

Economic and Financial Research in the Reserve Bank in 1994

This article summarises the principal results of the research papers published by the Reserve Bank in 1994. As in previous years, the Bank's research has been directed at issues of relevance to monetary and financial policy-making. It has been made available to the public through the Bank's annual conference volume, Research Discussion Papers, Occasional Papers and *Bulletin* articles. Over recent years, a major strand of research has focused on the progressive internationalisation of the Australian economy and how this process affects policy-making and the functioning of financial, labour and product markets. This was a major focus of the Bank's annual conference held in July, and it was also evident in other papers published over the last year.

Overall, the research can be grouped into the following broad topics: (i) the determinants of employment, wages and productivity; (ii) resource allocation, price formation and macroeconomic developments; (iii) financial market developments, including supervision, investment and interest rates; (iv) external debt; and (v) Reserve Bank operations in foreign exchange markets.

Employment, Unemployment and Wages

With unemployment still one of the main problems facing Australia and the behaviour

of wages remaining a principal determinant of price inflation, the reaction of labour markets to domestic and external developments was again a major topic of research. The conference paper by Jerome Fahrer and Andrew Pease analysed how the Australian labour market had reacted to the progressive rise in international competition. In particular, they tested the popular belief that, faced with rising imports from low-wage Asian countries, wages of unskilled workers will fall relative to those of skilled workers or, in the case of rigid relative wages, the employment prospects for the unskilled will deteriorate. Except for the clothing and footwear industry, the authors find little evidence that imports from low-wage countries have adversely affected manufacturing employment directly, nor have they been responsible for major changes in relative wages. Nonetheless, manufacturing employment has fallen substantially, as Australian firms have responded to competitive pressures by increasing labour productivity, including through labour shedding. The study also found that the large increase in exports of elaborately transformed manufactures has had little direct effect on labour demand and employment, because domestic value added is low and the level of output per worker is high in these industries.

The issue of wage relativities and wage dispersion was also addressed in a research paper by Michael Coelli, Jerome Fahrer and Holly Lindsay. Based on national accounts

and employment data for 14 industrial countries, the authors examined whether wage-setting institutions and the associated degree of centralisation affected the flexibility of wages and labour markets. Drawing on inter-country comparisons for the 1975-90 period, the authors do not find a strong systematic relationship between wage dispersion and the degree of centralisation. Moreover, relative to other industrial countries, the distribution of Australian wages across industrial sectors appears largely to reflect the distribution of labour productivity and variations in labour demand.

The trend rise in unemployment observed in many countries over the past 15 years is sometimes attributed to capacity constraints as a result of low investment spending. Against the background of the historically low level of business fixed investment in Australia in the early 1990s, the paper by Jerome Fahrer and John Simon analyses whether low labour demand (and hence high unemployment) is associated with low investment and capacity constraints. Developing capacity and potential output measures for ten sectors, the authors conclude that in most sectors – including manufacturing, mining, transport and several services sectors – there is sufficient capital to support increases in employment. In wholesale and retail trade, the study suggests there is surplus labour, limiting the potential for increases in employment, while in other sectors there is little surplus capacity. The latter sectors, however, are mainly labour-intensive services sectors, where capacity is not the primary constraint, and a modest rise in capital spending would be sufficient to renew employment growth and recover the ground lost during the investment slump of recent years.

Resource Allocation, Price Formation and Macroeconomic Developments

The research paper by Jacqueline Dwyer and Christine Groeger addresses the question of how the increasingly outward orientation

of the Australian economy has affected resource allocation. In examining employment and investment in the traded and non-traded goods sectors, earlier studies have found ambiguous results. Using a new classification of industries, however, the authors are able to allocate private investment and employment between export-oriented, import-competing and non-traded goods industries. On this basis, it is found that the export-oriented industries have increased their share of investment, whereas their share of employment has remained unchanged. By contrast, the investment shares of import-competing and non-traded goods industries have both fallen and there has been a shift of employment away from import-competing industries. This is particularly evident since the mid 1980s, when the pace of international integration started to accelerate.

In their paper at the Bank's conference, Henry Ergas (Trades Practices Commission and the John F. Kennedy School of Government) and Mark Wright analyse the effect of international integration on the behaviour of firms and productivity growth. Recognising that so far there is no strong evidence that integration has led to a significant improvement of productivity, the authors focus their analysis on identifying *potential* sources of future productivity growth. They address three questions: (i) how far has the process of integration gone? (ii) how has integration affected resource allocation between industries? and (iii) to what extent has integration affected productive efficiency within industries? On the first question, the authors conclude that the relatively low foreign trade intensity of Australia can be explained mainly by the geographical distance from major markets. On the second question, it is concluded that internationalisation has led to a higher degree of specialisation within manufacturing, while on the third question it appears that more outwardly oriented firms perform better than firms with a domestic orientation. In particular, international exposure encourages firms to measure themselves against world-best-practice. It also forces managers to tackle inherited rigidities

and to invest in intangible assets, such as skills, research and development.

The research paper by Richard De Abreu Lourenco and Philip Lowe analyses how firms adjust output and prices in response to demand shocks, with particular attention to the role of capacity utilisation. The survey data used for the analysis allow a distinction to be made between expected and unexpected shocks to demand and costs. The paper uses this distinction in examining responses to the different shocks. The evidence confirms that when capacity utilisation is high, changes in demand have a smaller effect on output and a larger effect on prices and that margins move pro-cyclically. The largest increases in margins appear to occur in the early phase of a recovery, and the largest declines in recessionary periods. Late in the cycle, when the rate of capacity utilisation is high, the indirect effects of demand on firms' input costs are far more important in generating higher prices than the direct demand effects through adjustments of margins.

The conference paper by David Gruen and Geoffrey Shuetrim looks at the macro-economic effects of three major changes in the economic environment: the floating of the exchange rate in December 1983; the fall in protection over the last 25 years; and the deregulation of financial markets. Before the float, a terms-of-trade improvement was associated with a subsequent rise in the rate of inflation. The adoption of a flexible exchange rate has reversed this relation: the terms-of-trade improvement leads to a real appreciation of the exchange rate, which reduces the price of imported goods. The lower import prices offset the inflationary effect of the higher income accruing to the country from the improved terms of trade. A second part of the paper analyses the channels by which developments abroad affect the Australian business cycle. While there is clear evidence of strong external influences, the precise channels are more difficult to identify. Foreign influences are not simply transmitted to the Australian economy solely by way of changes in the terms of trade and the exchange rate. General indicators of the international

business cycle seem to be more important than indicators specifically relating to Australia – such as growth in our trading partners. There are, for example, observed correlations between equity and property markets in a number of countries. This leads the authors to suggest that information flows between Australian and foreign asset markets may now be an important channel by which foreign shocks are transmitted to the Australian economy.

The research paper by Jacqueline Dwyer and Ricky Lam addresses another important aspect of the international transmission process – the pass-through of changes in import prices to domestic prices. In analysing this question, the authors identify two distinct stages of the pass-through. At the first stage, changes in the exchange rate and in the world price of imported goods are passed on to changes in import prices 'over the docks'; this part of the pass-through is complete and rapid. At the second stage, changes in import prices over the docks are passed on to the retail level. This process is rather slow. Furthermore, the proportional change in the price of imports over the docks does not lead to the same proportional change in the retail import price, but rather one that is equal to the share of the imported item in total unit costs. The import component is estimated to represent around two-thirds of the final cost of imported goods on the retailers' shelves: the balance comprises domestic costs, such as transport and distribution, which are not affected directly by exchange rate changes.

Financial Market Developments

The research paper by Karen Mills, Steven Morling and Warren Tease looks at the extent to which cash flows and the structure of firms' balance sheets influence investment. Using panel-data, the authors find strong support for the influence of financial factors on investment decisions. This is especially true for smaller firms, highly leveraged firms and

firms with high profit-retention ratios. Because of this link, monetary policy changes can affect investment via a cash-flow effect.

In another paper, Frederic Mishkin (visiting the Bank from Columbia University) and John Simon examine whether nominal interest rates in Australia fully reflect the expected rate of inflation (the 'Fisher effect'). They find clear evidence of a long-run Fisher effect, both before and after the deregulation of financial markets in 1983. At the same time, the econometric analysis does not support the existence of a short-run Fisher effect. This suggests that, while short-run changes in interest rates reflect changes in monetary policy, longer-run levels indicate inflationary expectations. In deriving these results, the authors recognise a risk of bias in their estimation technique. To overcome this problem, they rely on small-sample distributions of t-statistics based on Monte Carlo simulations.

Two papers examined prudential supervisory issues. The paper by Marianne Gizycki and Brian Gray discusses the calculation of capital charges to cover default risks in a system that allows 'netting', whereby amounts owing between two parties are combined into a single net figure. Taking as background a proposal by the Basle Committee on Supervision, which would extend current netting arrangements, the authors first discuss the effect of moving from an environment without netting to one where more extended netting practices are used. They then investigate different methods of determining the capital charge on netted derivative portfolios and test the ability of these methods to track various risks for Australian banks. A key conclusion of the paper is that, while there are theoretical grounds for believing that more sophisticated methods would track exposures more closely than those currently used, in practice no single formulation clearly outranks the others.

The research paper by Stephanie Weston and Brian Gray discusses another proposal by the Basle Committee, which aims at extending capital-adequacy ratios to include market risks, in addition to the credit risks already

covered. Separate methods are proposed to cover the risks related to debt securities, traded equities and foreign exchange. The paper assesses the efficacy of the methods on actual portfolio data for Australian banks, as well as on hypothetical portfolios. On the basis of this analysis, the authors conclude that the proposed methods generate rather conservative capital charges, when measured against historical changes in portfolio values.

In August 1994, the Bank submitted a paper on international comparisons of bank margins to the Parliamentary Committee on Banking, Finance and Public Administration. It examines data on the interest margins, fee income and profitability of comparable groups of banks in English-speaking countries. The study shows that the profitability of Australian banks was broadly comparable with those of full-service banks in other countries. The proportion of income earned from interest margins tended to be relatively high, while that from non-interest income (such as fees) tended to be low.

External Debt

There is considerable interest in external debt comparisons among countries, but a shortage of data. While comparable external debt figures are collected and published for most *developing* countries, consistent measures are not generally available for developed countries. Mark Rider's paper on external debt and liabilities attempts to overcome this deficiency, using a wide range of international and national sources. The paper presents consistent time series on aggregate external debt and liability figures for 22 industrial countries, complemented by disaggregated series on foreign debt classified by instrument, function and sector. Australia is shown to be one of nine industrial countries with net external debt in the range of 30 to 60 per cent of GDP.

Reserve Bank Foreign Exchange Operations

Robert Andrew and John Broadbent examine whether the Bank's interventions in the foreign exchange market since the float in December 1983 have helped to reduce variability in the exchange rate. Most analyses of this issue use the 'profits test', based on the assumption that a central bank which exerts a stabilising influence on the exchange rate

would tend to buy foreign exchange when its price is low and sell it when its price is high and thus show a net profit for its foreign exchange market operations. The paper applies this test to Australia and finds that since the float, the Bank's foreign exchange operations have generated profits of around \$A3.4 billion. The authors also apply a range of other statistical tests which seem to support the conclusion that the Bank's exchange market operations have tended to exert a stabilising influence on the exchange rate.

APPENDIX: RESEARCH MATERIAL RELEASED IN 1994

Conference Volume

International Integration of the Australian Economy, edited by Philip Lowe and Jacqueline Dwyer, contains the papers prepared by Bank and non-Bank staff for a conference held in July 1994. The volume also includes an introduction by the editors and summaries of the discussion. The papers by Bank staff were:

Ergas, H. and M. Wright, 'Internationalisation, Firm Conduct and Productivity'.

Fahrer, J. and A. Pease, 'International Trade and the Australian Labour Market'.

Gruen, D. and G. Shuetrim, 'Internationalisation and the Macroeconomy'.

Four additional papers were also commissioned. Two of these were written by overseas authors (Susan Collins of the Brookings Institution and Georgetown University and Robert Lawrence of Harvard University). The other two were written by Steve Dowrick of the Australian National University and John Howe of the Bureau of Industry Economics.

Research Discussion Papers

9401 Dwyer, J. and C. Groeger, 'Resource Flows to the Traded Goods Sector'.

9402 Mills, K., S. Morling and W. Tease, 'The Influence of Financial Factors on Corporate Investment'.

9403 Fahrer, J. and J. Simon, 'Capital Constraints and Employment'.

9404 Coelli, M., J. Fahrer and H. Lindsay, 'Wage Dispersion and Labour Market Institutions: A Cross-Country Study'.

9405 Rider, M., 'External Debt and Liabilities of Industrial Countries'.

9406 Andrew, R. and J. Broadbent, 'Reserve Bank Operations in the Foreign Exchange Market: Effectiveness and Profitability'.

9407 Dwyer, J. and R. Lam, 'Explaining Import Price Inflation: A Recent History of Second-Stage Pass-Through'.

9408 Weston, S. and B. Gray, 'The Supervisory Treatment of Banks' Market Risk'.

9409 Gizycki, M. and B. Gray, 'Default Risk and Derivatives: An Empirical Analysis of Bilateral Netting'.

9410 Mishkin, F.S. and J. Simon, 'An Empirical Examination of the Fisher Effect in Australia'.

9411 De Abreu Lourenco, R. and P. Lowe, 'Demand Shocks, Inflation and the Business Cycle'.

Occasional Paper

Reserve Bank of Australia, 'Exchange Rates and Reserve Bank Foreign Exchange Operations, Daily', Occasional Paper No. 13.

Articles of General Interest in the Reserve Bank Bulletin

‘Investing in the Traded Goods Sector’, Reserve Bank of Australia, *Bulletin*, June.

‘Measuring ‘Underlying’ Inflation’, Reserve Bank of Australia, *Bulletin*, August.

‘A Cross-Country Comparison of External Debt’, Reserve Bank of Australia, *Bulletin*, December.

Submission to the House of Representatives Standing Committee on Banking, Finance and Public Administration

‘International Comparisons of Bank Margins’, August 1994.