

Seongtae Lee: Recognizing and coping with macroeconomic model uncertainty in designing monetary policy

Opening address by Mr Seongtae Lee, Governor and Chairman of the Bank of Korea, at the The Bank of Korea International Conference 2008, Seoul, 26 May 2008.

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Ladies and gentlemen,

I am indeed delighted to be hosting the Bank of Korea International Conference 2008.

All of us at the Bank of Korea are very honored that world-renowned scholars and central bankers have been able to get together to benefit us with the opportunity of hearing their collective wisdom on conducting monetary policy.

I would especially like to express my deep gratitude to our keynote speaker Professor Thomas Sargent, to our moderator Professor Barry Eichengreen, to our roundtable panelists President James Bullard of the Federal Reserve Bank of St. Louis, Deputy Governor Lars Svensson of Sveriges Riksbank, Professors Eric Leeper and Yung Chul Park, and to all of our chairpersons, speakers and discussants.

This year's conference is being held under the theme of *"Recognizing and Coping with Macroeconomic Model Uncertainty in Designing Monetary Policy"*.

In a rapidly changing environment, this is one of the hottest issues facing policy-makers and economists all around the world. This topic is also important to the Bank of Korea given that the Korean economy is subject to the highly uncertain global economic situation.

It is reported that the volatility of output growth and inflation has declined substantially in the United States and other major industrial countries since the mid-1980s.

There are various stories that seek to explain what has caused the decline in economic volatility. As Federal Reserve Chairman Ben Bernanke pointed out, structural changes, improved macroeconomic policies or a favorable environment may have contributed to the "Great Moderation".

Although there are disagreements about the causes, I believe that improved monetary policy has played a significant role in stabilizing macroeconomic fluctuations. The improvement in monetary policy, in turn, may be attributable to advances in macroeconomic theory at least in some respects.

Rational expectations and the "Lucas critique" of policies based on econometric models motivated the launch of a new framework for the building of truly structural models that can analyse the effects of macroeconomic policies and institutional changes. All these efforts have deepened our understanding of how the economy works and what the optimal policies are.

Despite the progress in macroeconomic modeling, however, developments in economic conditions, especially in the highly integrated global environment, still pose difficulties for central bankers' policy-making.

Central bankers are now faced with an even greater degree of uncertainty, and thus the question of how to cope with uncertainty is a big challenge for central bankers and academic theorists.

Uncertainty comes in many forms. One obvious form is simply ignorance of the shocks that will disturb the economy in the future. The recent global surge in oil and food prices, which has been described as "a silent tsunami", is a good example.

But other forms of uncertainty can have resounding implications for how policy should be conducted. Three among them are data uncertainty, model uncertainty and uncertainty about how private agents form their expectations about future economic developments and policy actions.

Apart from the issue of measurement, economic data are released after some time-lag and revised later. Information is not always adequate to allow a correct assessment of the current economic conditions. Data uncertainty can induce instability in the economy. Even though the monetary policy authority follows a systematic rule as suggested by John Taylor, real time assessment of the state of the economy may lead to substantial errors, and thus contribute to a dismal outcome for the economy.

Even with accurate data, it is not certain how macroeconomic policies affect economic outcomes. Recently, much attention has been paid to investigating the implications of model uncertainty with a focus not only on uncertainty about parameter values in a model, but also on uncertainty about which of a set of alternative models best describes the economy.

Meanwhile, explaining the way that private agents form their expectations is a research area of great interest. The rational expectations hypothesis is said to be too restrictive in describing agents' formation of expectations, and no one can be sure what the optimal policies are when agents' expectations differ from the rational expectations hypothesis.

Thus far, the implications for monetary policy of the several approaches applied to the areas of uncertainty mentioned earlier are mixed.

The conventional wisdom is that policy should be more cautious in the presence of uncertainty as suggested by William Brainard in 1967. Other studies, however, argue that uncertainty may lead to more aggressive policy rules. All in all, different sources of uncertainty may result in different policy recommendations.

Despite the current state of the debate not having yet reached a consensus, finding ways to deal with uncertainty has the potential not only for investigating optimal policy rules but also for resolving some puzzles in asset pricing theories.

Having said this, these ways of handling uncertainty may not capture more fundamental sources of uncertainty. For example, we lack a deep understanding of inflationary or deflationary processes. Moreover, the boom and bust of the Japanese housing sector in the late eighties and early nineties, and the recent sub-prime mortgage crisis in U.S. suggest that the macroeconomic implications of the housing sector may have been underestimated. Despite the importance of these issues, they are not sufficiently reflected in more sophisticated models.

Ladies and gentlemen,

Uncertainty comes in various forms and it is something that policy-makers must constantly contend with. Economists have developed a range of formal methods for recognizing and coping with uncertainty, all of which offer important insights into how policy-makers should manage the problem.

In addition to the theme of modeling uncertainty, this conference will see the presentation of interesting related papers. For instance, these papers will address how we can identify shocks to fiscal variables, and how the Bayesian framework can be applied to detect regime changes or to make macroeconomic models more consistent with the data.

I hope that this conference will serve as a forum for the better understanding of the very nature of the uncertainty that surrounds our economic environment, and for the discussion of how we can manage a range of uncertainties. I believe that our in-depth discussions will lead to a better way of dealing with uncertainty in monetary policy-making.

Drawing my remarks to a close, I should like to express my deepest gratitude to all participants for sparing valuable time to be here with us. Thank you.