Pagan Report identifies a number of strengths and weaknesses in the Bank's modelling and forecasting work. We have already recognised that the main quarterly macroeconomic model has its deficiencies and over the past year we have been developing an improved model with the purpose of providing a more useful tool to aid the MPC's deliberations. We welcome the Report's conclusion that those deficiencies have not adversely affected the Committee's forecasts."

Professor Pagan notes that "the forecasting process is distinct from the modelling process" and he recognises that judgments by the staff and the MPC have played a crucial role in generating the projections. Professor Pagan says, "this system now seems to be working very well in the Bank and has had some noticeable success in correcting some of the difficulties encountered..." with the model.

Professor Pagan's assessment of the persistence and bias in the MPC's inflation projections leads him to conclude, "the bias is probably as small as one could reasonably expect".

The MPC agrees with the Report's assessment of its main quarterly macroeconomic model. Prior to commissioning the review, the MPC had identified a number of deficiencies that restricted the use of the model for analysis and forecasting. The Bank directed some of its research effort in 2001-02 into the development of a new macroeconomic model. This will provide a clearer, more coherent and flexible analytical structure, and will better capture the MPC's views about how the economy functions. Although the model is still under development and Professor Pagan felt it too early to judge how successful it would be in practice, the Bank welcomes Professor Pagan's conclusion that it appears to be 'best practice'.

The MPC expects that these model developments will come into full use during the course of 2003. This will not represent a shift in the MPC's view of how the economy functions or the transmission mechanism of monetary policy. And, since the MPC's projections are not the mechanical output of any model, it should not be associated with a change in the MPC's assessment of the prospects for inflation and growth.

Key Resources

The Pagan Report - Report on Modelling and Forecasting at the Bank of England

<http://webarchive.nationalarchives.gov.uk/20100114080129/http://www.bankofengland.co.uk/publications/news/2003/paganreport.pdf>

Bank's Response to the Pagan Report

<http://webarchive.nationalarchives.gov.uk/20100114080129/http://www.bankofengland.co.uk/publications/news/2003/paganresponse.pdf>