Mr Lim gives a policymaker's perspective on the role of macroeconomic modelling in public policy

Opening remarks by Mr Lim Hng Kiang, Member of the Board of Directors of The Monetary Authority of Singapore and Minister for Health and Second Minister for Finance, at the launch of The Monetary Authority of Singapore's new macroeconometric model of the Singapore economy, the Monetary Model of Singapore (MMS) on 2 February 2000.

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Introduction

It is my pleasure to be here today. This conference provides an excellent opportunity for networking and the exchange of ideas between policymakers, private sector economists as well as academics.

Last July, at the Far Eastern Meeting of the Econometric Society in Singapore, I mentioned that the Economics Department of MAS was working on a new macroeconometric model of the Singapore economy, the Monetary Model of Singapore. This model incorporates the latest techniques and thinking in modelling. I am glad that the development work is completed and the model is now ready to be used for policy work. The staff of the Economics Department will be presenting the details of the model later this morning for review and discussion.

Post-Asian crisis: a time for reflection

The economic outlook for Asia has turned positive. Memories of the Asian financial crisis and of the economic recession that followed have already started to fade. The crisis Asian economies are recovering - we see production, exports and consumption growth rebounding, some even surpassing pre-crisis levels. GDP growth rates for most of these economies will likely turn positive in 1999. The outlook for the year 2000 is similarly benign. Indeed, the concern for the Korean economy has even turned into one of over-heating.

Asia's nascent recovery has set it apart from other emerging economies. Discerning international investors are placing much lower risk premiums on Asian economies compared to other emerging economies. For example, the difference between the yields on Latin American and Asian US dollar bonds has risen from less than 100 basis points in August 1998 to around 250 basis points in November 1999.[1]

The Singapore economy too, has recovered strongly, rising together with the regional economies. GDP grew by an estimated 5.6% last year, compared to 0.3% in 1998. This year, we expect the momentum to be sustained, with GDP growth at around 4.5-6.5%. But we cannot be complacent. To ensure that Singapore continues to prosper, we need to remain competitive, regionally and globally. Global markets have become much more integrated and global competition has intensified. We need to be part of this globalisation process and not close our doors to it. This is why we have been gradually introducing more competition into previously protected sectors of the economy, such as the financial sector and the telecommunications sector.

These are challenging times ahead for us. But as economic recovery gathers pace, it is easy for euphoria to overtake the need for improvement and change. It could also tempt us to scale back or postpone painful restructuring initiatives. But we cannot let this happen. We must reflect upon the

[1] BOE's Financial Stability Conjecture and Outlook, November 1999.

lessons of the crisis and use them creatively to strengthen the economic systems, both domestically and internationally.

This conference is timely. Macro modellers can use this opportunity to do some soul-searching. You can ask yourselves how macroeconometric modelling can facilitate good public policy in this post-Asian crisis era.

For the critics and the sceptics, the Asian crisis is evidence that macro modelling has failed badly. For them, macro modelling is an old millstone in a new millennium. Perhaps resources should be freed up for more productive activities? However, the indications are that more and more central banks are embarking on projects to develop macro models of their economies.

I take a sympathetic view, and not only because I am addressing a crowd comprised largely of economists and analysts. In my view, macro models can function as good navigational tools for the policymaker. But I must qualify that not all models fit the bill.

How macro modelling can remain relevant to policymakers - five qualities

I am no expert in the field and my comments today are solely from the point of view of a public policymaker. I believe that macro models must exhibit five qualities in order to be useful to policymakers.

First and foremost, macro models must be responsive to structural changes in the economy. Otherwise, the macro models will have little or no value for the policymakers who must make hard decisions based on the policy implications of the models.

Models today have in fact evolved to be quite different from those in the 1970s. Then, macro models placed much emphasis on demand-driven outcomes for the economy. That was because governments believed in the power of discretionary monetary and fiscal policies to promote high growth and low inflation. However, the repeated failure of such macro models to identify critical turning points in the 1970s and 1980s caused many economists to question the old assumptions behind the models. It then became clear that supply-side factors and the role of expectations also needed to be worked in. Thus, today many macro models build in these factors. One example is how most models now work in the impact of the economy's potential output on inflation outcomes.

In the US, modellers are faced with growing evidence of an emergent "New Economy". The hypothesis is that high rates of growth can be sustained without triggering off inflationary pressures, even at the point of full employment. I understand that staff from the Federal Reserve constantly update their estimates of key model parameters, such as the NAIRU[2] as well as trend productivity to reflect the features of this New Economy. These updated estimates have been used to help shape the Fed's forecasts of growth and inflation, thereby ensuring that the policymaking process is an informed one.

The second quality I have in mind refers specifically to the model's role in forecasting and policy analysis. A model must have a good track record, in order to serve as a reliable guide to the policymaker. I am not asking for spot-on point forecasts or estimates but, at a minimum, a macro model must be able to provide policymakers with a good feel for the directional effects of various policy options.

Thirdly, the workings of the model must be transparent. Ideally, the structure of the model should correspond to a flowchart of the linkages within the economy. Fed Governor Laurence Meyer has said in a recent speech[3] that model-based forecasting needs to "start with a paradigm and end with a story".

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[2] Non-Accelerating Inflation Rate of Unemployment.

[3] To the Stern Graduate School of Business, New York University: "Start with a Paradigm, End with a Story: The Value of Model-Based Forecasting and Policy Analysis".

Ultimately, when policymakers want to introduce policy changes, they want to know through what channels the effect of this policy will flow and how agents will react to this policy. In other words, policymakers want to know the story going on behind each policy reaction and not just be buried under masses of model output.

Fourth, macro modelling should adopt a *pluralistic* approach. Policymakers are like consumers while macro modellers are the producers. As the well-known econometrician Clive Granger[4] said, "it is worth remembering that consumers usually prefer having a choice. It is rare for one model to be superior for all possible purposes: forecasting, policy making, conditional forecasts, testing hypotheses or investigating the effects of a previous policy change, for example. Different users will have different tastes, beliefs and needs and will prefer certain types of models."

I understand a number of central banks, including the Bank of England, have followed this path. I am sure that you will hear more of this later from the expert from the BOE himself. Such an approach is of course hugely taxing on resources and here in Asia, we could perhaps look upon it as a desirable goal to strive for.

Finally, I also encourage a *pragmatic* approach. Here, I am referring to the practice of supplementing model output with sectoral analyses, survey data, market trends as well as value judgements. Modellers need to be aware of the limitations of their models. The complexities of the economy cannot be fully captured by a macroeconometric model, no matter how comprehensive its specifications. In particular, macro models cannot quantify variables such as panic, greed or the herd psychology of investors. As a result, even the predictions of the most sophisticated model have been thrown off by unexpected developments in the environment. This was clearly evidenced during the turmoil in international financial markets in August 1998, when the LTCM crisis unfolded.

Conclusion

The new Monetary Model of Singapore incorporates many of the new features and innovations in macro modelling. In time to come, I hope that it will be further fine-tuned so as to reflect the five qualities that I have just spoken about. In this process, it might be useful to modellers in Singapore and even from the region to meet more regularly to exchange ideas and learn from each other's experiences.

In the post-Asian crisis era, one of the main concerns of regional policymakers is that of monitoring vulnerabilities of the domestic economies to external shocks. There is a need for a formal and reliable monitoring mechanism to help supplement overall surveillance efforts. Perhaps macro models could be employed to this end. If workable, this might just be the function that renders models not only relevant but actually indispensable to policymakers.

I leave you with this thought and wish you all a day of fruitful deliberations.

[4] "Empirical Modelling in Economics: Specification and Evaluation", The 1998 Marshall Lectures.