Economic and Financial Research in the Reserve Bank in 1998

Introduction

During the past year the Bank's research efforts were focused on issues relating to the framework and operation of monetary policy, as well as on the labour market and the problem of unemployment. Other areas of research involved financial market issues, and analysis of the origins of the Asian financial crisis. As in previous years, the results of the research were made available through the Bank's *Bulletin*, its Research Discussion Paper series and in the annual Conference Volume. This article provides an overview of the papers published by the Bank during 1998.[1]

Unemployment and the Australian Labour Market

The topic of the Bank's annual Conference, jointly organised with the Centre for Economic Policy Research at the Australian National University, was 'Unemployment and the Australian Labour Market'. Bank staff prepared a major paper for the Conference, which examined the extent to which aggregate wage restraint could contribute to a sustained fall in the unemployment rate. A further eight major papers were contributed by leading Australian and foreign academics. These papers considered the lessons for Australia from the labour market experiences of a range of other countries. They also gave an historical perspective on labour market outcomes in Australia and examined the incidence of unemployment among different groups in the community. In addition, the implications of unemployment for income distribution, and the international experience with active labour market programs were examined. Three short papers proposing possible solutions to Australian unemployment were also presented. A detailed summary of the Conference was included in the September issue of the Bank's *Bulletin*.

Other issues related to the Australian labour market were addressed as part of the Bank's ongoing research program. A paper by Guy Debelle and Troy Swann examined the trends in employment and unemployment in Australia over the past 30 years. The most noteworthy development over this time has been the rise in the aggregate unemployment rate. To a considerable extent, this is accounted for by the rise in the unemployment rate of full-time male workers, which in turn has reflected slower employment growth in industries that predominantly employ these workers. Employment growth for females has

1. Papers referred to in this article are listed in the Appendix.

been stronger, although it has been insufficient to absorb the rapid rise in the number of females wanting to work, resulting in a rise in the female unemployment rate.

An important aspect of the functioning of the labour market is its capacity to adjust to shocks. One dimension of this adjustment is the extent to which workers move geographically to offset the impact of either adverse, or favourable, regional shocks. A paper by Guy Debelle and James Vickery examined the mobility of workers between the Australian states and territories. Interstate migration does appear to play an important role in reducing differences in labour market conditions between states, although very persistent differences between state unemployment rates remain.

Monetary Policy and Inflation

A series of papers examined different aspects of monetary policy and inflation. Two papers, one by Laurence Ball (a visitor to the Bank from Johns Hopkins University) and the other by Nargis Bharucha and Christopher Kent, examined how monetary policy should best be set to be consistent with an inflation target. In an open economy like Australia, the dynamic effects of both the interest rate and the exchange rate on inflation and output need to be taken into account. Once the target rate of inflation has been chosen, the policy-maker faces a trade-off between the variability of inflation around the target midpoint and the variability of output. The analysis in both papers suggests that keeping inflation as close as possible to the target midpoint at all times can lead to large swings in output, especially in the presence of exchange rate shocks. As a consequence, there are advantages in keeping inflation close to target *on average*, rather than aiming to keep the inflation rate at the target midpoint at *all times*.

An active area of research is the analysis of the impact of monetary policy on the economy using models in which people are assumed to behave optimally, based on their understanding of the economic environment in which they live. Unfortunately, it has proven difficult to design these models in a way that generates predictions consistent with outcomes in the real world, particularly in the important case of consumption spending. A paper by Jeff Fuhrer (a visitor to the Bank from the Federal Reserve Bank of Boston) modifies a model of this type by assuming that individuals' past consumption has an influence on their current consumption – that is, that consumption exhibits 'habit persistence'. The paper shows that this modification generates outcomes that are much more in line with the behaviour of real economies, and therefore that the modified model is better suited to analysing the impact of monetary policy.

Another important topic for research is examining how people actually form their expectations. The theoretical work reviewed in the paper by Jeff Fuhrer assumes that such expectations are based on an understanding of the economic environment in which people live. A paper by Gordon de Brouwer and Luci Ellis examines surveys of people's expectations, and shows that different groups in the community have different expectations. Households appear to have expectations for inflation that are, on average, higher than inflation outcomes. The expectations of financial markets, on the other hand, seem to be closer to actual outcomes. The paper examines the implications for monetary policy of these differing expectations among groups in the community. It concludes that, however people in the private economy form their expectations, monetary policy should be forward looking. This is because monetary policy takes some time to have an impact on the economy, so it should be set keeping in mind not only the economy's current state, but also its likely future course.

One of the most common frameworks for the analysis of inflation uses the concept of the 'output gap', which is the difference between the economy's actual output and its potential output. While actual output can be measured, potential output, and therefore the output gap, can only be estimated. A paper by Gordon de Brouwer uses a range of methods to estimate the output gap. The size of the gap is sensitive to the method used to estimate it, although the broad profile of the gap through time is similar for all the estimation methods examined. The paper also confirms that estimates of the output gap help to forecast inflation.

Other work continued on the theme of developing useful measures of 'core inflation', which abstract from transitory shocks to prices. A paper by Jonathan Kearns develops statistical measures of core inflation based on the distribution of component price changes in the Australian consumer price index. These measures – so-called 'trimmed means' – are generated by removing the extreme price changes in the tails of the distribution, leaving only the more typical price changes in the central part of the distribution. The paper finds that the best measures of core inflation involve removing most of the two tails of the distribution, leaving only those price changes in the immediate vicinity of the centre of the distribution. Kearns finds that there is a slight upward skew in the distribution of price changes; so that the ideal trimmed-mean price change removes slightly more of the distribution from the left-hand tail than from the right-hand tail.

Financial Markets

Financial markets play the important role of matching the demands and supplies of financial and physical assets in the economy. It is therefore of interest to examine how prices in financial markets respond to economic events. A paper by Frank Campbell and Eleanor Lewis examines how interest rates at both the short and long ends of the yield curve respond to the release of economic news. It finds that announcements of both domestic and US economic news have a noticeable impact on Australian interest rates. Of the domestic announcements, the market responds particularly to monetary policy announcements, and the release of CPI, employment and wages data, suggesting that the market perceives that information on the latter three items is of particular importance in the Reserve Bank's decisions on monetary policy.

Much research examining price formation in financial markets has been concerned with share prices. The share price of an individual firm depends, among other things, on the risks faced by that firm, which, in general, need not be closely related to the systematic risk faced by the market as a whole. A paper by Geoffrey Shuetrim shows that, as a firm ages, movements in its share price tend to become more correlated with movements in the whole market. This surprising result suggests that, over time, managers of firms tend to take actions which more closely align the risk characteristics of their firms with those of the whole market.

International Issues

The Asian financial crisis, which began in mid 1997, has had a devastating effect on many economies in the Asian region, which had previously experienced extended periods of rapid economic growth. A paper by Morris Goldstein (a visitor to the Bank from the Institute for International Economics, Washington D.C.) and John Hawkins examines the origins of the crisis. It argues that the crisis arose from shortcomings in the financial sectors of the countries most deeply involved, from concerns about balance of payments developments, and from contagion. The main channel of contagion appears to have been the sudden realisation by market participants, following the depreciation of the Thai baht, that a number of other Asian economies had vulnerabilities similar to those in Thailand.

It has long been known that the short-term volatility of the *real* exchange rate between two countries depends strongly on the *nominal* exchange rate regime between them. When the nominal exchange rate is fixed, short-term real exchange rate volatility tends to be low, but when the nominal exchange rate is floating, real exchange rate volatility tends to be much higher. When considering the implications of exchange rate volatility, however, it would seem that the most relevant concept is a country's *effective* (or trade-weighted) real exchange rate, rather than its *bilateral* real exchange rate with (one) other country. A paper by Christopher Kent and Rafic Naja shows that, in contrast to the situation with bilateral exchange rates, there is very little relationship between a country's nominal exchange rate regime and the volatility of its effective real exchange rate.

In addition to the above research papers, short articles on the following topics were published in the Bank's *Bulletin*: alternative measures of the effects of exchange rate movements on competitiveness; foreign exchange settlement practices in Australia; the new financial regulatory framework in Australia; modifications to the Reserve Bank's commodity price index; the implications of changes to the consumer price index for monetary policy and the inflation target; and, some features of the Australian payments system.

Appendix: Research Material Released in 1998

Conference Volume

Unemployment and the Australian Labour Market, edited by Guy Debelle and Jeff Borland, contains papers prepared for the Bank's annual Conference held in June 1998. G. Debelle and J. Vickery, members of the Bank's staff, prepared a paper for the Conference. Three papers by foreign authors were commissioned. These were written by L.F. Katz of Harvard University, R. Jackman of the London School of Economics and Political Science, and J.P. Martin from the OECD. There were also several papers by senior Australian academics. The papers in the Conference Volume are:

- Katz, L.F., 'Reflections on US Labour Market Performance'.
- Jackman, R., 'European Unemployment: Why is it So High and What Should be Done About it?'.
- Borland, J. and S. Kennedy, 'Dimensions, Structure and History of Australian Unemployment'.
- Freebairn, J., 'Microeconomics of the Australian Labour Market'.
- Harding, A. and S. Richardson, 'Unemployment and Income Distribution'.
- Wooden, M. and J. Sloan, 'Industrial Relations Reform and Labour Market Outcomes: A Comparison of Australia, New Zealand and the United Kingdom'.
- Dungey, M. and J. Pitchford, 'Prospects for Output and Employment Growth with Steady Inflation'.
- Debelle, G. and J. Vickery, 'The Macroeconomics of Australian Unemployment'.
- Martin, J.P., 'What Works Among Active Labour Market Policies: Evidence from OECD Countries' Experiences'.
- Dawkins, P., R.G. Gregory, and C. Richardson, 'Solutions to Australian Unemployment: Three Perspectives'.

Research Discussion Papers

9801 Debelle, G. and J. Vickery, 'Labour Market Adjustment: Evidence on Interstate Labour Mobility'.

9802 Shuetrim, G., 'Systematic Risk Characteristics of Corporate Equity'.

9803 De Brouwer, G. and L. Ellis, 'Forward-looking Behaviour and Credibility: Some Evidence and Implications for Policy'.

9804 Debelle, G. and T. Swann, 'Stylised Facts of the Australian Labour Market'.

9805 Goldstein, M. and J. Hawkins, 'The Origin of the Asian Financial Turmoil'.

9806 Ball, L., 'Policy Rules for Open Economies'.

9807 Bharucha, N. and C. Kent, 'Inflation Targeting in a Small Open Economy'.

9808 Campbell, F. and E. Lewis, 'What Moves Yields in Australia?'.

9809 De Brouwer, G., 'Estimating Output Gaps'.

9810 Kearns, J., 'The Distribution and Measurement of Inflation'.

9811 Kent, C. and R. Naja, 'Effective Real Exchange Rates and Irrelevant Nominal Exchange-rate Regimes'.

9812 Fuhrer, J.C., 'An Optimising Model for Monetary Policy Analysis: Can Habit Formation Help?'.

Articles of General Interest in the Reserve Bank of Australia *Bulletin*

'Alternative Measures of the Effects of Exchange Rate Movements on Competitiveness', January.

'Foreign Exchange Settlement Practices in Australia', February.

'Australia's New Financial Regulatory Framework', July.

Modifications to the Reserve Bank of Australia's Commodity Price Index, September.

'The Implications of Recent Changes to the Consumer Price Index for Monetary Policy and the Inflation Target', October.

'Some Features of the Australian Payments System', December.