

## Conference summary

The conference sought to address four questions: What are the most important recent developments in the financial landscape? What has been, or is likely to be, the impact of these developments on the formulation of monetary policy? On the conduct of monetary policy? How useful are financial market indicators for monetary policy? The eight presentations given during the conference were organized into four sessions, with each session addressing one of these questions. This overview summarizes the conference papers and distils some tentative answers to the questions raised.

### Key developments in the financial landscape

The conference began with the session aiming to identify the key recent developments in the financial landscape. In this session, Gudmundsson focused on the key developments in financial globalization. Taking a longer-term view of the issue, he evaluated the effects of financial globalization on the channels of monetary policy transmission and the possible problems and challenges that arise in the context of small open economies. Fitzsimmons, on the other hand, taking a more near-term view of the issue, analyzed the recent developments in global markets and their implications for markets in general and for exchange rates and capital flows in particular.

In his paper, Gudmundsson focuses on financial globalization as one of the key recent financial developments. He argues that while significant progress in financial globalization has been evident in the last decade and a half, a world of full integration has yet to be fully realized. Full financial globalization would imply that the real risk adjusted yield curve would eventually be equalized across countries. In this environment, the monetary policy of a small or medium-sized economy would be completely determined by global interest rates, therefore limiting the effect of domestic interest rates on domestic demand. Nevertheless, the exchange rate channel could still work to provide some countercyclical monetary policy effects, provided that the exchange rates does not exhibit excess volatility and is aligned with fundamentals.

Gudmundsson examines the current evidence on the development of the interest rate channel of monetary policy for two sets of countries: the small and medium-sized developed countries that have adopted a floating exchange rate and an inflation targeting regime; and selected emerging market countries. The findings show that although the interest rate channel has weakened among small and medium-sized mature inflation targeting economies, it remains significant. Similar, but weaker effects are also evident among emerging market economies. The exchange rate channel, however, is expected to work over the longer term, although financial globalization could complicate the process somewhat. The author weighs the various policy options that the small and medium-sized countries could implement in light of the challenges posed by greater financial globalization. These options include allowing the exchange rate channel to work and deliver the countercyclical monetary policy effects, sharpening and realigning existing instruments by shifting the policy mix in the direction of fiscal and other prudential policies, and changing the monetary policy framework by entering a monetary union.

Fitzsimmons, focusing on foreign exchange markets and capital flows, argues that the major development currently taking place in the financial markets is the combination of a global search for yields and complacency about default risk. The former is manifested in the form of carry trades and a narrowing of spreads while the latter takes the form of greater volatility and leverage. He also considers the evolution of agents in the financial markets as the key driver of the changes in the financial landscape, and this includes central banks and their

policy frameworks. He argues that changes in central bank policies and policy frameworks, and their interaction with market practitioners' perceptions, are important factors behind the dynamics evident in the current financial environment. Some of the transformations that are taking place in the foreign exchange market include the transformation and integration of banking firms, increased electronic deal flow, the emergence of new customers, products and trading segments, and rising volumes and volatility in the market.

## **Impact on the formulation of monetary policy**

Having discussed some of the key recent financial market developments, the conference proceeded to discuss their implications for the formulation of monetary policy. This session commenced with the presentation of the paper by Singh et. al. In this paper, the authors examine how monetary policy transmission is affected by financial market developments. They adopt a two-fold approach. The first part of the paper surveys relevant studies and summarizes their key findings with regard to the implications of financial market developments for the monetary policy transmission mechanism. The authors focus on studies that assess the impact on policy transmission of financial liberalization, disintermediation, innovation, and consolidation, the developments in payment instrument technology, and Islamic finance. In the second part of the paper, the authors estimate the interest rate pass-through of five developed countries (the United States, the United Kingdom, Canada, Australia and Germany) and five Asian economies (Malaysia, Thailand, Indonesia, the Philippines and Korea), and analyze the possible types of financial market developments that could potentially influence the pass-through for these countries.

From the literature survey, the authors find that in general, financial market developments tend to strengthen the interest rate and asset price channels, weaken the bank lending channel, and have a mixed impact on the balance sheet channel. As for the empirical estimation, the authors find that financial market developments have tended to strengthen the pass-through from the policy interest rate to market interest rates. The authors also conclude that financial market developments have led to increased competition and more diversified financial markets which tend to strengthen the magnitude and speed of interest rate pass-through.

The second paper in this session, by Genberg, discusses changes in the structure of financial intermediation and their implications for the conduct of monetary policy, particularly with regard to the strategic and operational aspects of policy. From the literature survey on financial intermediation, Genberg argues that the traditional distinction between bank-based and market-based financial systems is becoming outdated and instead should be replaced with the distinction of whether the financial system is categorized as being relationship-based or arms-length in terms of the interaction between borrowers and lenders in that financial system. He also argues that with recent developments, markets are becoming more complete and that risk management and distribution by both institutions and households is becoming more efficient.

In terms of implications for monetary policy operations, Genberg proposes that as financial markets develop, the operations of monetary policy will become more flexible given the greater use of indirect policy instruments. With respect to monetary policy strategy, a stylized representation of a Taylor rule type of framework that contains an explicit role for financial intermediation is used to examine the influence of changes in financial intermediation on the conduct of monetary policy. In this analysis, Genberg shows that the financial intermediation process may change both the neutral policy interest rate and the horizon of the relevant forecast. Thus, the author proposes that changes in the process of financial intermediation need to be and should be factored into monetary policy decisions.

## **Impact on the conduct of monetary policy**

This session focused on how financial market developments impact the conduct of monetary policy. In this session, Broadbent examined whether financial innovations have facilitated the conduct of monetary policy in Australia, while McCauley discussed the mutual relationship between conducting monetary policy operations and developing financial markets.

The paper by Broadbent has two main parts. Part one surveys the types of financial innovations that have contributed to recent financial market developments in Australia. These include greater securitization, the growing role of mortgage brokers, the growth of swaps and bond markets and the decline in the government securities market. Part two of the paper highlights the relevance of these financial innovations for monetary policy operations. The author suggests that these innovations affect the economy's sensitivity to monetary policy and the Reserve Bank of Australia's estimate of the neutral cash rate. He further highlights that, in Australia, the speed of pass-through has increased in recent years, with changes in the policy rate generally feeding directly into the variable rate within a week or so of a policy announcement.

Financial innovation also influences how the Reserve Bank of Australia implements monetary policy. It has allowed the Bank to broaden the range of securities that it can use in its market operations. Some of these instruments include a subset of kangaroo issues which has led to a noticeable expansion of the pool of high quality securities that meet the Bank's repo eligibility criteria. Another major instrument used is FX swaps. These have the same effect on domestic liquidity as open market operations but the FX swap market is deeper and more liquid, thus allowing large transactions to be undertaken to offset big shifts in the system's cash balances. All in all, the paper concludes that financial innovation has made the financial system more efficient and has not affected the Reserve Bank of Australia's ability to implement monetary policy.

McCauley explores how the conduct of monetary policy can facilitate the development of financial markets, and conversely, how the state of development of the financial markets determines the way the central bank conducts its monetary policy. In the first part of his paper, he focuses on how monetary operations can contribute towards financial market development. McCauley highlights that a central bank or monetary authority has a high degree of freedom in terms of the monetary policy instruments it uses in its operations, and that it should exercise this choice judiciously to facilitate the development of the financial markets. Citing the examples of the United States Fed's operations in the repo market and the growing use of repos in Asian countries, McCauley concludes that as a result of the development of the repo market, the liquidity and profile of these markets have increased over the years.

The second part of McCauley's paper touches on the reverse direction of the relationship, i.e. on how developments in financial markets can create constraints and challenges to policy makers. Financial market developments can present a constraint to monetary policy makers, particularly when the amount of government debt is small or the size of foreign assets of the monetary authority is large. In addition, the rising significance of the securities market adds to these constraints, as market participants could shift from bank loans to corporate bonds if, for instance, there is an increase in the reserve requirement. Thus, the author proposes that one of the main challenges for central banks today is that of aligning their monetary operations to the main trends and developments in the financial markets.

## **Usefulness of financial market indicators for monetary policy**

The objective of the final session of the conference was to gauge the usefulness of financial market indicators for monetary policy. For this purpose, Watkins discussed the experiences

of the Reserve Bank of New Zealand in incorporating financial market information into its monetary policy, while Kuttner examined the importance of equity prices as an economic indicator for the Asian countries.

Based on the paper by Watkins, at the Reserve Bank of New Zealand financial market information is used to understand policy expectations as well as the influence and transmission of monetary policy in the financial markets over the short, medium and longer term. The author highlights that market surveillance at the Reserve Bank of New Zealand is a synthesis of both desk-based research and direct contact with market participants. One interesting part of the paper is the example illustrating how financial market analysis was conducted to examine the reasons why increases in the Official Cash Rate (OCR) were not being reflected in retail interest rates, particularly in lending rates.

The author illustrates the methods used for interpreting expectations of the implied policy rate. Using the example of market response before and after the release of stronger-than-expected data, money market expectations of future policy can be estimated for around 12 months ahead, using both Overnight Indexed Swaps (OIS) and bank bill futures. Alternative methods include using survey data of analyst forecasts, options prices, and tactical surveys of traders conducted ahead of each policy announcement. The Reserve Bank of New Zealand's market intelligence also aims to understand the reasons why markets move on a particular piece of economic data, and what the distribution of market expectations, or the risks, around current market pricing are. To analyze longer-term market expectations, the Bank uses implied forward rates from models of the full yield curve. These models describe the yield curve in terms of its slope, curvature and long-run level. The author also discusses how market information is incorporated into the macroeconomic modelling process. He concludes by underscoring the importance of strengthening the relationship between the Bank's desk officers and market participants, further developing quantitative tools, adding information sources by extending market surveys and obtaining more information via settlement and depository systems, and generally improving information flows within the central bank.

The second paper of this session, by Kuttner, discusses the possible role for equity prices as a leading economic indicator and assesses empirically the usefulness of stock price data for Korea, Malaysia, the Philippines, Thailand and Indonesia. One broad conclusion from the analysis is that the information content of stock prices varies a great deal across countries. Equity prices in Korea, Malaysia, and to a lesser extent Thailand, seem to be closely linked to the real economy but much less so in the Philippines and Indonesia. Even for Korea, Malaysia and Thailand, where stock prices are a good in-sample predictor of output, including the stock price into the equations yields only modest improvements in out-of-sample forecasting performance. The results for these three countries are very similar to those for the United States, where stock prices are a useful, but somewhat unreliable, leading indicator. On the other hand, Asian equity prices fail to display a systematic relationship, either in-sample or out-of-sample, with inflation. The author postulates that this is in part because over the sample used in the analysis, inflation resembles a random walk, and consequently it is hard to do better than a naïve "no change" forecast. These results are similar to those for the United States presented in other published research.

Kuttner also explores the relationship between "liquidity", stock prices and the economy. His main conclusion is that, while there are sound theoretical reasons for monetary policy to have an effect on equity valuations, the role of broader concepts of "liquidity" is not well motivated; nor is it clear exactly how "excess liquidity" promotes financial risk-taking. The author also finds that none of the liquidity measures considered in the analysis (money, interest rates and credit aggregates) has any significant predictive power for either real output or stock prices, calling into question the view that "liquidity" is an important driving force in either financial markets or the real economy.