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Editor's Note

In the March 2003 issue of the *Bulletin*, we ran an article on the Financial Sector Assessment Program (FSAP), noting that New Zealand will undergo an FSAP assessment later this year. We noted that this will involve a broad-based assessment of the regulatory framework for the New Zealand financial system and the capacity of the system to withstand economic and financial shocks. In that article, we indicated that the Reserve Bank would be publishing a series of articles on financial system issues in the lead up to, and following, the FSAP. We made a start in the March issue with the article on the New Zealand payment system. This issue of the *Bulletin* makes a further contribution, with two articles relating to the financial system – one on registered banks and banking supervision issues, and one on the non-bank financial institutions.

The first article is our annual review of the banking system. It looks at the financial condition and performance of the registered banks and developments in the banking sector. The article also discusses developments in the Australian banking system, given the importance of Australian banks to the health of the New Zealand banking sector. The analysis shows that both the Australian and New Zealand banking sectors continue to display good health, with strong profitability, low levels of impaired assets, modest exposure concentration and sound capitalisation. The article also provides an update of developments in banking supervision policy, noting the work under way on various policy issues, including local incorporation of banks, possible closer integration of Australian and New Zealand regulatory policy, and the management of banking system distress.

The second article provides an overview of the non-bank financial institutions, including finance companies, building societies, life insurance companies and managed funds. These and other non-bank financial institutions are not subject to supervision by the Reserve Bank and in most cases are not supervised by any other regulatory body. The main reason for this is that, by most measures, these financial institutions do not pose a risk of instability for the financial system as a whole, which is the main rationale for registering and supervising banks. Nonetheless, the non-bank financial institutions play an important role in the financial system and provide a wide range of financial services to households

and businesses. The Reserve Bank therefore keeps an eye on developments in the non-bank financial sector, and takes a particular interest in any developments that could pose risks to the stability of the financial system or that point to significant structural changes in the financial sector. In that context, the articles summarises the main developments in the non-bank financial sector over recent years and comments on some of the financial condition indicators applicable to these entities.

We change tack in the final article by discussing aspects of how we communicate on monetary policy issues. The article notes that the economy, like life in general, is full of uncertainty. The only certainty in forecasting the economy is the certain knowledge that we will be wrong! That is as true for the purpose of monetary policy as it is for any other economic purposes. It is therefore important that, when the Bank communicates on monetary policy issues, it does not create the false impression that our economic forecasts – whether of GDP, interest rates, prices, or anything else – involve precise assessments of particular economic variables. Rather, we need to make it clear that any forecasts are inherently uncertain and that the forecasts we are making are therefore within bounds of probability of actual future outcomes. The article discusses some of the techniques available for communicating the nature of uncertainty in economic forecasts, including the use of graphical techniques for doing so.

Finally, this issue of the *Bulletin* contains a speech that the Governor of the Bank, Alan Bollard, gave earlier this year on the subject of corporate governance in the financial sector. This speech provides another important piece of the jigsaw puzzle that makes up the financial system and discusses a number of elements that relate to corporate governance and risk management in registered banks. In particular, it stresses the vital role that sound corporate governance plays in fostering high quality management of risks in the banking system and the need for policies to reinforce the incentives for sound governance practices in the banks. It draws particular attention to the special governance issues that arise in banks domiciled, or owned by parents domiciled, in another country.

I hope that this issue of the *Bulletin* provides some interesting and informative reading for our readers.

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Developments in the New Zealand banking industry

Andrew Rodgers, Financial Stability Department

This article reviews developments in the New Zealand banking industry over the year ended December 2002. It discusses some of the structural developments in the banking system, policy initiatives in the banking supervision area, and the financial condition of registered banks. Given the importance of the Australian banking system to New Zealand, the article also includes a discussion of the Australian banking system, with particular focus on the major Australian banks. The information available on the New Zealand and Australian banking systems suggests that both systems continue to perform strongly. For an assessment of the non-bank financial sector in New Zealand, the reader is referred to the companion article in this *Bulletin*: "Financial intermediation beyond the banks: recent developments".

1 Introduction

This article discusses recent developments in the New Zealand banking industry, commenting on the financial performance of New Zealand registered banks using data drawn from banks' disclosure statements and highlighting several important developments in the Reserve Bank's banking supervision policy. Given the close links between the Australian and New Zealand economies in general, and the banking systems in particular, the recent performance of the major Australian banks is also described.

2 Structural issues

The registered banks continue to be the major players in the New Zealand financial system. As at 31 December 2002, there were 17 banks registered in New Zealand. These banks held total assets of \$204.5 billion. The non-bank financial sector is much smaller. Although this sector has grown rapidly in recent times, the total assets of non-bank financial institutions were only around \$13 billion in 2002¹.

During 2002 one bank, AMP Bank, announced plans to withdraw from the New Zealand banking market. The bank has subsequently announced the sale of its retail banking

business to HSBC, commercial property loans to GE Commercial Finance and rural loans to Rabobank. However, AMP Bank remains a registered bank for the time being.

Since December, one further bank has been registered. St George Bank New Zealand Limited was registered on 3 February 2003. The bank is a subsidiary of St George Bank Limited, the fifth largest bank in Australia. The New Zealand subsidiary has commenced operating a joint venture with the Foodstuffs Co-operative using the name "Superbank".

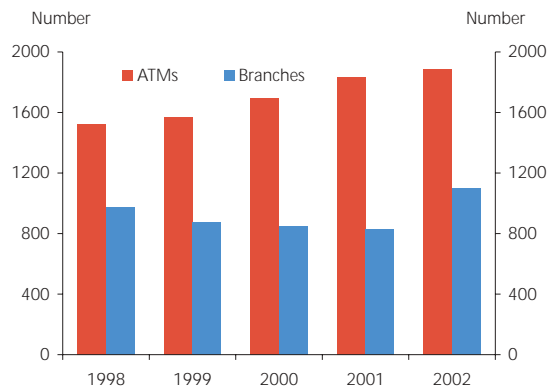
The entry of St George Bank and the potential exit of AMP Bank will not alter two of the notable features of the New Zealand banking system: the domination by a small number of relatively large banks and the extent of foreign ownership. The five largest banks in New Zealand together accounted for 85 per cent of total banking assets as at 31 December 2002. All five of these banks are also owned by foreign banks. Four of the five are owned by Australian banks and, in most cases, the New Zealand operations have very close links to their parents. Of the other registered banks, all but two are foreign owned.

For several years, banks have been encouraging their customers to undertake their banking by telephone or by using the Internet rather than by visiting bank branches. As a result, until recently, the total number of bank branches had been steadily declining. However, in 2002 the number of branches increased significantly (see figure 1). Most of this increase is attributable to Kiwibank, which had

¹ For a discussion of developments in the non-bank financial sector, see the accompanying article by Clive Thorp.

established about 280 branches by the end of the year. ASB Bank and TSB Bank also opened new branches, while the ANZ Banking Group has signalled that it too may add to its branch network.

Figure 1
ATMs and bank branches



Source: New Zealand Bankers' Association

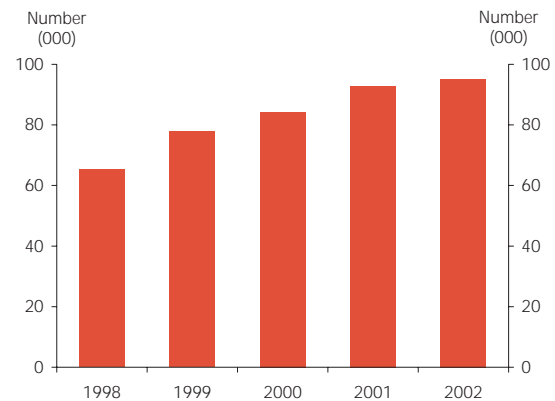
The movement towards there being more physical points of presence for banks will gather further momentum when Superbank commences offering banking facilities at supermarkets. While the Superbank model is a new one for New Zealand, there are examples of banks and supermarkets joining forces in Australia and the United Kingdom. It remains to be seen how popular this approach will be in a New Zealand context.

The alternatives to bank branches experienced mixed fortunes in 2002. The number of ATMs continued to grow, but the rate of growth slowed. After annual increases of around 8 per cent in each of 2000 and 2001, the number of ATMs grew only 3 per cent last year (see figure 1). The use of telephone banking appears to have peaked in 2000. The total number of transactions conducted by telephone has fallen in both the last two years, from about 24.5 million in 2000 to around 21 million last year. However, the popularity of banking via the Internet appears to be continuing to increase, with the number of customers registering to bank in this way reported to be still growing strongly. According to a recent survey,² more than a million bank customers are now registered to use Internet banking.

In 2002, EFTPOS transactions represented the largest non-cash means of payment, constituting 35 per cent of non-cash

² KPMG, *Financial Institutions Performance Survey 2003*

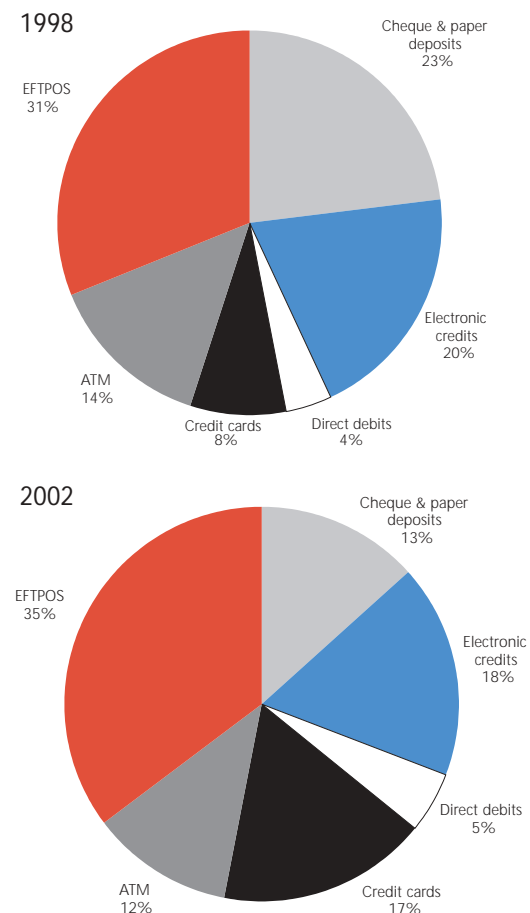
Figure 2
Number of EFTPOS terminals



Source: New Zealand Bankers' Association

payments by volume. Use of EFTPOS has grown steadily over recent years, as has use of credit cards. Meanwhile, cheque use has continued to decline as bank customers switch to other means of payment in the face of the relatively higher fees for non-electronic payment methods (see figure 3).

Figure 3
Payment methods



Source: New Zealand Bankers' Association

3 Policy developments

The Reserve Bank of New Zealand Act 1989 assigns to the Bank responsibility for the registration and supervision of banks. These tasks are to be carried out for the purposes of promoting the soundness and efficiency of the financial system and avoiding significant damage to the financial system in the event of the failure of a registered bank.

The approach to bank supervision adopted by the Reserve Bank is based on three types of discipline: self discipline (what directors and management do to ensure the soundness of the bank concerned); market discipline (the influence brought to bear by creditors, shareholders and other interested external parties, such as financial journalists), and supervisory discipline (the actions of regulators). The Bank's policies aim to provide an appropriate balance in each area of discipline. For example, we seek to reinforce self discipline through the requirement for bank directors to sign quarterly attestations on the adequacy of their bank's risk management systems and the requirement for the boards of each locally incorporated bank to have a non-executive chairman and to include at least two independent directors.

We seek to reinforce market discipline by promoting high quality, regular disclosures by banks, by promoting a contestable banking system and a level playing field in the financial sector, and by avoiding structures that insulate depositors and other creditors from the possibility of loss should a bank fail. The Bank supplements these measures with a targeted approach to the regulation and supervision of banks, including requiring banks to comply with minimum capital ratios (broadly in line with international standards), placing a limit on the extent of a bank's exposure to related parties, monitoring banks using their quarterly disclosure statements, and meeting with bank senior management annually. The Bank also has a range of powers to intervene should a bank get into difficulty, including the capacity to give directions to a bank (with the approval of the Minister of Finance) and to recommend to the government that a bank be placed into statutory management.

The Bank believes that self discipline is very important. For self discipline to be effective, it requires sound corporate governance and a board of directors that takes full responsibility for ensuring that all of their bank's risks are being prudently identified, measured, monitored and

controlled. However, the extent of foreign ownership of New Zealand banks provides some challenges with respect to the responsibilities placed on bank boards of directors. For instance, where a bank operates as a branch of an overseas incorporated bank, legitimate questions can be raised about the extent to which the bank's directors will look after the interests of New Zealand creditors.

The Reserve Bank has moved to address this potential problem by introducing a requirement that systemically important banks and banks with substantial retail deposits operate as New Zealand incorporated entities. However, local incorporation is only a partial response. Even where a foreign bank does establish a New Zealand incorporated subsidiary, it is likely that the bank concerned will look to manage its business, including importantly its information technology, accounting and risk management functions, on a global basis. None of these functions are currently required to be carried out in New Zealand and they may be performed by a legal entity other than the entity registered as a bank in this country. Such "outsourcing" of key functions appears to be increasingly the case for some of our major banks and for banks internationally.

In normal circumstances, the location of core functionality of a bank is of relatively little concern, provided that there are robust service agreements and the bank in question is fully satisfied that the providers of the functions (whether inside the banking group or third parties) are capable of performing the functions efficiently and reliably. However, when stress emerges, the legal structure and physical location of different parts of the business become very important, impacting directly on the options available and ability to manage the stress. For this reason, the Reserve Bank has been assessing a number of different options for ensuring that the New Zealand operations of foreign banks are organised in ways that suit the New Zealand financial system. The work underway includes examining the scope for closer harmonisation of New Zealand and Australian banking regulation and looking at options for enhancing the prudential requirements on banks operating as branches of overseas incorporated entities. We are also reviewing the corporate governance arrangements applicable to banks, and have conducted a survey of bank boards on their oversight of their bank's risk management systems. The results of this

survey will provide a basis for assessing the adequacy of existing corporate governance requirements for banks.

Revised Basel Capital Accord

The Basel Capital Accord was introduced in 1988 and currently bank capital regulation in more than 100 countries, including New Zealand, is based on it. The Accord prescribes rules for measuring a bank's credit exposures, both on and off the balance sheet, and assigns risk weights to broad categories of exposure to ensure that more capital is held against higher categories of credit risk. The Accord also specifies rules for the categorisation of different forms of a bank's capital and specifies minimum capital requirements for banks in the form of minimum ratios of capital against risk weighted exposures (of 4 per cent for tier one, or core, capital and 8 per cent for total capital). The Accord was developed by the Basel Committee on Banking Supervision (BCBS).³ The Committee has been working for the last few years to produce a revised Accord (Basel 2) to address perceived deficiencies with the existing requirements.

Basel 2 is based around three "pillars": minimum capital requirements, supervisory review and public disclosure. The proposed changes to the Accord include the introduction of different ways by which banks may (with supervisory approval) calculate their capital ratios. It would allow banks to either adopt a standardised risk weighting framework (which is similar to the existing framework but with greater specification of different risk categories) or to use their own models (as approved by the supervisory authority) to calculate risk-weighted exposures. The revised Accord also broadens the types of risks against which capital must be held to include operational risk. There is no proposed change to the minimum capital ratios for banks at this stage.

The BCBS issued a final consultative paper in late April 2003 and plans to have Basel 2 finalised by the fourth quarter of this year. The target date for all countries to have implemented changes resulting from the new accord is the end of 2006.

³ **The Basel Committee on Banking Supervision comprises representatives of the central banks and banking supervision agencies of the major industrial countries. The Committee's role is to formulate broad supervisory standards and guidelines and to recommend statements of best practice.**

The Reserve Bank has some misgivings about the prominence given to supervisory validation in the new arrangements. In particular, we are concerned that the planned role for supervisors will undermine incentives on bank directors and management. Following a process of consultation, the Bank has therefore informed banks operating in New Zealand that we propose to make locally incorporated banks subject to the simplest option in the new accord. That option is the "Standardised Approach", which emphasises the use of external credit ratings in determining capital requirements.

Conglomerates and connected lending

The Reserve Bank has recently reviewed the restrictions placed on the nature of the business that could be conducted by banks and their subsidiaries and on the lending by banks to "connected persons" (essentially a bank's parent or other companies owned or controlled by the parent).

Previously there have been no limits on the types of business that banks could undertake other than a general requirement that most of a bank's business consist of borrowing and lending or the provision of other financial services. However, the combination of banking and non-banking business can pose significant risks within the New Zealand context given the importance of self discipline and market discipline in the Reserve Bank's approach to bank supervision. Capital adequacy rules and disclosure requirements that are appropriate for banking will not necessarily be appropriate for non-banking business. The involvement of banks in life insurance and funds management activities is of particular concern in this regard, given that the risks inherent in these kinds of activities are very different from those of core banking business. The Reserve Bank has therefore concluded that there should be restrictions on the nature of business conducted by banks. We are currently implementing changes to our policies. Registered banks and their subsidiaries will no longer be permitted to conduct material insurance underwriting or non-financial business and there will be constraints on banks' financial involvement with affiliated insurance activities. Parents of registered banks will still be able to conduct non-banking business in New Zealand, but will have to do so through entities other than the bank or subsidiaries of the bank.

The concern with lending to connected persons is that credit exposures to such parties might not be entered into on an “arm’s length” basis because of the ability of the connected party to influence the lending decisions of the bank. Thus, the financial soundness of the bank may be undermined by such exposures. Lending to a bank’s parent could also be used to remove capital from the bank quickly, particularly in times of stress when there would otherwise be a risk of loss for the parent.

In order to limit the possibility that exposures to connected persons will undermine the bank in this way, the Reserve Bank imposes limits on lending to connected persons. However, we have concluded that the existing approach is too generous and have therefore moved to impose tighter limits. In 2002 we decided, after consulting the banks, to impose new limits such that aggregate credit exposures of a non-capital nature to connected parties will be subject to ratings-contingent limits. For banks rated AA or above the limit is 75 per cent of tier 1 capital. The limits progressively decline depending on ratings to 15 per cent of tier 1 capital for banks rated BBB+ or below. Where an acceptable bilateral netting agreement is used, it will be possible for the bank to bilaterally offset exposures to a connected person against borrowings by the bank from the same legal entity. Advances of a capital nature to a connected person will have to be deducted from a bank’s tier 1 capital.

Amendments to the Reserve Bank Act

As noted previously, the Reserve Bank’s responsibilities with respect to bank registration and supervision are set out in the Reserve Bank Act. Amendments to that Act are currently being considered by Parliament.

Part IV of the Act regulates the use of the words “bank”, “banker” or “banking” in names or titles by non-banks. The restrictions on the use of these words are currently too narrow and the exemptions allowed are too broad. The provisions are being revised to make it harder for non-bank financial institutions to pass themselves off as banks.

The registration and supervision of banks and the management of bank failures are dealt with in Part V of the Act. The proposed amendments to this part are largely technical and designed to make it easier for the Reserve Bank

to meet its objectives, particularly with respect to managing a bank failure.

The Amendment Bill also adds two new parts to the Reserve Bank Act. These parts relate to the Bank’s oversight of the payment system and were discussed in an article in the March *Bulletin*.⁴

Responding to banking system distress

The Reserve Bank Act assigns the Bank a range of powers to deal with bank distress and failure events. The aim is to respond quickly and decisively to an incipient distress situation in order to minimise disruption to the financial system and to preserve public confidence. To that end, the Bank is working on a number of initiatives to further strengthen its capacity to respond to bank distress and failure events. One of these initiatives is the development of a framework that would enable the Bank to address a bank failure situation in ways that avoid or minimise the need for government or central bank support. In addition, we are developing our policies for responding to a bank liquidity shortfall, and to develop the strategies and tactics, and further enhance our skills, for responding to a range of possible crisis scenarios. These initiatives are being taken not because the Bank expects that we will have to use these powers in the foreseeable future – as this article makes clear, the financial system is currently robust and well placed to absorb economic shocks. Rather, we are developing our crisis management capacity so that, if the need ever arises, we can act effectively to resolve the crisis and restore order to the financial system.

4 Australian developments

The close links between the New Zealand and Australian economies, and the fact that four of New Zealand’s largest banks are owned by Australian banks, make developments in Australia very important for the New Zealand banking system. This section therefore briefly describes the

⁴ Stinson, Allison and Michael Wolyncewicz (2003), ‘Recent developments in the payment system’, *Reserve Bank of New Zealand Bulletin*, vol 66, no 1.

performance of the five major Australian banks over their 2002 financial years. The focus is on these five banks because the Australian banking system, like New Zealand's, is dominated by a small number of large banks. The four major Australian banks (ANZ, Commonwealth Bank of Australia, National Australia Bank and Westpac) all have significant operations in New Zealand. The fifth largest bank in Australia, St George Bank, is also now represented on this side of the Tasman through its involvement in Superbank. The information in this section has been drawn from publicly available sources, including the published accounts of the banks.

For the last decade or so, Australian banks have enjoyed a healthy economic environment. The Australian economy turned in a relatively strong performance over 2002 with real GDP growing 3 per cent over the year, faster than real GDP in the major (G7) economies. Economic activity was underpinned by strong consumer spending and a buoyant housing market. The growth rate was achieved despite the constraining effect on the rural sector of drought conditions and the relatively weak international economy.

In this environment, the major Australian banks have been very profitable. The five banks achieved an after-tax return on assets of 1.1 per cent over 2002, above the internationally accepted benchmark of 1 per cent and up on the 0.9 per cent return achieved in 2001.

However, it is necessary to interpret reported profitability carefully because of the impact of asset sales by several banks. After adjusting for this impact, profitability still appears solid and has been the result of increased net interest income, continued cost containment and growth in fee income.

Strong growth in lending, particularly lending to households, has resulted in increased net interest income. Overall interest margins were down slightly, reflecting strong competition, particularly from non-bank specialist mortgage providers. However, margins on corporate lending are reported to have shown some improvement.

For several years, banks in Australia have been focusing on reducing their costs in the face of margins eroded by competition. Cost to total income ratios for all the major banks have fallen from levels of 60 per cent or more in the late 1990s to around 50 per cent in 2002. Efforts to contain

costs have seen branches closed and staff numbers reduced. However, banks are coming under increasing pressure to maintain their branch networks, particularly in rural areas. Consequently, cost savings are now being sought in other areas, with banks' information technology coming under particular scrutiny.

Despite increased income from transaction fees, the banks' total non-interest income fell as a result of lower returns from wealth management activities. The major banks have been looking to develop their involvement in wealth management in order to diversify their income and to respond to a move away from bank deposits by savers in Australia. An increased focus on retirement savings has seen households look for alternatives to putting their money in the bank. The four largest banks all now have major wealth management businesses. Income from these businesses came under pressure in 2002 as declines in world equity markets impacted, both through revaluations of assets held in managed funds and through reduced management fees as investors went in search of higher or less volatile returns elsewhere.

The total assets of the major Australian banks as a group grew about 2 per cent in 2002. This growth reflected growth in total lending, with particularly strong growth in lending for residential mortgages driven by the buoyant housing market. Residential mortgage lending makes up more than 50 per cent of the major banks' total lending. Corporate borrowing did not grow as strongly, with major companies having tended to move away from borrowing from banks in favour of funding their business directly in the financial markets.

The other result of the lessening importance of deposits in bank balance sheets in recent years has been that the banks have increasingly had to fund themselves in wholesale financial markets. A lot of this funding has been sourced from offshore, but the banks are well hedged and carry little foreign currency risk.

The total impaired assets of the major Australian banks fell by about 4 per cent in 2002 and impaired assets were only about 0.7 per cent of total gross lending. The good credit quality reflects the strength of the economy generally and was achieved in spite of several high profile, large corporate collapses.

Australian banks are required to maintain minimum capital adequacy ratios in line with international standards. Tier 1 capital must be at least 4 per cent of risk weighted exposures and total capital 8 per cent. In 2002, the reported tier 1 ratios for all five major banks lay between 6.5 and 7.9 per cent, while total capital ratios were between 9.8 and 10.8 per cent.

The strong financial performance of the major Australian banks is reflected in their credit ratings. All five banks have maintained ratings of A or better for the last several years.

Overall, the major Australian banks, and the Australian banking system as a whole, appear to be in good health and to be reasonably well placed to absorb economic shocks without giving rise to significant financial instability. Nevertheless, we remain aware of the potential for some economic events to impact adversely on the Australian financial system. Such events would include possible declines in asset prices, particularly in the main urban areas, continued drought conditions and any further weakening in the international economy. We will therefore continue to closely monitor developments in the Australian economy and financial system and to assess any potential risks for the New Zealand financial system.

5 Financial performance of New Zealand registered banks

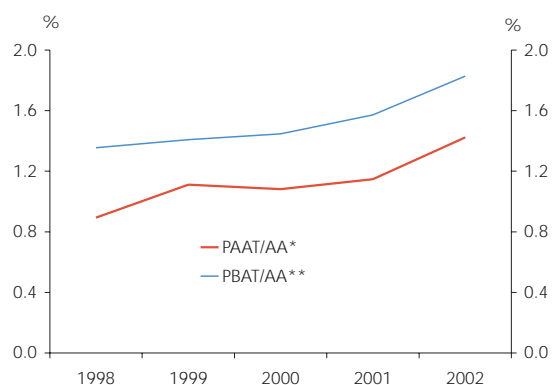
During 2002, New Zealand registered banks were operating in an economy which, like Australia's, was performing relatively strongly. Real GDP in New Zealand grew 4.4 per cent for year ended December, compared with 2.7 per cent the previous year. This performance was driven by robust domestic spending, a flourishing housing market, and net immigration, which provided an economic stimulus, particularly for urban economies.

In these conditions, the registered banks have performed well and, as a group, were very profitable by international standards. Total after tax profits for all registered banks for the year ended 31 December 2002 were \$2.8 billion, 28 per cent higher than for the 2001 year. This profit represented an after tax return on average assets of 1.4 per cent,

comfortably above the generally accepted 1 per cent benchmark (see figure 4).

Part of the increase in profits recorded in the period was due to abnormal income of \$196 million. This income largely comprised the proceeds of the sale of subsidiaries by three banks. Adjusting for this effect would reduce the return on average assets to 1.3 per cent.

Figure 4
Profitability as a percentage of average total assets



* Profit after abnormals and taxes/average assets

** Profit before abnormals and taxes/average assets

The key factor driving growth in underlying profit (ie before abnormal items and tax) was very strong growth in net interest income, which grew by 20 per cent. This growth resulted from the expansion in interest earning assets and increased interest margins (see figure 5). Interest earning asset expansion reflected the robust increase in lending achieved by the banks in supportive economic conditions. Both residential mortgage lending and other lending grew strongly, such that total lending at the end of 2002 was 8 per cent higher than at the end of 2001.

The reasons for the improvement in the banks' reported net interest margins are less easy to find, with some of the traditional explanations for margin increases not seeming to apply. For example, higher margins are often linked to lower levels of competition in the banking industry. However, the entry of Kiwibank and the activities of non-bank lenders, as well as efforts by major banks to build their market shares, suggest that there is a reasonable degree of competition in the New Zealand banking market, particularly in the market for residential mortgages. There would certainly appear to be no evidence of declining levels of competition.

Table 1

Aggregate income statement of registered banks

\$million	1998	1999	2000	2001	2002
Net interest income	3193	3307	3527	3911	4699
<i>Less</i>					
Impaired asset costs	201	144	127	191	196
<i>Equals</i>					
Net interest income after impaired asset costs	2992	3163	3400	3720	4503
<i>Plus</i>					
Other income	1862	1865	2140	2264	2254
<i>Less</i>					
Operating expenses	2982	2944	3106	2987	3165
<i>Equals</i>					
Profit before abnormals	1872	2084	2434	2997	3592
<i>Plus/Less</i>					
Abnormals	-130	125	-7	-11	196
<i>Equals</i>					
Profit before tax	1742	2209	2427	2986	3788
<i>Less</i>					
Tax	507	566	606	799	991
<i>Equals</i>					
Net profit after tax	1235	1643	1821	2187	2797

Table 2

Profit as a percentage of average assets

% of average assets	2001	2002	change
Net interest income	2.05	2.39	+ 0.34
Impaired asset expense	(0.10)	(0.10)	(0.00)
Other income	1.19	1.15	(0.04)
Operating expenses	(1.57)	(1.61)	(0.04)
Net profit before tax	1.57	1.93	+ 0.36
Net profit after tax	1.15	1.42	+ 0.27

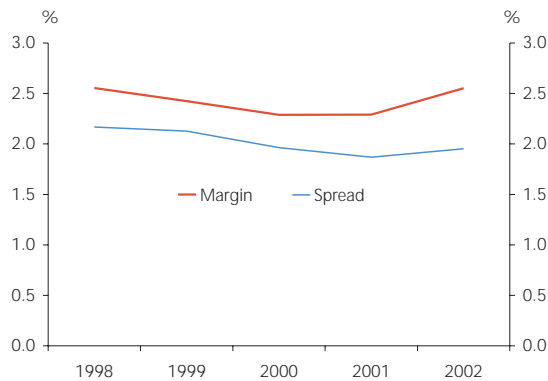
Movements in the general level of interest rates also do not seem to provide an explanation for the increase in margins. Over 2002, the general level of interest rates increased. When interest rates are rising, the effect on banks' interest margins will depend on how quickly banks are able to adjust their lending and deposit rates and on the composition of their funding. If wholesale interest rates adjust more quickly than lending and deposit rates and banks are sourcing a significant amount of their funding from wholesale financial markets then interest rate margins and spreads would come under pressure. Alternatively, if a significant proportion of bank funding is in low interest retail deposits (especially cheque accounts) and strong demand for credit allows banks to increase interest rates on lending more quickly than they raise deposit rates, margins and spreads will increase. During 2002, the average return on banks' interest earning assets and the average cost of their interest bearing liabilities both

fell, meaning that there was little change in the interest rate spread.

Another factor determining a bank's overall interest margin is the way that the bank chooses to structure its business, since margins on some business lines will be higher than on others. During 2002, some banks moved to alter their business mix to emphasise higher margin activities.

Much of the explanation for margin movements appears to revolve around how the banks have funded their lending growth. Interest earning assets grew by almost 8 per cent over the year, but interest bearing liabilities by only 3 per cent. The banks seem to have been able to fund their lending growth from increases in non-interest bearing liabilities and increases in their equity, including retained profits (profits that banks have not paid to their owners as dividends).

Figure 5
Margins and spreads



The other components of underlying profits are income from sources other than interest (such as transaction fees) and operating expenses. There was little change in total non-interest income over 2002. This income declined in relative importance, with its share of total income falling to 32 per cent in 2002 compared with 37 per cent in the previous year.

Banks' total operating expenses in 2002 were about 6 per cent higher than in 2001. However, costs continued to decline as a proportion of total income. This ratio fell from 48.4 per cent in 2001 to 45.5 per cent in 2002. The rate at which this ratio has been declining appears to have slowed, suggesting that the banks may now be reaching a point where further reductions in costs will be harder to extract.

Balance sheet

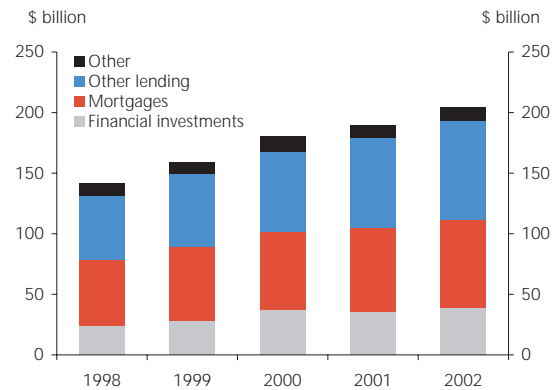
The total assets of the banks at 31 December 2002 were \$204.5 billion, up almost \$15 billion from December 2001. Most of this increase was due to lending growth, with both residential mortgage lending and other lending increasing by \$5.8 billion. There was little change in the composition of bank lending over 2002, with lending to the household sector continuing to be the single largest component of total

Table 3
Composition of assets

\$billion	1998	1999	2000	2001	2002
Financial investments	24.3	28.2	37.1	36.1	38.7
Mortgages	54.5	61.0	64.3	67.3	73.1
Other lending	52.5	60.3	66.3	75.7	81.5
Other assets	10.3	9.0	12.4	10.5	11.2
Total assets	141.6	158.5	180.1	189.6	204.5

lending. Residential mortgages accounted for almost a half of total lending and more than a third of total assets as at 31 December 2002. It is important to note, however, that perhaps up to 10 per cent of residential mortgage lending represents lending for business purposes.

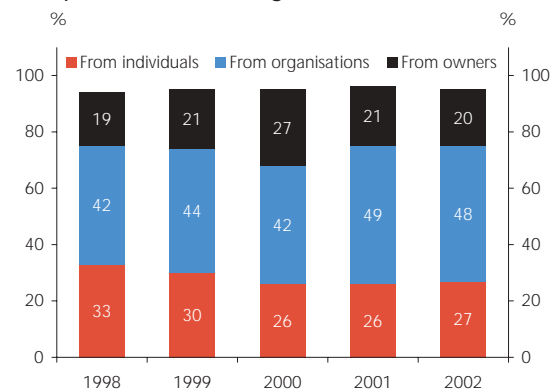
Figure 6
Composition of assets



As at 31 December

Figure 7 provides an indication of how banks have funded their assets in recent years. The late 1990s saw a decline in the share of total funding from deposits, as savers increasingly placed their savings in managed funds. As a result, a larger proportion of bank funding came from wholesale financial markets and particularly from overseas sources. More

Figure 7
Composition of funding



Note: Information for this graph has been extracted from half-year or end-of-year General Disclosure Statements. Therefore the data are either as at 30 September or 31 December. Items which do not perform a funding role have been excluded from the percentages in this graph.

recently this trend appears to have come to an end with a small increase in the share of funding represented by deposits in 2002. This change probably reflects a switch back to bank deposits by savers in the face of disappointing returns by many managed funds.

Asset quality

The overall quality of bank assets continues to be high, both by international standards and in historical terms. Total impaired assets at 31 December 2002 were only 0.33 per cent of total lending, down from 0.42 per cent the previous year. These ratios are very low, particularly when compared to their levels in the early 1990s. For example, at 31 December 1991, impaired assets were 8.3 per cent of loans. As figure 8 shows, reported past due assets also fell last year after they had risen noticeably in 2001. These movements are largely attributable to exposures by several banks to the Central North Island Forestry Partnership and, given that these

Figure 8
Asset quality

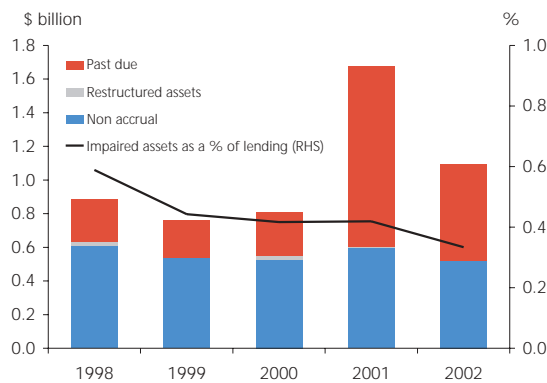
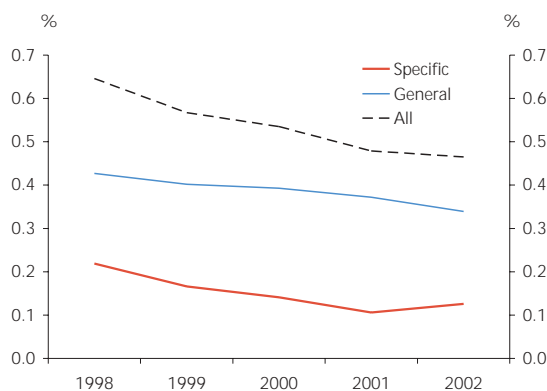


Figure 9
Provisioning as a percentage of total gross loans



As at 31 December

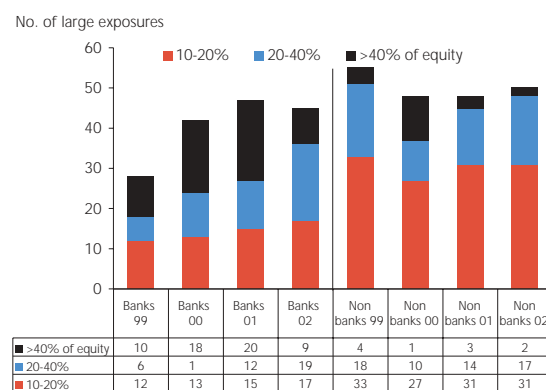
exposures are in US dollars, to movements in the exchange rate, with the strengthening of the New Zealand dollar against the United States currency reducing the recorded value of the loans in New Zealand dollar terms.

Total provisions remained equal to around 0.5 per cent of total gross lending. Within this total, specific provisions increased, partially offsetting a fall in general provisions. Specific provisions represented 38 per cent of total impaired assets (see figure 9).

Large exposures

Registered banks are required to disclose information on the number of credit exposures in excess of 10 per cent of their equity. Figure 10 summarises that information. As can be seen, the total number of large exposures reported by banks at the end of 2002 was the same, but there were some differences in the mix of exposures. In particular, there were two more exposures to non-banks, with the increase being in exposures greater than 20 per cent of equity. There were also fewer exposures to banks in excess of 40 per cent of equity.

Figure 10
Large exposures to bank and non-bank counterparties



As at 31 December

Exposures to connected persons

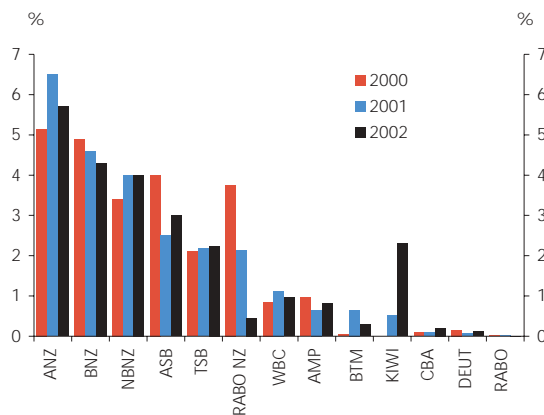
As noted above, there are limits on the exposures of locally incorporated banks to connected persons. There were five banks subject to these limits that reported exposures to connected persons during 2002. The peak exposures reported by these banks ranged from 10 per cent to 42 per cent of the tier 1 capital of the bank concerned. These ratios were all lower than the peak ratios reported for the previous

year and well below the current maximum permitted ratio of 75 per cent.

Market risk

Market risk arises because changes in interest rates, exchange rates and equity prices impact on the value of banks' financial assets and liabilities. These changes can erode a bank's capital position, particularly if the bank maintains large open positions. Banks are required to disclose information on their exposure to this risk. In 2002, exposures to interest rate movements continued to be the most significant market risk exposures faced by banks. Foreign exchange and equity exposures continued to be very small, as banks generally hold few equities and tend to fully hedge foreign exchange positions. As figure 11 shows, interest rate exposures were also not particularly large, with the largest exposures ranging from about 3 per cent to 6 per cent of equity for the major locally incorporated banks.

Figure 11
Peak interest rate risk as a percentage of banking group equity

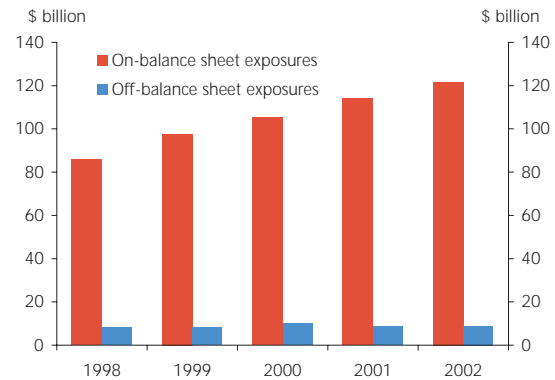


Note: See appendix for full bank names.

Capital adequacy and credit ratings

The Reserve Bank's capital adequacy framework requires all registered banks incorporated in New Zealand to hold minimum levels of tier 1 and total capital. These requirements are based on the standard Basel Capital Accord with the exception that banks in New Zealand are not required to hold capital in relation to market risk positions. Banks are therefore required to maintain a minimum tier 1 ratio of 4 per cent and a total capital ratio of 8 per cent. Branch banks are subject to capital requirements on their global operations in their country of incorporation.

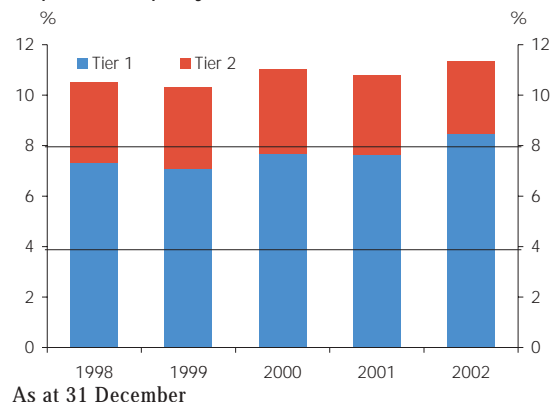
Figure 12
Risk weighted exposures



Total risk weighted credit exposures grew by 6 per cent in the year to December 2002, with both off-balance sheet and on-balance sheet exposures growing. Reported capital ratios also increased, with the increase being the result of a 19 per cent rise in tier 1 capital held by the seven locally incorporated banks. Tier 1 capital essentially comprises issued share capital and audited retained earnings and the majority of the increase in this form of capital over the year is explained by increases in retained earnings. The overall tier 1 ratio increased from 7.6 to 8.5 per cent and the total capital ratio from 10.7 to 11.3 per cent (see figure 13). No banks had capital ratios below the minimum requirements.

All registered banks in New Zealand are required to have a credit rating from a rating agency acceptable to the Reserve Bank. Two banks experienced credit rating downgrades in 2002 and the ratings for two other banks were raised. Of the 17 banks registered at 31 December 2002, 13 had ratings of AA- or better, one more than a year earlier. This increase was due to one of the upgrades. The other banks all had investment grade ratings ranging from BBB- to A-.

Figure 13
Capital adequacy



As at 31 December

6 Potential vulnerabilities

Although the banking system remains in good health when compared with historical experience and with the experience of other developed countries, no banking system is completely immune to potential vulnerability. That is the case with the New Zealand banking system and the trends described in section 5 highlight two areas of potential vulnerability. The first is the banks' very large exposure to the household sector (as evidenced by the large proportion of total lending comprising residential mortgages), given the high levels of household indebtedness. The second is the degree to which banks rely on funding from foreign wholesale financial markets.

The risks associated with these two features of the New Zealand banking system were discussed in an article in an earlier *Bulletin*.⁵ As that article noted, the strong profitability, capital adequacy, collateral coverage and high asset quality of banks in New Zealand, along with their hedged foreign currency exposures, mitigate these risks to a significant degree. Nonetheless, we remain mindful of the risks and continue to keep a close watch on developments. In this regard, the stress testing process that the Bank is currently developing in co-operation with the major banks in New Zealand in preparation for the Financial Sector Assessment Programme (see the article on this topic in the March 2003 issue of the *Bulletin*⁶), will provide us with a clearer picture of the banking system's capacity to withstand various types of economic shocks.

7 Conclusion

The New Zealand registered banks again performed well in 2002, recording for the second year running an increase in after tax profit of more than 20 per cent. In achieving this result the banks benefited from a relatively strong New Zealand economy, which supported asset growth and helped to maintain the quality of the banks' assets.

With four out of the five largest New Zealand banks being Australian owned and close links between the economies of the two countries, another important aspect of the operating environment for New Zealand banks is the state of the Australian economy and banking industry. Banks on the other side of the Tasman also appear to have performed well financially over 2002.

The interconnections between New Zealand banks and their foreign parents could create difficulties with respect to managing the failure of a bank in this country. The Reserve Bank will therefore be continuing to ensure that the New Zealand operations of banks are structured in ways that will deliver outcomes that promote the maintenance of a robust financial system.

⁵ See Gereben, Aron, Leslie Hull and Ian Woolford (2002), 'Recent developments in New Zealand's financial stability', *Reserve Bank of New Zealand Bulletin*, vol 65 no3

⁶ Mortlock, Geof and Ian Woolford (2003), 'Financial sector assessment programme', *Reserve Bank of New Zealand Bulletin*, vol 66 no1

Appendix

Registered banks as at 31 December 2002

New Zealand incorporated banks

<i>Registered bank</i>	<i>Owner</i>	<i>Abbreviation</i>
ANZ Banking Group (New Zealand) Limited	Australia and New Zealand Banking Group Limited	ANZ
ASB Bank Limited	Commonwealth Bank of Australia	ASB
Bank of New Zealand	National Australia Bank Limited	BNZ
Kiwibank Limited	New Zealand Post Limited	KIWI
The National Bank of New Zealand Limited	Lloyds TSB Group plc	NBNZ
Rabobank New Zealand Limited	Rabobank Nederland	RABO NZ
TSB Bank Limited	TSB Community Trust	TSB

Overseas incorporated banks

<i>Registered bank</i>	<i>Abbreviation</i>
ABN AMRO Bank NV	ABN AMRO
AMP Bank Limited	AMP
Bank of Tokyo-Mitsubishi (Australia) Limited	BTM
Citibank NA	CITI
Commonwealth Bank of Australia	CBA
Deutsche Bank A.G.	DEUT
Kookmin Bank	KMIN
Rabobank Nederland	RABO
The Hong Kong and Shanghai Banking Corporation	HSBC
Westpac Banking Corporation	WBC

Note: Since 31 December 2002, one further bank, St George Bank New Zealand Limited, has been registered.

Financial intermediation beyond the banks: recent developments

Clive Thorp, Financial Stability Department

The New Zealand financial system is dominated by banks, whose assets are well over 90 per cent of those of all deposit-taking institutions. Banking groups also own fund management businesses, with more than a quarter of all funds under management. However, the activities of savings institutions, finance companies, the non-institutional market and independent fund managers are important, notwithstanding their relatively reduced role. This article discusses developments in non-bank financial institutions and markets over recent years.

1 Introduction

Following deregulation of the financial system in the mid-1980s and implementation of a framework for bank registration and supervision from 1987, banks began to grow fast relative to the rest of the financial system. A financial industry previously fragmented, and regulated by a wide variety of statutes, began rapidly to transform itself to one that by the mid-1990s was more highly concentrated, with five major banking groups accounting for over 85 per cent of the assets of all deposit-taking institutions.

By the end of 1990, little more than six years after financial sector deregulation began in earnest, registered banks already dominated the financial market. They held as much of households' financial assets on their balance sheets as were placed with all other financial institutions, including funds under management, and provided over 70 per cent of total household credit. Banks were the source of almost 80 per cent of business credit, and the consolidated assets of the banking system were over 60 per cent of total financial assets. From 1998 however, other deposit-taking institutions began gradually to grow more quickly than banks, with the pace of their advance accelerating in the last two years. Funds under management, on the other hand, peaked in late 2000, and after falling for over two years, are now little changed from four years ago. This article reviews recent developments in financial markets outside the banks, providing an overview of the regulatory framework, developing business practices and growth of 'non-banks' (including fund managers) in the last four years in particular.

2 Banks in context

A review of registered banks is covered by Andrew Rodgers' article in this Bulletin.¹ While not the focus here, their relative size compared to the total market, and recent rate of growth, is set out in table 1 to serve as a basis for comparison with other institutional groups. The table presents registered bank data on a consolidated basis, and non-institutional market assets shown exclude the \$3-4 billion of securitised assets which are in the portfolios of managed funds, held by banks or by non-residents. While banks provide between \$1-2 billion of funding for other deposit-taking institutions, and in their turn receive between \$4-5 billion in funding from fund managers, other 'double-counting' in the table is likely to be negligible. In subsequent tables in this article, assets are allocated among banks and other institutional groups by including securitised loans with the originating institutions, in order to illustrate better the changing rates of business growth by sector. The activities and balance sheets of smaller merchant banks and financial groups specialising in corporate business are not covered. All balance sheet data are as at the end of December, in New Zealand dollars.

While between 1990 and 1995 a minor part of registered bank asset growth occurred through reclassification of assets, notably housing loans sold by the Government, from 1995 the bank data in table 1 represent 'organic' growth only. The rate of growth of bank assets from 1995 to 1998, through the peak and last phase of the rapid spurt of economic growth in the mid-1990s, was strong: other deposit-takers more or less marked time, and asset growth

¹ See Rogers (2003) 'Developments in the New Zealand banking industry' pp. 5-17.

Table 1
Overview of financial market structure

\$ billion as at December		1990	1995	1998	2002
Liabilities					
Banks					
	Households	28	37	41	50
	Other domestic	20	26	40	54
	Non-residents	11	22	35	62
	Total	66	94	131	190
Other deposit-taking institutions					
	Households	3	4	4	6
	Other	1	1	2	4
	Total	5	6	7	13
Fund managers					
	Households	25	38	46	48
	Other	1	1	2	4
Household fixed interest					
		6	6	6	7
Total liabilities		103	145	192	262
Assets					
Banks					
	Households	20	41	56	76
	Farmers	4	8	11	17
	Other domestic	28	31	43	52
	General Govt	7	5	4	8
	Non-residents	2	2	5	22
	Total	66	94	131	190
Other deposit-taking institutions					
	Households	2	3	3	5
	Other	2	2	3	6
	Total assets	5	6	7	13
Fund managers					
	Domestic fixed interest		na	21	21
	Domestic equities	na	na	8	7
	Domestic other	na	na	4	5
	Overseas investments		na	15	19
	Total funds	26	39	48	52
Non-institutional assets					
		6	6	6	7
Total assets		103	145	192	262

Source: RBNZ

Note: Group totals shown here include components not itemised in the table.

at fund managers did not keep pace, although rising 20 per cent. The value of funds under management and net inflows continued to increase until late 2000, and values have subsequently fallen 20 per cent from their peak. Credit unions excepted, the 55 to 60 other deposit-taking institutions, finance companies especially, began to expand from 1998. They have prospered more rapidly since 2000, as a strong property market and buoyant consumer spending associated with low unemployment and rapid net migration inflows have stimulated demand for credit.

While barely denting banks' dominant share of total financial assets, the change in performance of the non-bank sector has turned around a declining trend over a decade old. Other deposit-taking institutions' share of non-housing personal lending has risen since 2000, and their lending for housing has grown slightly faster than that of banks. The funds management industry has been undergoing some notable structural changes since 1998, in a period when its funds performance has attracted more attention. These changes are examined in more detail in the next sections.

3 Deposit-taking institutions

Building societies

There are currently 10 building societies operating in New Zealand. They began as mutual organisations, with core capital often comprising transferable 'term shares'. Today a few issue 'capital shares' at premium interest rates to support rapid growth, while most rely on retained earnings. Customers are shareholders by virtue of being depositors. Depositors are overwhelmingly households. The same is true of the Public Service Investment Society (PSIS), a financial institution with similar structure and functions, originally established by and for public servants. Now about half the size of the largest building society, with branches countrywide, the PSIS is incorporated under the Companies Act 1993 and Co-operative Companies Act 1996. Table 2 illustrates the basic balance sheet structure of these 11 institutions.

By the 1970s, before savings banks gained the ascendancy late in the decade, building societies were the largest private sector institutional source of residential mortgage loans. From the mid-1970s, when they gained relatively less advantage from an initial loosening of financial sector controls, the number of building societies in New Zealand –

at one time over 70 – was reduced principally by way of merger as a response to greater competition. By the late 1980s, the largest building society, the product of a decade-long campaign of growth by merger and acquisition, was able to register as a bank. Societies operate today under the Building Societies Act 1989, which has been adapted to allow lending and other business practices similar to other non-bank competitors (lending for non-housing purposes was formerly tightly restricted).

One large society – the Southland Building Society – accounts for more than half the assets of all building societies, at over \$1.2 billion. Only the two largest societies maintain branches well beyond their place of origin. Asset composition is now less oriented to residential mortgages than before deregulation, but housing loans continue to represent over 55 per cent of total advances. Since 1998 there has been a similar rate of growth of household compared to other loans, which comprise a mix of lending secured on farms and commercial property.

For the financial year ended 2002, these institutions' average ratio of net profit after tax to average total assets was 0.75 per cent, and net profit after tax to average shareholders' equity was 9.6 per cent, results that are significantly better

Table 2
Building societies and PSIS

\$million as at December	1998	1999	2000	2001	2002
Household deposits	1720	1880	2040	2270	2560
Other deposits	20	20	20	20	30
Total deposits	1740	1900	2060	2290	2590
Capital and reserves	150	160	190	210	230
Total funding	1960	2140	2340	2590	2930
Housing loans	1050	1200	1270	1400	1580
Other personal loans	80	70	80	90	130
Farm loans	160	200	230	280	320
All other loans	570	570	650	710	800
Total loans	1860	2040	2230	2480	2830
Total assets	1960	2140	2340	2590	2930
Capital ratio	7.8%	7.7%	8.0%	7.9%	7.8%

Source: RBNZ

than the Australian building society sector, for example. The capital ratios for the two groups are similar.²

Credit unions

Credit unions are 'small savings' institutions, whose objects under the Friendly Societies and Credit Unions Act 1982 are specified as the 'promotion of thrift among members' and 'use and control' of their savings for their mutual benefit. The number of credit unions has fallen from over 300 in the mid-1980s to around 60 now, while total assets have increased fourfold to about \$400m. It is likely that the greater availability of personal credit after deregulation played a significant role in the fall in credit union numbers. Traditionally, these mutual societies have been formed on the basis of the existence of a 'common bond' among members. The 1982 Act requires evidence of such a bond for registration of a credit union – because of their objects, credit unions do not pay income tax.

In 2000, credit unions became subject to the general Securities Act requirement to establish a trust deed and appoint a trustee, placing them on a similar footing in that regard with other deposit-takers. The restriction limiting shares (deposits) from any one member to a maximum \$40,000 was raised to a \$250,000 maximum following this change. Only individuals can be members of a credit union, which in turn may lend only to members, to maximum amounts prescribed by the Act. Loans are predominantly for non-housing purposes. Following a decade of more rapid growth, credit union growth has been moderate over the

past five years. Table 3 estimates data yet to be released for 2002, with the drop in assets the result of one credit union converting to building society status during the year.

Finance companies

Finance companies are the most rapidly expanding and largest group of non-bank deposit-taking institutions. Most tend to specialise in particular forms of financing, which provides a convenient taxonomy for reviewing them. The categories are based on the predominant form of lending – the property lending and business financing groups in particular often have a proportion of loans in the other sectors. The main categories of finance company are:

- residential and commercial property lenders, focused on development finance;
- vendor finance subsidiaries of multinationals, lending to facilitate product sales;
- consumer market financiers, for cars and other consumer purposes;
- business and farm financiers – plant and machinery, business equipment leasing, farm equipment and seasonal lending.

The largest finance company, UDC, which is double the size of the next biggest, is wholly-owned by a registered bank. Prior to deregulation in the 1980s, all four banks owned finance companies. UDC, and another bank-owned company, AGC, played a significant role in the finance company market throughout the 1990s. Data for UDC are

Table 3
Credit Unions

Year to June	1998	1999	2000	2001	2002
Shares	350	360	350	360	350
Total funding	410	430	410	420	410
Loans to members	290	280	270	290	280
Total assets	410	430	410	420	410

Source: Registrar and RBNZ estimates

² 'Financial institutions performance survey 2003', KPMG; Australian Prudential Regulation Authority.

Table 4
Finance companies

\$million as at December	1998	1999	2000	2001	2002
Household deposits	1540	1470	1840	2650	3340
Deposits from banks	1370	1860	2340	2700	1870
Other deposits	710	690	820	1140	2450
Total deposits	3620	4020	5000	6490	7660
Capital and reserves	590	670	700	840	1000
Total funding	4550	4970	5970	7670	9180
Consumer loans (includes off bs)	2410	2570	2850	3270	3730
Farm loans	210	220	260	310	430
Other loans	1840	2150	2640	3580	3980
Total loans	4460	4930	5750	7160	8140
Total assets (on balance sheet assets only)	4550	4970	5970	7670	9180
Capital ratio	13.0%	13.5%	11.7%	10.9%	10.8%

Source: RBNZ

consolidated with bank data throughout this article and so are not included in the following tables. AGC, sold in 2002 and now known as GE Finance and Insurance, is included in these data throughout. While coverage for finance company data is relatively comprehensive for those accepting deposits from the public, there is a modest degree of under-representation from 'vendor finance subsidiaries'. This is unlikely to exceed 5 per cent of the asset totals in table 4. Table 4 illustrates key balance sheet items for finance companies, and includes in consumer loans (but not total assets) off-balance sheet securitised hire purchase loans exceeding \$500 million in 2002.

Table 4 incorporates data from 45 finance company groups – it should be noted that several of these consolidate the assets of separate trading subsidiaries. The three largest finance companies' assets represent more than a third of the total assets of the group, two-thirds are contributed by 10 companies, and 80 per cent by all companies with total assets greater than \$200 million at December 2002. Over 30 of the companies are New Zealand-owned, accounting for around 60 per cent of total assets and including three of the five largest finance companies. A very few of these companies are listed or are finance subsidiaries of listed public companies – most are private companies.

For a subset of finance companies with about 90 per cent of the assets in table 4, the percentage ratios of net profit after

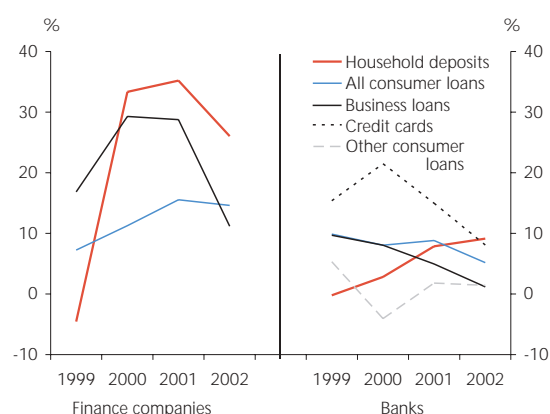
tax to average shareholders' funds and to average total assets were about 25 per cent and 2 per cent respectively for the financial year ended in 2002. The ratio of net profit after tax to average shareholders' funds has been very similar to that of registered banks for the past five years, averaging over 20 per cent. The provision for doubtful debts as a percentage of gross loans averaged 1.5 per cent and general provisions as a percentage of net loans were around 1 per cent.³ Table 4, compiled from the Bank's survey of finance companies, indicates that while the non-risk-weighted capital ratio has declined over the past four years, it remains close to 11 per cent.

The most striking feature of finance company balance sheets is their rate of growth over the past four years, especially when compared to registered banks in relation to household deposits, consumer and business lending. Despite having doubled in the four years to December 2002, their total assets were not quite 5 per cent of those of registered banks (just over 3 per cent in 1998), so the overall impact of their growth on the total financial market has been limited. However, at the margin, for the balance sheet categories mentioned, their share of growth has been disproportionate, and represents a change from the previous ten year period when banks rapidly expanded at the expense of other deposit-taking

³ 'Financial institutions performance survey 2003', KPMG.

institutions. From 1998 to 2002, finance companies increased household deposits by a fifth of the net gain made by banks, with consumer loans growing almost as much as those of banks (including credit cards) and business lending over 20 per cent of combined growth. Over 90 per cent of banks' net gain in consumer lending was through credit cards. Figure 1 illustrates percentage growth rates since 1998.

Figure 1
Bank and finance company deposits and loans – annual percentage growth



The strong finance company sector growth observed over the past four or five years had three main drivers. The most important has been strong employment and earnings growth in the household sector, with its associated increase in residential building, especially apartment construction. The second factor has been a decline in the general level of retail interest rates and lately a portfolio shift from equities to fixed interest, which has ensured a ready supply of deposits for finance companies paying relatively higher interest rates. Thirdly, finance companies have combined use of ever-cheaper technology, the availability of skilled staff formerly employed by banks and the ability of smaller firms to respond flexibly to new opportunities to grow in markets where banks have not been as strongly focused.

Multi-national companies' vendor finance subsidiaries fund themselves largely by wholesale market issuance of commercial paper, which is then held in bank and managed fund portfolios. While private and commercial vehicles account for the majority of goods financed this way, they include business and farm equipment. The finance subsidiary of the multi-national borrows at an interest rate related to its parent's credit rating, and in turn assesses its credit risk

through its specialised business knowledge and client relationships, providing loans to support sales of its products. About a fifth of the assets in table 4 are classed as 'multi-national' vendor finance, with virtually none of the liabilities owed to households. The few domestic vendor finance companies are classified as consumer finance companies.

The business plant and machinery (P&M) finance companies account for around a third of total finance company assets and a little more than a third of their household deposits – between 40 and 50 per cent of their total deposits are from households. Plant and equipment leasing is a major part of their business, which is spread across a wide spectrum of business classes. This is the market in which the major remaining bank-owned finance company, UDC, operates. Were it included in the 2002 figures its loans would represent around 40 per cent of the total plant and machinery group.

The most numerous group within this classification is finance companies dealing primarily with consumer finance. These companies range from those with origins in retailing groups, providing finance for the group's retail sales and for other retailers, to 'stand-alone' companies financing cars and other consumer goods directly and via retailers, to smaller finance companies lending directly to the consumer. About half of this group's \$2 billion consumer loans outstanding are secured by hire purchase agreements, with about half of these being securitised. A third of deposits are from banks and over a third from households, and the total liabilities of the consumer finance group are a quarter of the total for all finance companies.

Banks remain the largest providers of consumer (non-housing) finance, but finance companies have increased their share recently. Table 5 shows that the level of non-credit card consumer loans from banks has been virtually flat since 1998, with growth occurring in credit card borrowing. (Most credit card debt is owed to bank-owned card issuers, but there were three non-bank card issuers at December 2002.) It should be borne in mind however that it is common for 'consumer' borrowing from banks to be secured on residential property. These amounts cannot be tracked and are recorded as housing loans, thus not appearing in the table. For borrowing identified as consumer loans, the non-bank share has risen from around 40 per cent to over 43 per cent over the past four years.

Table 5
Consumer finance

\$ million as at December	1998	1999	2000	2001	2002
Finance company loans (includes major store cards)	2410	2570	2850	3270	3730
All other institutional consumer loans	320	310	310	340	380
<i>Hire purchase loans included above</i>	<i>2000</i>	<i>2200</i>	<i>2500</i>	<i>2800</i>	<i>3100</i>
Credit card personal loans	2020	2320	2840	3340	3680
Bank personal loans	2340	2460	2360	2400	2440
Total consumer loans	7090	7660	8360	9350	10230

Source: RBNZ

The fastest growing of these four finance company categories, with around a fifth of total assets in table 4 by 2002, is the property development group. Growth accelerated very rapidly in 2000 and 2001 as demand rocketed for residential apartments and 'terrace housing', with total assets up over \$1.5 billion in the four years to 2002, ie increasing more than sixfold in this period. Funding for this growth was supplied almost entirely by households. Figure 2 illustrates the relative growth rates of the loan portfolios of the four finance company categories from 1998 to 2002.

The larger property lenders provide 'mezzanine' (subordinated, or second mortgage) finance for residential apartment development, supplying perhaps a quarter of a project's development cost, for which banks are the primary funders. While the major part by value of their loans is in

Figure 2
Finance company loans outstanding - annual percentage change

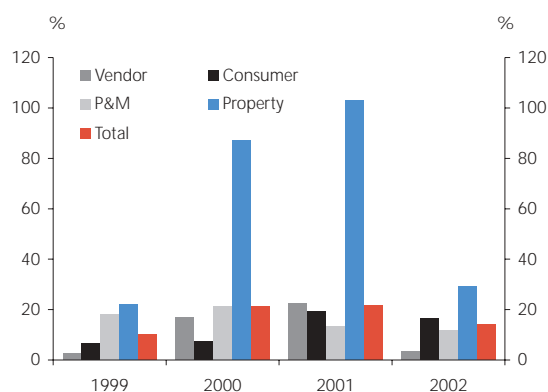
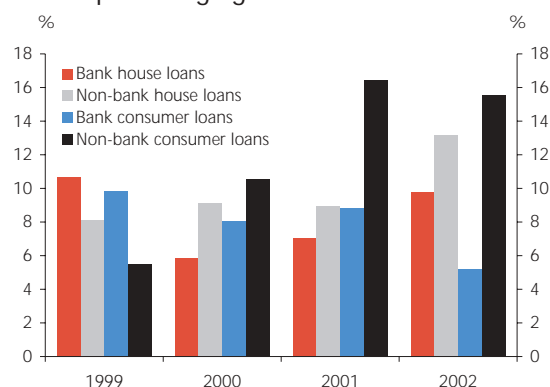


Figure 3
Bank and non-bank household lending - annual percentage growth



large developments, they also finance a much larger number of smaller developments where they may often be the primary or sole lender.

Finance companies' business with households is characterised by a strong reliance on them for deposits, and lending for consumer purposes. Building societies, mortgage managers, credit unions, and managed funds to a minor extent, lend to households for housing and also for consumer purposes.

Figure 3 illustrates the relative rates of growth of housing and consumer credit of all non-bank sources compared to banks over the last four years. Total housing lending is over \$76 billion, with non-bank sources supplying about \$4 billion.

4 Non-institutional fixed interest markets

Overview

The Bank's long-run series of household financial assets shows that households' estimated holdings in fixed interest markets have varied from \$7 billion to \$9 billion over the past ten years, comprising less than 7 per cent of total household financial assets. In addition to retail bonds, solicitors' mortgage market and contributory mortgage investments, this total includes between \$2 billion and \$3 billion of household deposits held indirectly in solicitors' trust accounts at banks. Over this period, a strong decline in the solicitors' mortgage market and a lesser fall in government stock ownership has been more than offset from the early 1990s by a fourfold increase in retail non-financial corporate bonds. Households participate in this market almost entirely as lenders, with only a minor amount lent to them directly in the solicitors' mortgage market.

The financial institutions that hold bonds in New Zealand are principally fund managers and banks. For both government and private sector bonds, fund managers have been the largest holders. The level of banks' holdings of government securities has been more volatile than that in the portfolios of fund managers. In the past, half of the latter's government bonds have been held by the Government Superannuation Fund, but the portfolio rebalancing begun by this fund in 2002 is likely to bring the funds management industry's government bond holdings to a level closer to that of the banks. Banks and managed funds together held around \$900 million of local authority bonds, and \$8 billion of government bonds at December 2002.

Fund managers (life, pension, unit trust and other managed fund categories) at December 2002 held close to \$3 billion in corporate bonds and commercial paper issued by the business sector. Banks tend to hold a smaller quantity of corporate bonds than fund managers, and they tend to be at shorter maturities. The corporate bond market in New Zealand has totalled around \$7-8 billion over the past few years, showing little overall growth, with the share held by institutions however declining a little, to approximately half now. Short-dated commercial paper of less than a year to

maturity is held by both banks and managed funds, but the former frequently manage issuance facilities and hold significant quantities of this paper in their liquidity portfolios.

Contributory mortgage brokers

It has long been the practice for brokers to market participation in loans, usually for commercial purposes, secured by contributory mortgages offering relatively high rates of interest. Significant losses were incurred by investors in contributory mortgages promoted by one or two brokers in the late 1980s. Regulations controlling the conditions under which interests in contributory mortgages may be offered to the public, and their management, were consequently introduced under the Securities Act, coming into force in 1989. Brokers, usually operating as companies, must register with the Companies Office and comply with numerous conditions of operation. Examples of these include a requirement to provide an audited annual report, to use a trust account for contributions towards mortgages and directions on the release of funds in instalments on a development mortgage.

In the second half of the 1990s there were over 20 registered mortgage brokers, and the total value of contributory mortgages exceeded \$300 million by the end of the decade. Since then, however, some brokers' mortgagors defaulted, with delays in repayment and losses to investors, and several brokers were found to be operating outside the requirements of the law. Several were prosecuted, and the total of funds invested through contributory mortgage brokers has fallen quite sharply. It may be that the negative publicity associated with mortgage brokers, and closer enforcement of the regulations, will limit this form of financing in future.

Mortgage managers

Around a dozen residential mortgage originators operate as mortgage managers. Using managed wholesale funding arrangements, these firms establish a customer relationship with their borrowers, but are not the mortgagee (lender). Their mortgages are owned by a trust and are aggregated over time into parcels of mortgage-backed securities and 'securitised' – the mortgage managers do not hold them on their balance sheet. They continue to administer their loans,

so that the customer relationship remains with the mortgage manager. While this form of residential mortgage lending began over five years ago, and the market is small, the value of residential mortgages outstanding from these sources is growing faster than the rest of the market.

Solicitors' mortgage market

In the late 1970s and early 1980s, over 20 per cent of residential mortgage loans outstanding were arranged through solicitors, because financial sector regulation impeded the efficient operation of the institutional mortgage market. Following deregulation, the solicitors' market rapidly declined and today fewer than 400 solicitors participate in a market of around \$1 billion. Most of the mortgages financed by it are secured on commercial property, with the amount of funds advanced for farming and residential purposes estimated to be a very small proportion of the total of solicitors' mortgages. Investing and borrowing through solicitors is exempted from the Securities Act and regulations.

Retail bond market

The retail bond market comprises debt securities issued mainly by non-financial corporations and held directly by retail (here construed as personal) purchasers. 'Bonds' include capital note issues, central and local government debt and corporate debt securities generally issued for terms of a year or longer. The outstanding total of this category of debt held by households is estimated to be over \$5 billion dollars. While easy to define, direct market holdings by households must be calculated from a variety of sources and methods, using registers and ratings data for corporate debt totals, with all sources involving a significant degree of estimation. Households invest in bonds either at the time of issue, subscribing directly for them, or through a broker. In 2002 the retail corporate bond market grew faster than ever, with a number of new bond issues to a market seeking higher yields than those available from banks.

5 Life insurance, superannuation and managed funds

The investment of funds for life insurance, superannuation, unit trust, group investment fund (GIF) and general funds management purposes is generally described as 'funds management'. The latter group of three are called 'managed funds' here, and are dominated by unit trusts. The industry invests savings of households (non-household funds are less than 10 per cent of the total managed) channelled to it via life insurance and superannuation contributions, and from investment in unit trusts or directly under other arrangements. Investment expertise is centralised but serves various 'product' needs under a variety of forms of long-term saving.

The funds management industry in New Zealand evolved from traditional life insurance company origins, where life funds and pension investment expertise was centralised, while funds collection occurred through agent sales and company superannuation schemes. Management of unit trusts was a natural 'fit' for established companies, but at the same time offered an opportunity for new entrants to the generic business of investing pooled funds for household saving. Funds management is now a key business unit of many financial groups with both insurance and banking origins, and in the last decade there has also been growth in the number and size of fund managers unaffiliated in this way.

Distribution of 'product' (the unit trust and retail superannuation investments created by fund managers) occurs in numerous ways: through agents, branch networks, directly and from a large network of financial advisers. Fund managers seek scale to compete more effectively, and products for and links to sophisticated technological 'platforms' that allow them to meet increasing demands for 'tailored' investment solutions for savers at affordable cost.

There has been rapid industry restructuring over the past five years that has seen three of the five biggest groups with life company origins grow strongly through acquisition, with two large retail banks' funds management arms emerging among the six largest. Only one of these six is New Zealand-

owned. During the same period, several smaller independent New Zealand-owned funds have grown significantly, often specialising in particular products – for example unit trusts only.

Total funds reported here are obtained from over 45 funds management groups, 10 charitable trusts and four mortgage investment trusts. Seven of the funds management groups have their origins in the life insurance industry, and more than 10 are Australian ‘exempt’ funds (Australian registered managed investment schemes) where the fund manager is based in Australia. The remaining group of fund managers includes the funds management arms of large retail banking groups, a couple of funds specialising in property and many independent New Zealand-owned fund managers, most relatively small but in general growing faster than the industry average.

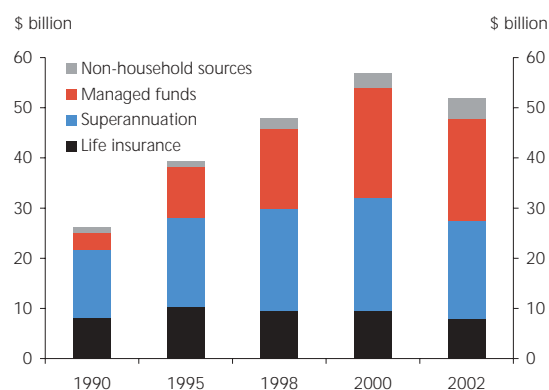
The six largest funds management groups have over 60 per cent of total industry funds of \$52 billion, and five of the six largest managers have their origins in life insurance companies. However, none of these has more than a third of its funds under management on behalf of traditional life policies, and they tend to have the most diversified product mix of all fund managers. Contributions to life insurance policies, most of which had a strong investment/savings element, benefited from tax incentives until the 1980s, but since their removal, and with term life policies widely available, new business of this kind has fallen away strongly. Although ongoing contractual saving and increasing investment returns caused the value of funds managed on behalf of such policies to rise until the mid-1990s, withdrawals and maturing contract redemptions then began to exceed remaining inflows and investment growth.

Life insurance companies are regulated under the Life Insurance Act 1908, but are also in general required to comply with the provisions of the Securities Act, such as the requirements for a trust deed and trustee to be appointed and for product disclosure. The 1908 Act requires audited annual financial statements to be provided to the government, and for actuarial reports to be forwarded to the Government Actuary. In addition to these statutory requirements, many insurance and managed fund companies pay voluntary levies to fund an independent Insurance and Savings Ombudsman to act as a disputes resolution service.

As figure 4 illustrates, since 1990, managed funds have shown the strongest growth in funds under management. Over 70 per cent of the \$20 billion in this category is invested by households in GIFs and unit trusts, which have shown the fastest growth. GIFs are legal vehicles enabling the joint management of pooled funds by or under the supervision of a statutory trustee company, and in addition to the general provisions of the Securities Act, are principally governed by the Trustee Companies Act 1967. Funds invested directly in GIFs are nonetheless a small proportion of total managed funds.

Unit trusts in New Zealand are for the most part ‘open-ended investment trusts’, which enable investors to purchase ‘units’ that participate in the capital and income returns from specified assets owned by a trust. In addition to the Securities Act, unit trusts are principally regulated by the Unit Trusts Act 1960. Important provisions of this Act are that a unit trust must have a company as manager, a trust deed governing the functions of the trust owning the assets in which investors have ‘an interest’ (usually ‘units’), an independent trustee, and that units must be transferable.

Figure 4
Funds under management by product type, \$ billion



Superannuation schemes are defined in the Superannuation Schemes Act 1989 as any trust established principally to provide retirement benefits. Schemes registered by their trustees under the Act provide members and prospective members with disclosure protections that go beyond those required of unit trusts, and give certain regulatory powers to the Government Actuary in relation to protection of members’ interests. There are no general taxation benefits conferred on investment returns in superannuation schemes.

However, when the top rate of personal income tax increased to 39 per cent in 2000, the tax at source for employer contributions to superannuation schemes was retained at 33 per cent, providing an inducement for higher earners to channel more of their earnings through their employer to superannuation saving. Fund managers invest by far the largest proportion of total superannuation funds but the aggregate data reported here is derived from the annual report of the Government Actuary, to ensure full coverage.

The number of members in employer occupational schemes has been declining as a ratio of the workforce since the end of the 1980s, following major changes to the superannuation regime. The number of smaller employers offering schemes has fallen greatly. Fund managers have responded in part by offering retail superannuation products. The total value of retail funds now exceeds 35 per cent of all superannuation funds under management. It is likely too, that for many households, 'saving for retirement' is done by investing in unit trust products. Unlike unit trusts however, registration distinguishes retail superannuation products by compulsory fee disclosure and additional supervision provisions, as well as measures limiting early withdrawal. The products themselves, in terms of investment mandates and performance characteristics, are in general similar.

6 Conclusion

Non-bank deposit-taking institutions remain small in relation to banks, but have grown significantly faster than banks over the past three years. Total growth in the savings institution sector has kept pace with that of banks over the period, and its household lending, for both groups dominated by

residential mortgages, has grown faster. Finance company household lending growth, by contrast, is focused on consumer lending, and has outstripped that of banks over the past three years. Business lending by finance companies has also been more rapid than that of banks, and their household funding has also grown more rapidly. It appears as though a minor 'rebalancing' of the distribution of finance from deposit-taking institutions away from banks may have been underway since 1998.

The life, superannuation and managed funds industry experienced strong growth in household sector funds inflows and the value of funds under management over the decade to 2000. From then, funds under management have fallen, as equity market values have sharply reversed much of the gains of the late 1990s. In 1998, households' funds in this sector equalled their total deposits, but at the end of 2002 were about 85 per cent of total deposits. Over the same period the funds management industry has become more concentrated, mainly as a result of merger and acquisition activity initiated offshore. At the same time, however, a number of locally-owned smaller fund managers have grown significantly faster than the industry average.

Banking groups' financial market influence extends beyond their banking subsidiaries. Over a quarter of the value of funds under management in New Zealand is now controlled by major banking groups, which have pursued a strategy of diversification with respect to the financial asset business of households. Measured in this way, financial assets managed by banking groups are in excess of three quarters of totals reviewed in this article, and this proportion has increased steadily since 1990.

Monetary policy communication and uncertainty

Tim Hampton, Renee Philip, and Dominick Stephens, Economics Department

Central banks have become progressively more transparent in explaining to the public the rationale for a given monetary policy decision, often using economic projections as a vehicle for explaining policy issues. Nevertheless, increased transparency poses potential risks, particularly if the uncertainty around projected outcomes is not communicated in a way that avoids misleading readers. This article describes a number of the options available to central banks for communicating uncertainty.

1 Introduction

Over the past two to three decades, central banks have become more transparent about the motivation and thinking behind policy choices. Secrecy was once a hallowed concept, especially amongst central banks that managed fixed-but-adjustable exchange rates. However, the importance of central bank transparency is now more generally recognised.¹ In addition, the lags with which monetary policy actions affect the economy dictate that policy choices must be forward looking. As a consequence, projections of the future are always considered – whether explicitly or implicitly, formally or informally – as a part of the analysis of policy options. Publishing projections is therefore one way to increase the transparency of the policy-making process.²

However, publication of projections is not the only way to achieve effective monetary policy communication. Many highly effective central banks do not publish explicit, quantitative projections (eg the Reserve Bank of Australia). A problem of publishing explicit quantitative projections is that the world rarely turns out as projected. Measurement problems and delays in gathering statistics mean that even the current state of the economy cannot be known for sure; and no-one can know exactly how current influences on the economy will play out, or what future shocks might materialise. In a recent *Bulletin* article, we reviewed the Bank's

forecasting performance, which emphasised the many uncertainties inherent in economic forecasting and the reality that most forecasts will inevitably be wrong to varying degrees.³

Publishing explicit, quantitative, point-precise projections therefore runs the general risk of creating unrealistic impressions of the central bank's ability both to accurately read the future and to influence it. Related risks include the following:

If the interest rate projections are taken as a resolute commitment to a particular course of policy action, then those that interpret it as such will be misled. This issue is potentially more pertinent to the Reserve Bank of New Zealand because of our relatively unique approach of publishing a projected forward path for policy.⁴

It may encourage an incorrect perception of a mechanical link between projections and policy decisions, when the reality of policy-making is far more complex.

The central bank's competence, and hence credibility, could be called into question by the transparent revelation of forecast errors, potentially weakening our effectiveness in achieving the desired monetary policy outcomes.

It would be possible to diminish these risks by not publishing quantitative projections, or significantly disassociating published projections from policy decisions. However, there are other ways to mitigate the risks associated with publishing

¹ See Blinder, Goodhart, Hildebrand, Lipton and Wyplosz (2001) and Chortreas, Stasavage and Sterne (2001) for further discussion of the merits of central bank transparency.

² The Reserve Bank of New Zealand's rationale for publishing macro economic projections is discussed in Reserve Bank of New Zealand (2000).

³ McCaw and Ranchhod (2002).

⁴ See Hampton (2002) for a discussion on publishing forward interest rate projections.

quantitative projections, while still maintaining the transparency and information value that publication of our projections achieves. This article discusses several of the devices that we use or have considered. These devices fall into three categories:

- 1 Striking the right balance between numbers (to provide quantitative clarity to the message) and words (to add a realistic degree of qualification and conditionality).
- 2 Describing alternative possibilities for the evolution of the economy.
- 3 Showing the extent of uncertainty inherent in the central projection.

These categories are discussed in turn in the remainder of this article. In order to get a range of views on the different approaches available we consulted a number of experts in this area, including financial market participants, academics, and other central bankers. Their views are reflected to some extent in the commentary that follows.

2 Striking the right balance between numbers and words

More words, fewer numbers

Using the words of the policy statement to de-emphasise the central projection puts more focus on the broad trends that drive interest rate settings, with reduced emphasis on the less important numerical detail of the projections. Words can also be used to discuss the uncertainties that exist around a given set of projections.

The Bank has progressively increased the use of explanatory narrative to discuss the rationale for a given policy decision and the uncertainty seen around the Bank's projections. The most significant changes came in the May 2002 *Monetary Policy Statement*. Since that time the *Statements* have included significantly fewer projected variables, and the projections themselves have been moved towards the back of the document to try to reduce their prominence. The text of the *Statements* has also evolved to include more discussion of the non-forecast factors that are relevant to a given policy decision.

Rounding

Another approach that demonstrates the inherently imprecise nature of forecasting is to round all projected numbers to the nearest, say, 0.5 per cent. By 'smudging' the central projection a little, this option makes the central projection more an indication than a precise forecast. The Bank experimented with rounding the projected numbers in the *Monetary Policy Statements* to the nearest 0.5 per cent throughout 2001. However, rounding buries the actual central projection within a half-point range. This prompted Lars Svensson, when reviewing New Zealand's monetary policy framework, to say that he found "...the practice of rounding a surprising deviation from the Reserve Bank's laudable transparency record."⁵ The Bank now rounds the projected numbers to the nearest 0.25 per cent. We think that this strikes an appropriate balance between transparency and avoiding spurious accuracy.

3 Describing alternative possibilities

Alternative scenarios

One way of illustrating specific risks is to include alternative outcomes alongside the central projection. Each alternative scenario represents the impact of changing one or more assumptions underlying the central projection. Carefully chosen, alternative scenarios can provide a guide to *key* risks around the projections, and to how policy may react to outcomes that differ from those in the central scenario. In addition, alternative scenarios can be used to illustrate unbalanced risks around the central scenario. If the inflation risks are skewed to the upside (downside), this can be indicated by publishing alternative scenarios that incorporate more (less) inflation pressures than the central scenario.

Alternative scenarios are not only useful for communication purposes, but they also aid and provoke policy discussion within the Bank, leading to a more rigorous approach to policy formulation and enabling the Bank to better assess the validity of the central scenario. As such, the internal use and occasional publication of alternative scenarios has been the practice of the Bank for a number of years. An example

⁵ Svensson (2001), p 63.

of a published alternative scenario was in the August 2001 *Monetary Policy Statement*. In that *Statement* we published alongside the central projection an alternative scenario that showed the potential impact of assuming a weaker outlook for world growth. These scenarios are reproduced in figures 1 and 2.⁶

Figure 1
World output gap – central and alternative
(percentage of world potential output)

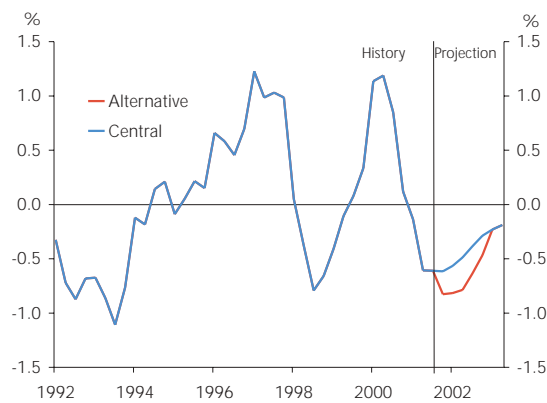
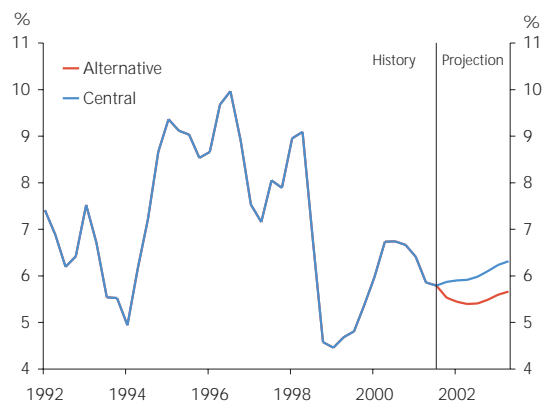


Figure 2
Nominal 90 day interest rates – central and alternative



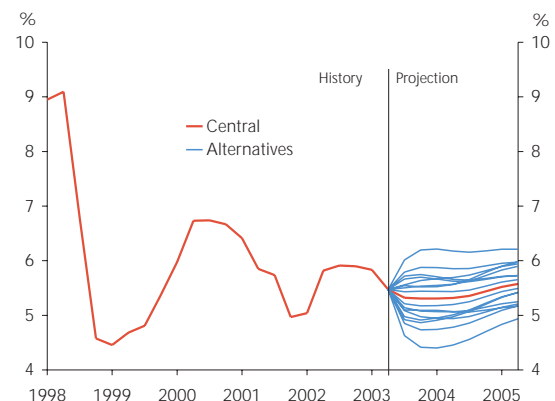
Worm charts

A problem with publishing only one or two specific alternative scenarios is that there is an infinite number of reasons why the economy might turn out differently from the central projection. For a more comprehensive view, a suite of alternative scenarios can be produced together on what we refer to as a 'worm' chart.

The alternative scenarios plotted in the worm chart could be the interest rate response suggested by the Bank's economic model to a range of shocks, where the shocks are based on average historical forecast errors for a range of key variables and model coefficients. Because these shocks are based on 'average' errors, this approach provides little additional information about the current size or nature of the uncertainty, but aims to provide an overview of the 'normal' impact of a range of individual shocks. Conceivably, unbalanced risks can be represented by a selection of paths that is asymmetric about the central projection.

To date, worm charts have only been used internally to enhance policy debate within the Bank. A stylised symmetric worm chart around the June 2003 *Monetary Policy Statement* interest rate projection is shown in figure 3.⁷ The worm chart shows that in the face of average sized shocks, interest rates could deviate from the central projection by as much as 100 basis points within 6 months. This interest rate reaction might seem large, until one reflects on the swings in interest rates that have occurred in the past. Many of the historical interest rate swings were not planned, but instead occurred as reactions to changed circumstances. In the next section the extent of this uncertainty is calculated and depicted in the form of a fan chart.

Figure 3
Stylised worm chart around the June 2003
interest rate projection



⁶ See the August 2001 *Monetary Policy Statement* for a full discussion of these projections.

⁷ See the June 2003 *Monetary Policy Statement* for more detail on these projections.

4 Showing the extent of the uncertainty

Fan charts

A number of central banks, including the Swedish Riksbank and the Bank of England, publish fan charts, which represent confidence bands around the central projections.⁸ The Reserve Bank of New Zealand has been examining fan charts in internal policy deliberations for the past twelve months or so. Figures 4 and 5 show stylised symmetric fan charts around the inflation and interest rate projections from our June 2003 *Monetary Policy Statement*.⁹

Figure 4
Stylised fan chart around June 2003 interest rate projection

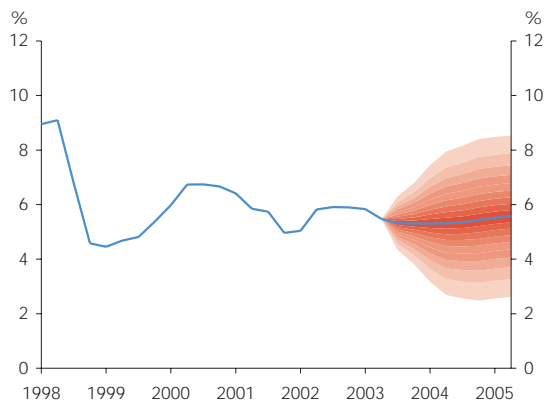
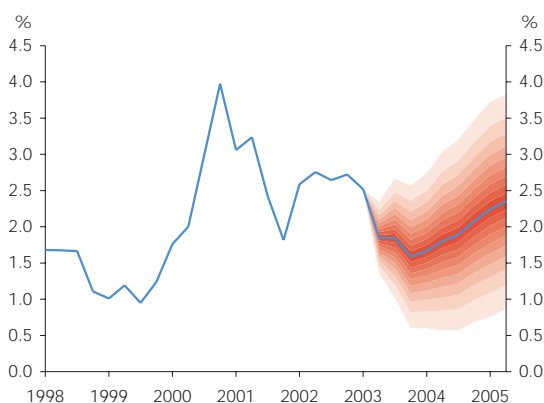


Figure 5
Stylised fan chart around June 2003 inflation projection



The widths of the fans around the central projections are based largely on the Bank's historical forecast errors over the past few years.¹⁰ The central band, coloured deep red, includes the central projection. There is judged to be a 10 per cent chance that inflation will be within that central band at any point. The next darkest shade, on either side of the central band, takes the distribution out to 20 per cent, and so on, in steps of 10 percentage points. This implies that, at the time of the June 2003 *Monetary Policy Statement*, there was approximately a one in ten chance that interest rates would be outside the range of 2.5 to 8.5 per cent in two years' time, and approximately a one in ten chance that inflation would be outside the range of 1 to 4 per cent in two years' time. It is impossible to assess these probabilities with any precision, but they represent our best estimates.

In addition to showing the 'average' degree of uncertainty, based on historical forecast errors, the fan charts can be adjusted to capture situation-specific uncertainty. During times of a perceived increase in uncertainty, say during a war, the fans can be made wider, illustrating the broader range of plausible outcomes. Similarly, the fans can be skewed up or down if the risks are seen as unbalanced around the central projection.

To further ensure that too much attention is not focused on the central projection the Bank of England fan charts do not include a plot of the actual central projection. As the then Chief Economist at the Bank of England, Mervyn King, said in a speech in 1994:

"It is absolutely crucial not to be misled by a spurious degree of precision in forecasting. That is why we do not publish a single number but present a chart which shows the most likely outcome...surrounded by a shaded area which indicates a band defined by the average forecast errors made over the past 10 years."¹¹

The fans shown in figures 4 and 5 are quite wide. As described above, their width reflects the size of our historical forecast errors. Consider figure 6, which plots a fan around

⁸ See Bank of England (1998) and Blix and Sellin (1999) for a discussion of the technical detail behind constructing and interpreting fan charts.

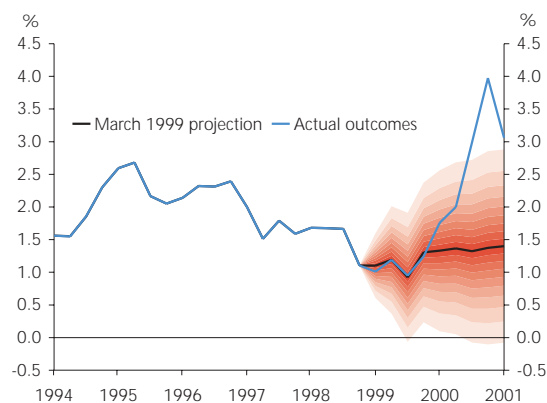
⁹ See the June 2003 *Monetary Policy Statement* for a full discussion of these projections.

¹⁰ No allowance is made for the negative historical bias in the Bank's inflation forecasts identified in McCaw and Ranchhod (2002).

¹¹ King (1994).

the central projection for inflation from the March 1999 *Monetary Policy Statement*, along with the actual inflation outcomes over the subsequent two years.¹² Annual inflation ended up significantly higher over that period than the Bank had projected in early 1999. This under-prediction was due mainly to the significant and unexpected depreciation in the value of the New Zealand dollar during 1999 and 2000.¹³ The inflation forecast errors were large enough that actual inflation went outside the top of the 90 per cent confidence band that would have prevailed at the time those projections were formed – again highlighting that large forecast errors are not uncommon.

Figure 6
Stylised fan chart around the June 1999 annual inflation projection and actual inflation



5 Overview of the options

An effective strategy for communicating uncertainty around the central projection could incorporate a number of the devices described in this article. Whichever approaches are used, the overall communication approach should reflect the factors that underlie policy decisions. In particular, if the uncertainty around the central projection influences the policy decision, then that should be communicated. The fact that the Bank publishes a projected future interest rate path in our projections enhances the need for us to explain the conditionality and uncertainty around our projections because

the projected interest rate paths could potentially be misinterpreted as promises for the future.

While we do not believe there has been a significant problem associated with the Bank having published central projections that turned out to be different from reality, there has been commentary suggesting rather more ‘flip-flopping’ in policy views than has actually been reflected in policy decisions. To reduce this perception, we have gradually moved in the direction of de-emphasising the central projection and highlighting more the general uncertainty that is always present when trying to project future economic developments. As noted earlier, the Bank continues to use a number of devices to communicate the uncertainty that exists around our projections.

Words will always be necessary to give a sense of the finer points surrounding the policy process and the uncertainty seen around the published projection – a point supported by the central bank experts we consulted. This is because many non-forecast factors invariably influence policy decisions. The practice of rounding to the nearest 0.5 per cent was not favoured by those that we consulted. However, some agreed that rounding to the nearest 0.25 per cent was useful.

Financial market participants in particular have found the publication of alternative scenarios useful. If the economy starts to unfold more like the alternative scenario than the central projection, then market interest rates are more likely to move consistent with the alternative scenario, even before the central bank publishes its updated central projection. While supporting the publication of alternative scenarios, market participants said that there should remain a clear distinction between the central projection and the uncertainty around it, so that the former remains clear.

The use of fan charts, particularly those reflecting the level of uncertainty and balance of risks around a particular projection, was largely supported by the academic and central bank experts that we consulted. One potential criticism of using fan charts relates to the fact that the fans are typically very wide; publicly displaying the extent of the uncertainty so explicitly may undermine a central bank’s credibility. Nevertheless, those who supported fan charts noted that

¹² See the March 1999 *Monetary Policy Statement* for a full discussion of these projections.

¹³ Stronger than expected world demand and changes to indirect taxes are among other factors that contributed to the upward surprise in inflation over that period.

they have already been used successfully at a number of other central banks.

The worm chart was viewed by most that we consulted as illustrating similar properties to a fan chart, except that probabilities are not assigned to the various lines or areas in the worm chart. It is interesting to note that while the policy paths shown in the worm chart are possible responses to 'average' individual shocks, the range of the paths is roughly equal to the 'average' range of plausible paths depicted in the fan charts.¹⁴ This is despite the confidence bands in the fan charts capturing the range of plausible paths in response to the entire array of plausible 'average' shocks.

Despite the range of available options for communicating uncertainty, feedback from financial market participants suggested that a consistent communication approach should be maintained, and that too complicated techniques should be avoided.

6 Conclusion

As has been discussed in many of our past publications, the Reserve Bank of New Zealand believes there is considerable benefit from publishing projections. However, it is also important to communicate the uncertainty that exists around those projections. This is an even more pertinent issue given that our projections also include a projected future interest rate path. This article discussed a number of the devices available for communicating that uncertainty, including a number that we use on a regular basis. Needless to say, as with all facets of monetary policy, experience with the current approach and the continued development of new techniques may prompt us to make further changes to our communication strategy in the future.

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¹⁴ Here we refer to the 'average' range in the fan chart as the 66 per cent confidence band, reflecting one standard deviation outcomes.

Corporate governance in the financial sector

An address by Dr Alan Bollard, Governor, Reserve Bank of New Zealand to the annual meeting of the Institute of Directors in New Zealand, Christchurch on 7 April 2003

Corporate governance is now a topic of considerable interest to a large and expanding cross-section of the community. It is obviously of fundamental importance to this audience, given that most of you are company directors. It is also of interest to the Reserve Bank, in its capacity as supervisor of the banking system. In this speech, I will discuss a number of themes relating to corporate governance, with particular emphasis on the important role it plays in promoting a sound financial system.

Until fairly recently, corporate governance was not a topic that attracted much public attention. It was a topic reserved for discussion in the Board room or in academic environments. However, recent events, such as the Enron scandal and other corporate governance failures, have put corporate governance on the front pages of our main newspapers. Although none of us welcomes this kind of adverse publicity, it has nonetheless had beneficial effects. In particular, it has highlighted the important role that corporate governance plays in a modern economy and the consequences of getting it wrong. And it has strengthened the incentives for directors and policy-makers alike to reassess the structures needed to produce high quality corporate governance.

In this address, I present a central banker's perspectives on a number of corporate governance issues. In particular, I will:

- comment on the role that corporate governance plays in the financial system and wider economy, and why it is important for economic growth and financial stability;
- highlight what I would regard as the key elements of sound corporate governance; and
- discuss the role that corporate governance plays in the Reserve Bank's approach to banking supervision.

Before traversing these subjects, I think it would be useful to begin by defining what I mean by corporate governance. In this address, I am deliberately using the term quite broadly

to encompass the systems and structures that a corporate entity has in place to oversee its affairs. This involves a number of elements, including a clear understanding by directors of their company's strategic objectives, structures to ensure that the objectives are being met, systems to ensure the effective management of risks, and the mechanisms to ensure that the company's obligations are identified and discharged. Although corporate governance involves many systems and structures, the heart of it lies in the boardroom - a point I hardly need to stress with this audience.

It is self evident that sound corporate governance is essential to the wellbeing of an individual company and its stakeholders, particularly its shareholders and creditors. We need only remind ourselves of the many companies, both at home and abroad, whose financial difficulties and, in some cases, ultimate demise have been substantially attributable to weak corporate governance. But sound corporate governance is not just a vital factor at the level of the individual corporation. It is also a critical ingredient in maintaining a sound financial system and a robust economy. And that is why governments have taken such an interest in recent examples of corporate governance failures. It is also why banking supervisors are placing greater emphasis on the role that corporate governance can play in promoting financial stability.

In the financial system, corporate governance is one of the key factors that determine the health of the system and its ability to survive economic shocks. The health of the financial system much depends on the underlying soundness of its individual components and the connections between them - such as the banks, the non-bank financial institutions and the payment systems. In turn, their soundness largely depends on their capacity to identify, measure, monitor and control their risks.

In New Zealand, the two core components of the financial system are the registered banks - which represent the vast

bulk of financial system assets - and the payment system - which processes billions of dollars of transactions each day.

Banks face a wide range of complex risks in their day-to-day business, including risks relating to credit, liquidity, exposure concentration, interest rates, exchange rates, settlement, and internal operations. The nature of banks' business - particularly the maturity mismatch between their assets and liabilities, their relatively high gearing and their reliance on creditor confidence - creates particular vulnerabilities. The consequences of mismanaging their risks can be severe indeed - not only for the individual bank, but also for the system as a whole. This reflects the fact that the failure of one bank can rapidly affect another through inter-institutional exposures and confidence effects. And any prolonged and significant disruption to the financial system can have potentially severe effects on the wider economy.

The payment system is also a critical component of the financial system. It contains the pipelines that connect the banks and other financial intermediaries. And it provides the means by which vast numbers of transactions - personal and corporate, domestic and overseas - are made each day. The payment system involves many different components, including systems for settling large, inter-bank and inter-corporate payment transactions, and systems for handling myriads of smaller transactions, such as cheques, credit cards, direct debits and EFTPOS. Each system is managed by a payment operator. Some are private companies owned by the banks, while others are under the management of the Reserve Bank. Although these operators do not face risks of the nature that banks face - such as credit risk, for example - they do have major operational risks. In particular, they need to ensure that the systems for processing payments, the back-up arrangements, and the internal governance structures are robust. A major operational failure in the payment system has the potential to cause severe disruption to the financial system and wider economy. At its worst, a major payment system failure would bring countless commercial transactions to an abrupt halt, impede the operation of business in virtually all parts of the economy and fundamentally undermine investor and business confidence.

The stakes are indeed high - hence the need for banks, other financial institutions and the payment system operators to

maintain systems to enable them to identify, monitor and control their risks. And sound corporate governance is the foundation for effective risk management.

Of course, corporate governance is not just an essential ingredient for financial stability. It is also a critical feature in the longer term performance of the economy. One could be forgiven for thinking otherwise, given the emphasis placed in the news media and elsewhere on the role of government in determining a country's economic performance. We frequently read and hear commentary suggesting that the key to better economic performance lies in better government policy - be it fiscal policy, monetary policy or structural reforms. To be sure, these are all important ingredients in shaping economic performance. But I believe one of the key drivers of how well or poorly our economy performs is *where* we invest our resources and *how well* we use them. By and large, the way we allocate and use our resources is not determined by policy-makers in Wellington. It is largely determined by the investment and management decisions of hundreds of companies. In turn, the quality of these investment and management decisions substantially depends on the quality of corporate governance in each company.

Therefore, corporate governance is clearly of fundamental importance, both at the level of the individual company and for the financial system and economy as a whole. Unfortunately, to the detriment of both financial stability and economic growth, we have seen too many examples of corporate governance failures over the years, both in New Zealand and in many other countries. Indeed, it is not an exaggeration to assert that many of the financial crises seen in recent years, including in Asia, Russia and Latin America, can be attributed, in no small way, to fundamental weaknesses in corporate governance and risk management.

In particular, we know that financial distress episodes in a number of emerging economies have been caused, in part, by excessive exposure concentration, directed lending, lending to connected parties, poor credit policy and inadequate management of foreign exchange risk. To a large extent, such basic risk management failures reflect a breakdown in corporate governance. They reflect poor management of conflicts of interest, inadequate understanding in the boardroom of key banking risks, and

poor oversight by boards of the mechanisms for managing their banks, such as risk management systems and internal audit arrangements. In some cases, a lack of truly independent directors on the boards of banks was also a significant factor in weakening the effectiveness of boards. And we know that these problems were compounded by poor quality financial disclosures and ineffective external audit. In some cases, the rigour of the external audit process has been impaired by a lack of auditor independence, not least as a result of some audit firms performing a range of non-audit services for their clients.

Of course, these kinds of corporate governance failures are by no means unique to the financial systems of emerging economies. We have seen similar examples of corporate governance and risk management failures contributing to financial system distress in a number of advanced economies, including much of Scandinavia in the 1980s and, of course, New Zealand and Australia in the late 1980s and early 1990s. And I hardly need to draw your attention to the much more recent high profile corporate governance failures in the United States, United Kingdom and elsewhere.

In order to address these kinds of problems, and to reduce the risk of future corporate governance failures, much activity has been underway, globally and at the domestic level. The OECD has produced a set of corporate governance principles that have become the core template for assessing countries' corporate governance arrangements. Similarly, the Basel Committee on Banking Supervision - the international standard-setting body responsible for establishing international banking supervision principles - has distilled principles for corporate governance in banks. More recently, we have had the benefit of corporate governance reviews in the United Kingdom, and many are now reflecting on the implications of the recently enacted Sarbanes-Oxley legislation in the United States. Closer to home, in Australia, there has also been considerable interest in corporate governance issues, including the role of non-executive directors. And, of course, many countries have their own national codes of good corporate governance, either developed by government or by the private sector. New Zealand is no exception, with the Institute of Directors having issued a raft of very useful guidance material to directors.

There are few absolute "rights" and "wrongs" in the field of corporate governance, but some key principles stand out. In particular, let me highlight a few basic principles to which we in the Reserve Bank attach considerable importance in a banking sector context.

- First, I would particularly stress the importance of directors having a sound understanding of their company's business, the nature of its risks and its strategic direction. This provides the foundation for the sound management of any company. It is absolutely crucial in a bank.
- Second, we firmly believe that the ultimate responsibility for ensuring that a company's risks are being properly identified, monitored and controlled lies in the boardroom.
- Third, we place considerable emphasis on the importance of having an adequate representation of non-executive and independent directors on the board, and a clear separation of the position of board chairman and chief executive officer.
- Fourth, it goes without saying - but I will say it anyway - that there is a fundamental need for directors to be scrupulous in ensuring that, individually and collectively, potential conflicts of interest are avoided or at least managed in ways that do not compromise the interests of the company.
- We also stress the importance of rigorous internal and external audit arrangements - where the external auditor has a strong measure of independence and is not conflicted by having other significant financial interests in the company.
- Finally, as the Governor of a central bank that has placed strong emphasis on disclosure by registered banks, and which sets high standards on its own financial disclosures, it will not surprise you to know that we stress the importance of regular, timely, comprehensive, meaningful and reliable financial disclosures of a company's affairs.

These kinds of principles feature strongly in the Reserve Bank's approach to the supervision of banks in New Zealand. Before going on to explain our approach, and the central role that

banks' corporate governance plays in our framework, it may be useful to set the scene by highlighting the key features of the New Zealand financial system. Some of them have particularly interesting implications for corporate governance.

The New Zealand banking system is relatively unusual by international standards in a number of respects. First, unlike the financial systems of many countries, in New Zealand the banks form a very dominant part of the financial sector. Registered banks, of which there are currently 18, represent the lion's share of the total financial system, both in terms of total financial system assets and deposit liabilities. In terms of financial system stability, registered banks are by far the most important players in the financial system. And of the 18 registered banks, only about 5 banks could be regarded as systemically important, together holding more than 80% of total registered bank assets.

The New Zealand banking system is also unusual in another way - the nature of its ownership. All but two of the registered banks are foreign owned, with the two New Zealand-owned banks being very small relative to the system as a whole. The foreign-owned banks operate either as subsidiaries or as branches of foreign banks, with most of the largest banks being wholly-owned subsidiaries of Australian and British banks. As I will note later in this speech, this raises particular complications for the nature of the corporate governance arrangements in these banks and raises interesting policy questions for the Reserve Bank as guardian of the financial system.

As I have indicated, a fundamental component of New Zealand's approach to the promotion of financial stability is the emphasis it places on the importance of corporate governance as a means of encouraging banks to effectively identify, monitor and manage their business risks. This approach recognises the critical role which directors have in overseeing the stewardship of their bank. Indeed, it is worth noting that the New Zealand banking supervision framework, with its heavy emphasis on encouraging sound risk management through strong corporate governance arrangements, is somewhat unusual by international standards. In most countries, the standard approach to banking supervision involves reliance on prudential regulation of banks, where a bank's risk positions are substantially constrained by regulatory limits imposed by the supervisory

authority. It also typically involves some form of on-site examination of banks by the supervisors.

In contrast, the New Zealand supervisory framework quite deliberately avoids the use of prudential regulation - except in limited areas, such as minimum capital ratios and limits on lending to related parties. And the Reserve Bank does not conduct on-site examinations of banks. Our supervisory framework is deliberately light-handed in nature, in the sense that we minimise our intrusion into the management of banks' risks and the structure of their operations. Instead, we try to foster robust "self discipline" in banks through the corporate governance and disclosure frameworks we have established. That said, I should make it clear that, although the Reserve Bank does not conduct on-site examinations of banks' loans and risk management systems, we do meet annually with the senior management teams of the banks. These meetings provide an important opportunity to discuss recent developments in the respective banks, risk management, banking industry issues and other relevant matters. The meetings keep us well informed about each of the banks and the banking industry as a whole, but fall well short of the more intrusive bank examination process typical in other countries.

We also differ from many other countries by not having deposit insurance or an explicit depositor protection objective. The statutory objectives of banking supervision in New Zealand are to promote a sound and efficient financial system and to avoid damage to the financial system resulting from a bank failure. We are not charged with protecting depositors or other bank creditors per se.

We believe the New Zealand approach is an effective way of promoting a sound financial system. We also believe it reduces the moral hazard risks associated with conventional banking supervision, and strengthens the effectiveness of market discipline on banks. The fact that the New Zealand banking system is currently one of the healthiest in the world - with high asset quality, sound risk management practices and good capitalisation - bears testimony to this. However, we are certainly not complacent, and we remain ever-watchful to detect incipient signs of financial distress, and we stand ready to intervene if necessary. Moreover, we regularly review our supervisory framework to ensure that it continues to be an effective means of promoting a sound

and efficient financial system. In that context, we are currently reviewing a number of our supervision policies, with a view to further improving the existing arrangements.

Although some of you will already be au fait with the mechanisms that the Reserve Bank uses to promote strong corporate governance and risk management in banks, it is probably useful for me to briefly summarise the main features. These policies include comprehensive disclosure requirements for banks, a requirement for bank directors to attest to the veracity of their bank's disclosures and to make attestations on the management of risks, and requirements in relation to the composition of the board of directors. Let me elaborate briefly on these features:

All banks in New Zealand are required to publish comprehensive financial and risk-related disclosures on a quarterly basis, including information on a bank's and banking group's:

- capital position;
- concentration of credit exposures to individual counterparties;
- related party exposures;
- asset quality and provisioning; and
- interest rate, exchange rate and equity risks.

Each disclosure statement is required to contain a number of attestations, signed by each director. These are intended to encourage directors to focus their attention on key risks within their bank and to be satisfied that these risks are being effectively managed.

Directors of each registered bank are required to attest that the bank has systems in place to monitor and control adequately the banking group's material risks and whether those systems are being properly applied at all times. The directors are also required to attest that all prudential requirements applicable to the bank in question are being complied with, such as requirements relating to minimum capital adequacy and exposures to related parties. And the directors are required to confirm that exposures to related parties are in the best interests of the banking group.

Each bank director is required to sign their bank's disclosure statement and to certify that disclosures made are not false

or misleading. If a disclosure statement is found to be false or misleading, directors are subject to potentially severe legal penalties, including substantial fines and imprisonment. In addition, directors may face unlimited personal liability for creditors' losses where creditors relied on a bank's disclosure statement that was false or misleading.

Banks incorporated in New Zealand are required to have a minimum of two independent directors, who must also be independent of any parent company or other related parties, and a non-executive chairperson. These requirements are intended to increase the board's capacity to exercise appropriate scrutiny over the performance of the management team. In addition, independent directors provide some assurance that the bank's dealings with its parent or other related parties are not in conflict with the interests of the bank in New Zealand.

Complementing these requirements, New Zealand's approach to financial sector regulation seeks to create an environment conducive to robust market disciplines. This is achieved through a number of measures, including the promotion of a relatively open, contestable banking sector, a competitively neutral approach to regulation - enabling banks and non-banks to compete on largely equal terms — and the absence of deposit insurance. In addition, the Reserve Bank's approach to responding to a bank failure stresses the importance of being able to manage a bank failure in ways that avoid the need for a government-funded bail-out, and seeks to ensure that shareholders, subordinated creditors and senior creditors, including depositors, bear their fair share of losses. All of these features are intended to strengthen the incentives for market scrutiny of banks and to further encourage the directors and managers of banks to ensure that their banks' risks — especially credit risk, market risks, exposure concentration, operational risk and liquidity - are being prudently managed.

We are confident that these measures have been successful in contributing to a sound banking system. But we have recently sent a comprehensive questionnaire to the boards of all banks to develop a greater understanding of the means by which directors satisfy themselves that their banks' disclosures are not false or misleading and that their systems for controlling risks are robust. We will be very interested to see the results of that survey and then to assess whether the

existing arrangements are sufficient for the purpose of promoting a sound financial system. We are also surveying auditors to enhance our understanding of the audit processes in relation to banks and to assess the adequacy of existing audit requirements for banks.

In addition to our own assessments of these matters, we will also benefit from an external assessment of banking supervision arrangements and other elements of financial sector regulation later this year. That assessment will be conducted by a team of international experts led by the International Monetary Fund, as part of the joint IMF/World Bank Financial Sector Assessment Programme - FSAP for short. The FSAP was initiated in the aftermath of the Asian crisis, in 1999, and is designed to evaluate a country's financial system. It includes a comprehensive assessment of regulatory arrangements, including banking supervision and securities market regulation, using international standards and codes as benchmarks. It also involves stress testing the financial system to assess the system's capacity to withstand economic shocks. New Zealand will undergo an FSAP assessment later this year, and I am sure that the assessors will take a particular interest in the banking supervision framework and the emphasis we place on corporate governance and market disciplines. We await the results of the FSAP assessment with considerable interest.

Although our policies are designed to strengthen the corporate governance of banks operating in New Zealand, the foreign ownership of most of our banks introduces complications as well as advantages. As I mentioned earlier, all but two of the registered banks in New Zealand are foreign owned, operating in New Zealand either as branches or subsidiaries of overseas banks. This raises interesting issues relating to corporate governance and risk management — issues to which the Bank is currently giving further thought.

For example, in the case of banks operating as branches in New Zealand, how much reliance should we, as the supervisor of banks, or the public more generally, place on the directors of the bank in a foreign country for looking after the interests of creditors and other clients of the bank branch in New Zealand? Under existing policy, foreign banks are able to operate as branches in New Zealand unless they have substantial retail deposits or are deemed by the Reserve Bank to be systemically important. In such cases, they must operate

as locally incorporated entities. Where they do operate as branches, we impose certain prudential requirements on them and require disclosure of the New Zealand branch operations, but we place considerable reliance on the directors of the foreign bank to ensure that the affairs of the bank as a whole are being prudently managed.

We recognise of course, that this approach has its limitations. In particular, we know that the directors of a bank, and the corporate governance and risk management structures within a bank, do not generally draw distinctions between the foreign branch of the bank and the rest of its operations. We are also mindful that the foreign branch of a bank is legally indistinguishable from the rest of the bank, and that assets and liabilities can move quite readily, sometimes at the push of a button, between the branch and the rest of the bank. In fair weather, that is fine. But in times of crisis, the distinction between the branch and the rest of the bank, and the legal location of assets and liabilities, may well become very important indeed.

You might think that the problem associated with branch banks could easily be solved by simply requiring banks to operate in New Zealand as locally incorporated subsidiaries. Many of the banks currently in New Zealand do just that. But even here there are corporate governance and related complications. Increasingly, both in New Zealand and elsewhere, international banks are managing their affairs as a global business, regardless of whether they operate in foreign jurisdictions as branches or subsidiaries. Core functionality, such as information technology, financial accounting and risk management, is being increasingly managed on a global level. In some cases, this is being done in a banking group's head office. In other cases, core functionality is being located in developing countries to take advantage of lower cost structures. In both cases, the legal boundaries between different parts of a banking group are becoming less relevant.

And all of that is probably just fine when things are going well. But when things do not go well — such as in a bank failure situation - the legal divisions within a banking group and the location of core functionality become very important indeed. And it is precisely this issue that we in the Reserve Bank are considering at present. In a banking system where, increasingly, the core functions of banks are being run from

outside of New Zealand, we as supervisor of the banking system need to be satisfied that there are mechanisms to ensure that the interests of New Zealanders are well served - in good times and, especially, in bad. We are therefore currently assessing the feasibility and efficacy of different options for ensuring that the New Zealand operations of foreign banks are structured in ways that meet the needs of the New Zealand financial system.

Of course, this is not just an issue for the Reserve Bank. It is also an important issue for the directors of banks in New Zealand. The directors need to be satisfied that they are fulfilling their statutory responsibilities, and ensuring that sound corporate governance structures are in place, in the context of a bank whose core functions are, increasingly, being performed overseas. This involves a careful balancing act. On the one hand, directors need to ensure that the bank in New Zealand - as a separate legal entity - is meeting, and will continue to meet, its statutory and financial obligations, and is soundly managed and structured. On the other hand, they will inevitably and appropriately make those kinds of assessments in the context of the bank being part of a global banking group. The critical issue for the directors — and for the Reserve Bank - is just how much reliance should be properly placed on the parent bank and other components of the banking group when assessing the adequacy of the governance arrangements and prudential and operational soundness of the bank in New Zealand.

For example, when the directors of the New Zealand subsidiary of a foreign bank form a view on the adequacy of that bank's risk profile and management systems, how much reliance should they place on the support of the parent entity? When assessing whether the bank is adequately capitalised, how much weight should be placed on parent support? When core functionality is being moved out of the bank to other parts of the group - including IT, financial accounting, and, importantly, intellectual capital — how far should local directors go in requiring arm's length service contracts for those services, and adequate back-up arrangements in the event of parent bank failure? When assessing the nature of the local bank's exposures to other parts of the group, how far should directors go in ensuring that the exposures are in the interests of the local bank? And, in all of these matters, and many more, what is the particular role of independent directors, how many should there be on the board, and how can one be assured that they are truly independent in their thinking and their approach to their job?

These are issues that increasingly occupy our minds in the Reserve Bank. And we are considering the possible policy solutions to them. Increasingly, these kinds of questions will also be posed and answered by supervisors - and by bank directors themselves — in many countries, as banks become more global in nature. I expect that, within the next year or two, we will have made substantial progress in seeking to resolve some of these issues.

RESERVE BANK DISCUSSION PAPERS

This section sets out the abstracts of recently issued Reserve Bank Discussion Papers. The Discussion Papers are available on the Reserve Bank web site and can be obtained in hard copy on request from the Reserve Bank.

DP2003/01

Financial deregulation and household indebtedness

By Leslie Hull, January 2003

Low saving rates and high indebtedness are characteristics of the household sector in many developed countries. As in other countries, financial deregulation has contributed to increased household indebtedness in New Zealand. This paper discusses several aspects of the linkages between deregulation and household consumption decisions. It begins with an overview of the financial sector reforms and a discussion of how the reforms affected households' access to credit. Secondly, the effect of a change in house prices on consumption is measured. Given that New Zealanders hold about 80 per cent of their wealth in housing, changes in house prices have the potential to materially affect household consumption decisions. Also, there is evidence that the effect of changes in housing wealth on consumption is stronger in the period after deregulation. Thirdly, the role of the household sector in the current account is discussed as banks have increasingly been borrowing overseas to fund household borrowing. The results indicate that the household sector's net overseas surplus declined by at least \$7 billion over the last decade. Finally, the ability of the household sector to weather an economic downturn is considered. Highly leveraged households are more vulnerable in times of stress, and their debt servicing capabilities might deteriorate when interest rates rise. Also, deterioration in household balance sheets could negatively impact the financial sector.

DP2003/02

On applications of state-space modelling in macroeconomics

By Olivier Basdevant, April 2003

This paper reviews the literature on applications of state-space modelling to macroeconomic questions, with four examples related to modelling unobserved trends, transition across different steady states, expectations formation and

forecasting/data revision issues. Due to the flexibility of the state-space approach, it is both a useful tool for research purposes and highly useful in addressing practical issues. In many cases, state-space modelling offers the possibility of building encompassing models, and formulating rather complicated problems in a simple manner.

DP2003/03

Modelling structural change: the case of New Zealand

By Olivier Basdevant and David Hargreaves, April 2003

This paper documents the Reserve Bank of New Zealand's current approach to dealing with structural change, an important feature of New Zealand's recent macroeconomic history after the profound economic reforms undergone in the past twenty years. Traditional estimated macroeconomic models of New Zealand have broken down over time, which led to the mid 1990's creation of the Forecasting and Policy System (FPS). In this paper, we analyse why the FPS has proved more robust to structural change and discuss steps we are taking to develop carefully chosen alternative models to complement FPS. Because those alternative models are clearly subject to structural change as well, in developing them we have looked hard at estimation approaches that allow for structural instability. In this paper, we document the results of subjecting some key nominal relationships to stability tests and explicit modelling of structural change. We find preliminary evidence that New Zealand's inflation targeting regime has caused structural shifts in pricing behaviour and expectations formation.

DP2003/04

Monetary policy transmission mechanisms and currency unions: A vector error correction approach to a Trans-Tasman currency union

By Alfred A Haug, Özer Karagedikli and Satish Ranchhod, May 2003

Transmission mechanisms are the channels through which monetary policy affects macroeconomic variables, such as GDP and inflation. Differences in transmission mechanisms can generate asymmetric behaviour among currency union partners when they experience shocks. This has the potential to widen existing cyclical variation between members of a currency union. We examine the similarity of transmission mechanisms in New Zealand and Australia and consider the implications this has for a currency union between the two economies. We examine these using the Vector Error Correction methodology. While conclusions using this methodology for New Zealand and Australia remain quite fragile, our analysis nevertheless suggests that the transmission mechanisms in New Zealand and Australia do display many similarities. In particular the adjustments of both GDP and the CPI in response to monetary policy shocks appear to be very similar. However there are some differences in terms of the size of the responses of some of the variables to identical monetary policy shocks. In a currency union with a different exchange rate pattern and with different monetary policy shocks, New Zealand may experience some new challenges.

DP2003/05

Learning process and rational expectations: an analysis using a small macroeconomic model for New Zealand
By Olivier Basdevant, May 2003

The nature of expectations matters when conducting monetary policy. Models with a learning process can exhibit very different properties from models with other types of expectations rules. This paper draws on the work of Orphanides and Williams (2002), extending it to allow for the possibility that the learning process may not be perpetual, but rather might be converging towards a rational expectations equilibrium. By modelling expectations using a learning process, we obtain evidence suggesting that inflation expectations in New Zealand are moving towards rational expectations. Theory suggests this will make it easier to control inflation after a temporary disturbance.

For the record: recent press releases

RBNZ on governance and banking in NZ

7 April 2003

The Reserve Bank is seeking to evolve the way it supervises banks, Reserve Bank Governor Alan Bollard said today.

Speaking in Christchurch to the Institute of Directors, Dr Bollard outlined the internationally distinctive way in which the Reserve Bank supervises banks in New Zealand and emphasised that the Reserve Bank remains committed to its overall approach, which places significant responsibility on bank directors to maintain sound and prudent practices.

However, Dr Bollard also indicated that the Reserve Bank is reviewing some parts of the system now in place.

"We believe the New Zealand approach is an effective way of promoting a sound financial system. We also believe it reduces the moral hazard risks associated with conventional banking supervision, and strengthens the effectiveness of market discipline on banks. The fact that the New Zealand banking system is currently one of the healthiest in the world - with high asset quality, sound risk management practices and good capitalisation - bears testimony to this. However, we are certainly not complacent, and we remain ever-watchful to detect incipient signs of financial distress, and we stand ready to intervene if necessary. Moreover, we regularly review our supervisory framework to ensure that it continues to be an effective means of promoting a sound and efficient financial system. In that context, we are currently reviewing a number of our supervision policies, with a view to further improving the existing arrangements."

Dr Bollard said the Reserve Bank continued to have confidence in the way banks are supervised in New Zealand. However he said "We have recently sent a comprehensive questionnaire to the boards of all banks to develop a greater understanding of the means by which directors satisfy themselves that their banks' disclosures are not false or misleading and that their systems for controlling risks are robust. ... We are also surveying auditors to enhance our understanding of the audit processes in relation to banks and to assess the adequacy of existing audit requirements for banks."

Dr Bollard concluded by saying that the policy questions being faced in New Zealand were increasingly being faced world wide as banks became more global and "Within the next year or two, we will have made substantial progress in seeking to resolve some of these issues."

OCR reduced to 5.50 per cent

24 April 2003

The Reserve Bank today reduced the Official Cash Rate from 5.75 per cent to 5.50 per cent.

Reserve Bank Governor Alan Bollard commented "In January this year, we said that if the exchange rate remained unchanged or appreciated further, and if the evidence pointed to reduced pressures on resources and medium-term inflation, then there might be scope for a cut in the OCR later in the year. In our judgement, these conditions have now been met.

"The available data suggest that growth in the New Zealand economy is slowing as we projected in our *March 2003 Monetary Policy Statement*. A weak international economy is now being reflected in softer activity in New Zealand's tradable sector. The domestic economy remains relatively robust, especially in the housing market. However, the weaker tradable sector is expected to feed through into reduced domestic demand elsewhere in the economy, as exporters' incomes decline.

"With the passage of time, we are now more confident that inflationary pressures will ease, which is the basis of today's decision. This should not be interpreted as the Bank now having a more pessimistic view of the New Zealand economy, but rather as a consequence of our earlier expectations being confirmed.

"While the economy is progressing as expected, recent dry conditions in some parts of the country, potential electricity shortages and the SARS virus add additional downside risks to the economic outlook, though at this stage we do not expect a large enduring economic impact.

"The Policy Targets Agreement, signed in September last year, requires the Bank to avoid 'unnecessary instability in output,

interest rates and the exchange rate'. Based on this, we have been prepared to adjust interest rates a little faster in response to the unfolding evidence of a slowdown. However, any future easings will depend on the evidence still suggesting that inflation will settle comfortably within the target range over the medium term."

2003 Monetary Policy school competition

21 May 2003

For the second year running, the Reserve Bank today launched the Monetary Policy Challenge school competition. The Challenge is an education initiative aimed at secondary school economics students, designed to expand their understanding of monetary policy.

The competition involves teams of students becoming, in effect, central bankers. Each team presents written advice to the Reserve Bank on what the Official Cash Rate should be.

Last year's competition was a great success, the winner being Logan Park High School from Dunedin.

The competition starts on 21 July 2003 and runs throughout the third school term. Regional heats will be held in Dunedin, Christchurch, Wellington, Hamilton and Auckland during August, at which oral presentations will be made. The winning team from each region will be invited to the Reserve Bank to compete in the finals, held on 16 September 2003.

The winning school will receive a cash prize and its MPC team will be invited to attend, an actual Monetary Policy Statement release in Wellington.

Reserve Bank Governor Alan Bollard commented "The Monetary Policy Challenge offers college students a great opportunity to expand their understanding of monetary policy. Participants will learn how the economy works and how the Reserve Bank makes its interest rate decisions."

To help with their assessment of the economy and the outlook for inflation, Monetary Policy Challenge participants will have access to up-to-date economic data via the Reserve Bank's website www.rbnz.govt.nz.

A Monetary Policy Challenge information pack has been mailed to Economics teachers around the country.

RBNZ invests in Asian Bond Fund

3 June 2003

The Reserve Bank today announced that it would be investing USD 25 million in the newly created EMEAP Bank of International Settlements Asian Bond Fund. Details on the Fund can be found at the official EMEAP website at <http://www.emeap.org:8084/Press/02june03.htm>.

EMEAP is the Executive Meeting of East Asia and Pacific central banks. The Reserve Bank of New Zealand is a longstanding member and the grouping includes the central banks of Australia, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, The Philippines, Singapore, and Thailand.

The key features of the Asian Bond Fund are:

- the fund will have an initial size of 1 billion US dollars and is only offered to EMEAP members; and
- the fund is managed by the Bank for International Settlements (BIS).

The motivation for the Asian Bond Fund is a desire to see the bond markets of EMEAP countries develop more quickly. The intention is that a cornerstone investor in EMEAP bond markets will encourage other investors to participate in the market leading to greater liquidity, increased issuance and better lending terms for EMEAP Sovereigns and corporations. This should help promote the soundness and efficiency of financial markets and systems in the wider EMEAP region and thus in New Zealand, given the importance of linkages between Asian markets and economies and New Zealand.

RBNZ reduces OCR to 5.25 per cent

5 June 2003

The Reserve Bank has decided to cut the Official Cash Rate by 25 basis points to 5.25 per cent.

Speaking at the release of the Reserve Bank's June 2003 Monetary Policy Statement, Reserve Bank Governor Alan Bollard said "Reducing the OCR is an appropriate response to a softening in inflation pressures and provides some protection for the economy against downside influences.

"The evidence has become clearer that growth is beginning to slow following a period of strength. This slowdown mainly reflects the rapid appreciation of the exchange rate over the

past 18 months, leaving the export sector more exposed to the soft world economy. We are projecting further slowing but expect domestic activity to remain reasonably robust with rapid growth in the population supporting demand. However, businesses are less assured about future trading prospects and confidence measures have fallen away. With confidence fragile, the impact of events such as SARS and dry weather on activity could be amplified.

"The reformulated Policy Targets Agreement requires us to target inflation with a medium term focus and to avoid unnecessary instability in output, the exchange rate and interest rates. This OCR decision is intended to help prevent an unnecessarily sharp downturn, while delivering inflation that remains comfortably within the target range over the

next few years. Influencing our decision is increased certainty that the economy has started to turn down, and the presence of downside risks - foreign and local - whose effects may be exaggerated by fragile confidence. In addition, CPI inflation is expected to receive extra downward pressure over the year ahead as a direct result of the higher exchange rate, but this effect will be temporary.

"Our current projections of the economy incorporate a further modest reduction in the OCR. Any such further reduction will be contingent on further evidence that medium term CPI inflation pressures are abating as our projections assume. We will take our cues from the activity and inflation data as they come to hand," Dr Bollard concluded.

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