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News release

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Uncertainty in Macroeconomic Policy Making: Art or Science? - Lecture by Mervyn King

At a Royal Society Conference in London today on 'Handling Uncertainty in Science', the Governor of the Bank - Mervyn King - presented a paper on the important role uncertainty plays when devising public policy and discusses new ways of communicating uncertainty around the Bank's forecasts for growth and inflation currently being evaluated by the Monetary Policy Committee.

The Governor begins by noting that the challenge of unpredictability is one faced not just by economists. Many subjects are ".united by a common need to grapple with complex systems and communicate forecasts to a wide audience." He also notes that ".it is not enough to explain only to experts. Much of the value of forecasts is in their being understood - in all their subtleties - by the general public." But what are the sources of unpredictability? He explains that there are at least three. First, it is very difficult to assign probabilities to infrequent, high impact events, such as financial crises, or tsunamis, for which there are few precedents. Second, that the impact of similar shocks can be highly dependent on the starting conditions of systems. And third, there can be sudden transitions between different states of the world, be they ocean currents or social attitudes, which are hard to predict.

But he notes that it is possible to identify potential system vulnerabilities and determine the factors that contribute to potential instability. For example, many people, including at the Bank of England, did identify the vulnerabilities of the financial system before the crisis without being able to predict when or how the crisis would begin. He therefore says: "The key is for policymakers to focus on making the structure of the underlying system more robust to shocks. For example, in avalanche areas the snow may be 'seeded' so that, by inducing small avalanches, the chance of a large avalanche is mitigated. In the context of the financial system, policymakers could impose a 'Glass-Steagall' style separation between the payments system network and risky activities". He states that: "Actions can also be taken to mitigate the impact of a bad outcome.," such as funding a fire-fighting service or requiring banks to develop resolution and recovery plans.

But the Governor argues that the inter-disciplinary comparisons can only go so far. "A key difference between economics and the physical sciences is the role played by active decision-makers - such as

households or businesses - whose presence complicates substantially the dynamics of the system. In particular, economic outcomes are sensitive to the way people behave under uncertainty, and to their beliefs about the past, present and future. Perceptions of uncertainty affect behaviour". That in turn affects how economic systems behave, which means ".there is a premium on understanding decision-making under uncertainty." The Governor summarises this idea by saying that distinguishing how decisions are made and information is processed is important since they may ".yield different conclusions on both the desirability of policy intervention and the form it should take."

He goes on to describe four types of behaviour in decision making that are commonly observed. First, perceptions of risk are influenced by experience, which may explain why the fear of financial crises declines over time as memories fade. Second, that people's decisions under uncertainty are sensitive to the way questions are phrased. Third, people tend to follow the actions of others when making decisions under uncertainty, often exhibiting herd-like behaviour. And finally, people often have excessive faith in their own judgements. The Governor explains that these observations have a number of implications for policy. He says that behavioural ".biases could offer an explanation for periodic bouts of exuberance in the economy and the financial system in particular. As such they should bear on our assessment of the likelihood of the range of possible outcomes." Moreover, ".the recognition that beliefs and behaviour play an important role in the dynamics of the system affects the type of policy actions that are desirable." Finally it emphasises the importance of communication. In an economic system, the ".strategy has to comprise not only a plan for setting the instruments but also a plan to condition beliefs about how policy makers would respond in the future."

In that vein, the Governor moves on to discuss the Bank's own graphical representations of uncertainty about future inflation. He notes that the way in which the MPC communicates its views about an uncertain future draws on the ideas set out earlier. "Because the MPC's forecast is a probability distribution, rather than a single number, it is communicated in a fan chart. What matters for policy is the entire distribution of outcomes. To explain its current policy setting, and to provide information on the likely path of policy, the MPC needs to communicate its judgement of the outlook as a whole". Looking back, the Governor notes that the Bank's communication strategy ".has evolved in the light of experience over the past 17 years." That process is continuing, and he concludes by outlining some potential future developments designed to further enhance communication of the information contained in the fan charts, calling on interested parties to suggest ideas of their own.

Key Resources

Uncertainty in Macroeconomic Policy Making: Art or Science? - Full speech
http://www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2010/speech432.pdf
Accompanying slides
http://www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2010/speech432charts.pps