Financial Stability Report

May 2005

Contents

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1 Summary and assessment

The maintenance of financial system stability is founded on robust financial institutions and markets. Robust institutions are those that maintain a strong underpinning for the safety they represent in their deposit and other obligations. Robust financial markets are characterised by buyers and sellers being able readily to transact when they need to. Both can be tested by, and need to be resilient to, adverse circumstances. This regular *Financial Stability Report* reviews the current state of the financial system, taking account of potential sources of stress.

The last six months have seen a continuation of economic conditions generally supportive of financial stability. Despite some emerging pockets of strain in the export sector, household and business incomes have been generally robust, making for few debt-servicing difficulties. Asset prices, including those for most classes of real estate and equities, have been buoyant.

Looking forward, conditions are likely to be a little less benign. Internationally, global imbalances, and the possibility of disruptive adjustment, loom as large as they did six months ago. A sharper decline in the US dollar could put additional pressure on New Zealand exporters, as could a reversal of global commodity prices.

Domestically, income growth is also projected to slow and interest costs have been increasing. These developments could see more highly leveraged borrowers face some debt-servicing strains. There have also been signs of lending on less traditional terms, such as 'low-doc' loans and 100 per cent loan-to-value mortgages. As the economy slows, we will be watching for whether these riskier forms of lending become more prevalent, and assessing the implications.

We assess that the main financial institutions are currently well placed to weather less favourable conditions. The four major banks remain institutions with strong balance sheets, good earnings, high credit ratings, and strong owners. On the whole, the other banks in the system also achieved stronger performance in 2004 than in 2003.

In terms of the potential transmission of international disturbances, the New Zealand banking system raises a substantial amount of funding from offshore wholesale financial markets. It is vital that banks are able to maintain access to these offshore funding sources even during periods of disruption in global financial markets. That depends on banks maintaining high credit ratings and, in turn, strong loan portfolios and adequate levels of capital.

Finance companies have been growing rapidly during the last few years, and may represent a sectoral risk going forward. With bank deposit interest rates now higher than a year ago, finance companies face greater competition for funds. Also, in a slowing economy with a slowing property market, the risk of loan losses is heightened. There have been some welcome developments in the supply of information to the public on these institutions, which should help investors assess their investment risk.

On the policy front, a number of issues are currently under attention. These include a general review initiated by the Government of the regulation of financial products and providers in the non-bank sector, including whether a greater degree of prudential regulation is needed. Two, more specific, issues being addressed by the Bank are the effects of pockets of illiquidity in the government bond market, and failure-to-settle arrangements for retail payment systems.

A number of banking supervision issues are also being progressed by the Bank, including outsourcing by registered banks, and the implementation of the Basel II capital adequacy framework. Another priority is achieving appropriate regulatory harmonisation with the Australian Prudential Regulation Authority (APRA). This will be assisted by the work of the Trans-Tasman Council on Banking Supervision, on which the Bank is an active member. These initiatives should help to ensure the maximum effectiveness of 'home-host' supervision of the banks in New Zealand, and continued financial soundness and stability.

Alan Bollard
Governor

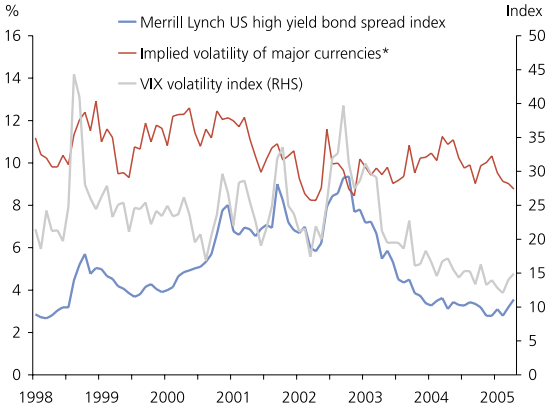
2 The economic and financial environment

This chapter examines recent developments in the economic and financial environment facing the New Zealand financial system. It includes an assessment of issues arising from current and prospective cyclical developments, and from structural imbalances.

Both the global and New Zealand economies have performed strongly over the last year, but growth may have peaked. As a result, the New Zealand financial system faces a more uncertain economic environment in the near term, albeit from a strong starting point. The corporate sector appears to be on solid footing, although a slowing economy and the high exchange rate remain risks. Increasing debt levels have made the household sector more sensitive to adverse shocks.

Figure 1

Market indicators of risk aversion



* Simple average of euro, Japanese yen, British pound and Swiss franc.

Source: Datastream, UBS Warburg, CBOE.

2.1 The international economic and financial position

The world economy grew by 5 per cent in 2004, the fastest rate in nearly 30 years and ahead of forecasts. As a result, the excess productive capacity that resulted from the downturn in 2001 has largely been absorbed, and the sharp acceleration in growth has exposed capacity constraints in some infrastructure-heavy industries such as shipping and oil refining. Capacity constraints have also been cited as a partial reason for slower GDP growth in Australia, despite record terms-of-trade linked to high commodity prices.

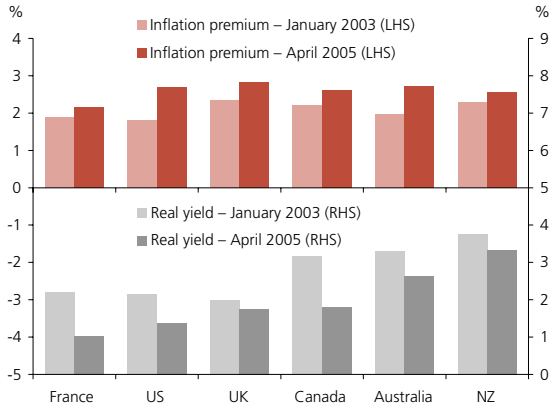
Recent trends in monetary policy have generally been well-anticipated, leading to perceptions of a cyclically low risk environment throughout global financial markets (figure 1). To date, the increases in policy interest rates in some regions, particularly the US, have been driven by a 'normalisation' from the exceptionally low rates of recent years, more than by outright concerns about inflation pressures. Similarly, the depreciation of the US dollar since early 2002 has been seen as a necessary adjustment from unusually high levels.

The recent calm may not be sustained

With the 'normalisation' phase over, the world economy may be facing a period of greater uncertainty. Concerns about inflation pressures feature more prominently in recent assessments, and have been priced in to financial markets to a degree (figure 2). The recent rise in oil prices is a significant risk to the inflation outlook (figure 3), and if it is sustained, global interest rates may need to rise further than is currently expected. Noticeably weaker equity markets and wider credit spreads in the last month suggest that a change in sentiment may be occurring already, although it remains to be seen whether it will persist.

Figure 2

Real yields and inflation premia for indexed bonds

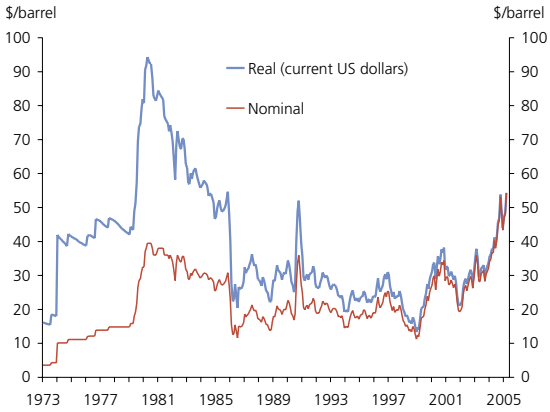


Bonds are ten-year maturities or the closest alternative.

Source: Bloomberg.

Figure 3

Crude oil prices



Source: US Federal Reserve, US Department of Labor.

Balance sheets are generally strong

Nevertheless, the global financial system appears to be well-placed to deal with a period of weaker growth. Globally, corporate balance sheets are generally stronger compared to the early part of the decade; this is most noticeable in the US, but there are signs that the situation has improved in Europe and Japan as well. Businesses have used the low interest rate environment and improved profit margins as an opportunity to reduce or restructure debt.

In contrast, household sectors in many countries have used the low interest rate environment to increase their borrowing to levels not seen previously. Much of the increase in borrowing has gone into housing markets, with the result that house prices in many countries are well above average on most measures of value. The housing market boom in Australia began earlier than elsewhere, and is one of the first to show signs of cooling, although with few indications of financial stress to date. However, the slowdown will mean a tougher environment for lending institutions seeking to grow their earnings (see chapter 3).

Cross-border imbalances remain large

The most prominent structural concern in the world economy is the US current account deficit. The need for the US to attract ongoing funding from overseas creates a substantial imbalance in global financial markets. The deficit, besides being large as a proportion of US GDP, accounts for an exceptionally large share of the supply of global savings.

As our previous *Financial Stability Report* noted, central banks in countries with current account surpluses and managed exchange rates – mostly in Asia – have funded a substantial share of the deficit by purchasing US dollar assets for their foreign currency reserves. In recent months, comments attributed to Asian central banks about the possibility of diversifying into other currencies led to some volatility in the US dollar exchange rate, highlighting the risk of a further sharp, and potentially disorderly, fall in the US dollar.

If this occurred, the burden of adjustment could fall on currencies that are not necessarily in the best position to absorb the impact. The New Zealand and Australian dollars, in particular, remain well above their long-run average levels, even though both countries also have large current account deficits – currently around 6.5 per cent of GDP for both countries.

New Zealand's external debt is rising

New Zealand's widening current account deficit is reflected in a rise in net external liabilities of almost $24 billion, to reach 88 per cent of GDP, one of the highest ratios amongst developed economies. About $17 billion of the increase was borrowed by New Zealand banks from a range of sources. (This is discussed further in box 2, chapter 3.) The remainder is mostly attributable to corporate sector debt and equity from external sources.

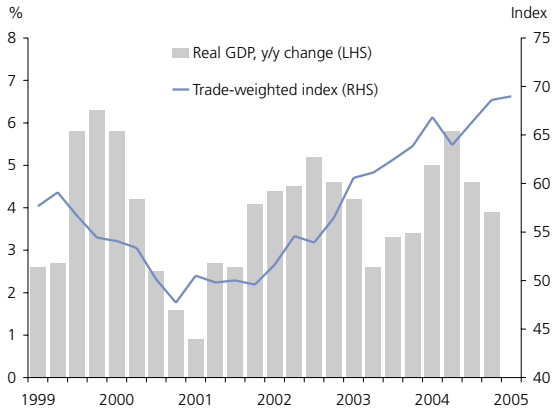
An assessment of the risks to financial stability from New Zealand's external liability position needs to take account of the underlying robustness of the entities that have raised it, as well as macroeconomic aspects. As noted elsewhere in this report, the New Zealand banking and corporate sectors are generally in robust financial positions.

Overlaying these micro assessments, however, is the fact that New Zealand is potentially exposed to shocks that could cause foreign lenders to become less willing to provide ongoing funding. This would be reflected in an increased New Zealand risk premium, and in turn, increased costs for banks and corporates when converting foreign currency debt raisings into New Zealand dollars in the international swaps market.

2.2 The New Zealand macroeconomic environment

The New Zealand economy continued to grow at a robust pace during 2004, driven by solid domestic demand, the favourable global economic climate, and strong external terms of trade, albeit with the strong exchange rate acting as a counterweight (figure 4). In the near term, the outlook for the New Zealand economy remains positive, although a slowing to more sustainable levels of activity in the second half of 2005 is expected.

Figure 4
New Zealand macroeconomic environment



Source: RBNZ, Statistics New Zealand.

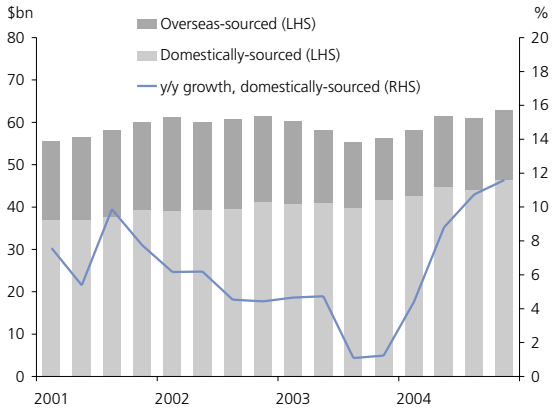
One of the downside risks to this generally benign outlook is the possibility that the New Zealand dollar remains at current high levels or appreciates further, at a time of slowing global demand. That could see a sharper than expected contraction of incomes in the export sector and, indirectly, a sharper slowdown in income growth across the economy more generally. Another risk is that spending will slow more than currently expected, under the influence of higher interest costs, particularly given the effects on household debt-servicing burdens. If these risks were to come to pass, that could see the economy slow further than currently expected, and the credit environment facing the financial system become more difficult.

Financially robust corporate sector overall

About 45 per cent of the aggregate domestic loan portfolio of the New Zealand financial sector involves a credit risk exposure to the corporate sector (defined here as including agriculture and excluding finance). This makes maintenance of financial stability importantly dependent on the income performance of New Zealand's firms (and farms).

In the second half of 2004, business sector borrowing (excluding agriculture) grew more strongly, following a period of weakness during 2003 (figure 5). However, available indicators suggest that debt-servicing abilities have not been stretched. Official data on aggregate levels of leverage and debt-servicing costs show a steadily strengthening financial position up to end 2003 (see box 1, opposite).

Figure 5
Business debt (excluding agriculture)



Domestically-sourced debt includes partial coverage of debt issued by non-financial corporates on New Zealand financial markets.
Source: RBNZ, Statistics New Zealand.

More up to date, albeit partial, indicators suggest this trend continued through 2004. Many listed companies reported increased profits for 2004/05 compared with 2003/04, and the listed equity market rose strongly through this period. By the end of March 2005 the NZSX 50 market index was some 65 per cent above its level two years earlier (figure 6).[1] The increase in equity prices was broadly matched by the rise in earnings, so the price-to-earnings ratio remained stable at around its historical average.

1 The NZSX 50 comprises the shares of the top 50 companies listed on the NZSX market by free float market capitalisation. It is a gross index that includes dividends on a pre-tax equivalent basis.

Box 1

Financial stability analysis of the New Zealand corporate sector

Our financial stability interest in the corporate sector of the economy derives mainly from the financial system's business credit exposures. While a certain level of defaults by firms on their borrowings is expected, if defaults become endemic, or are individually large, then confidence in lending institutions and the corporate bond market can be threatened. The last period of financial instability in New Zealand, in the late 1980s and early 1990s, occurred as the result of widespread and large scale corporate failures.

Two of the principal indicators of risk of default by firms are the level of debt relative to equity (gearing), and the ratio of interest expense to earnings before interest and tax (a measure of debt service costs). All other things being equal, the greater a firm's level of debt relative to equity, the greater the risk of default. The interest cover measure also recognises that greater leverage, and hence interest expense, entails greater risk, but takes account of the fact that firms generating strong earnings have a greater debt-servicing capacity than those with weaker earnings.

In New Zealand, data availability is one of the main challenges in assessing the overall state of the corporate sector. The most comprehensive source of data for this sector is Statistics New Zealand's Annual Enterprise Survey (AES). It offers broad coverage of non-financial business enterprises, with a good degree of disaggregation of firms according to type of business. However, the data can be as much as 18 months old at the time of publication, so it does not lend itself to timely analysis. Data is available only at annual intervals, with all firms reporting within that interval being included, irrespective of where their balance date falls within the year. This means that data for one year represents a mix of data reported throughout a 12-month period, whereas economic conditions and hence business performance can change quite markedly over the course of a year. Also, the AES underwent a major review in 1997, so comparisons with earlier periods are not always possible.

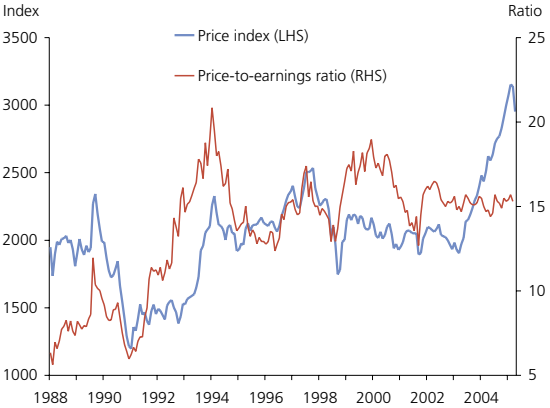
Additional data on business sector finances are available from private sources, such as Datastream. However, these are generally confined to listed companies, which account for about a fifth of total business sector assets in New Zealand. Also, given the high degree of concentration in the New Zealand corporate sector, the aggregate data from these sources can be very sensitive to changes in the

(continued on p. 8)

However, equity prices have retraced somewhat since March, and record earnings announcements have given way to some profit forecast downgrades. Recent indicators point to a weakening of business confidence, suggesting downward cyclical pressures on corporate sector profitability. These developments are consistent with a recent Standard and Poor's assessment of credit quality for rated New Zealand companies, which concluded that underlying credit fundamentals remain sound, but an increasing number of companies are under review for possible credit downgrades relative to 2003.[2]

Figure 6

Equity market performance



The price-to-earnings ratio uses 12-month trailing earnings.
Source: Datastream, First New Zealand Capital.

2 Standard and Poor's. "Credit cycle among Australian and New Zealand corporates peaks as upgrades outpace downgrades," February 2005.

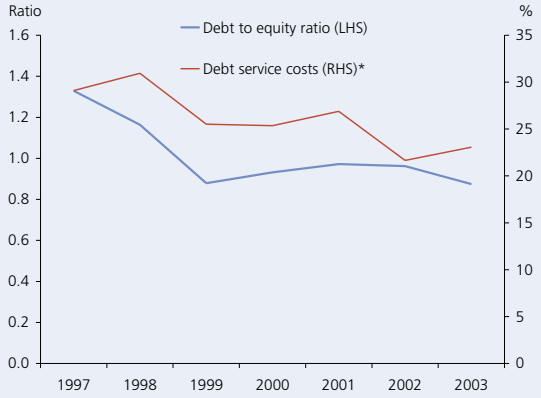
financial reporting policies or the financial circumstances of a handful of large companies. Therefore, compiling and interpreting aggregate data from such sources demands a reasonably thorough understanding of, and familiarity with, the New Zealand corporate sector.

Comparative data from these two sources for the two key indicators – gearing and debt service costs – are shown in figures 7 and 8. The debt-to-equity and debt service ratios constructed using AES data suggest that the financial position of the New Zealand sector strengthened over the period 1997–2003 (figure 7). These readings are largely consistent with Datastream-based indicators of leverage and debt service costs for listed non-financial companies (figure 8). Differences in the readings of the two sets of indicators arise from coverage and definitional differences.

Currently, the Bank is actively working to further develop the available data for assessing trends in the corporate sector for financial stability analysis purposes. We anticipate updating on this work in future issues of the *Financial Stability Report*.

Figure 7

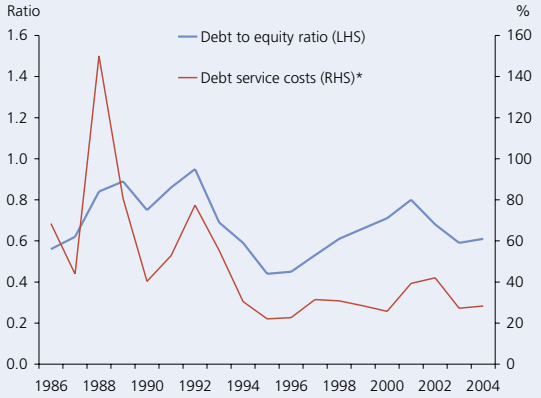
Corporate sector indicators – AES data



* The ratio of interest expenses to operating surplus before interest and taxes.
Total liabilities are used as a proxy for total debt.
Source: Statistics New Zealand.

Figure 8

Corporate sector indicators – Datastream data



* The ratio of total interest charges to earnings before interest and taxes.
Source: Datastream.

But businesses face a range of circumstances

Within the corporate sector, financial performance varies considerably across industries. Domestically-oriented sectors have benefited from the strong performance of the New Zealand economy. Profitability has remained high for the construction and services sectors, while retail trade continued to benefit from solid consumer demand. However, rising capacity constraints and competitive pressures, particularly from imports, have moderated somewhat the potential for profit growth. Furthermore, with the economy expected to slow, some of the driving forces for profitability will be eroded going forward.

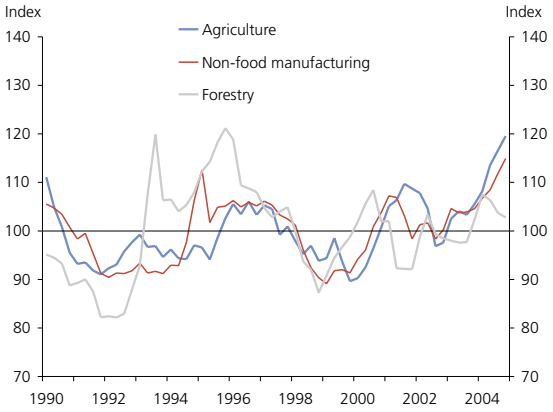
Within the export sector, agriculture has benefited from robust global demand and strong international commodity prices, while for other export firms, conditions have been more mixed (figure 9). Some exporters of elaborately transformed manufactures have recorded strong performances, through having developed strong market niches and hence some degree of pricing power that has provided some protection against the appreciating exchange rate. Other manufacturing exporters, however, have been amongst those reporting downgrades of future profit expectations.[3] Also, the forestry and fishing sectors have been struggling with a strong exchange rate at a time when product prices in international markets have been subdued.

An issue facing export firms in general is that contributions to the earnings from previous exchange rate hedges cannot be relied on as a sustainable source of

3 For background on the manufacturing sector see "An overview of the manufacturing sector", Reserve Bank of New Zealand *Bulletin*, March 2005.

Figure 9

Export prices (average since 1990 = 100)



Adjusted for changes in the trade-weighted index (TWI).
Source: RBNZ, Statistics New Zealand.

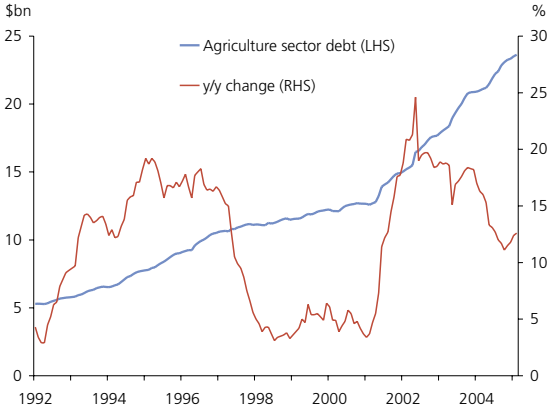
income going forward.[4] Anecdotal evidence suggests that, increasingly, exporters are more reluctant to hedge against currency movements at the current high rate, which would risk locking in a high rate when there is some prospect that the exchange rate will depreciate. This means that exporters, currently, are probably less hedged than in the recent past. They would be quite exposed if the New Zealand dollar, instead of depreciating, were to appreciate further.

Agriculture is increasingly in the spotlight

As noted, the agriculture sector has been performing strongly. At the same time, debt levels in the agricultural sector have been increasing (figure 10).

Figure 10

Agriculture sector debt



Source: RBNZ.

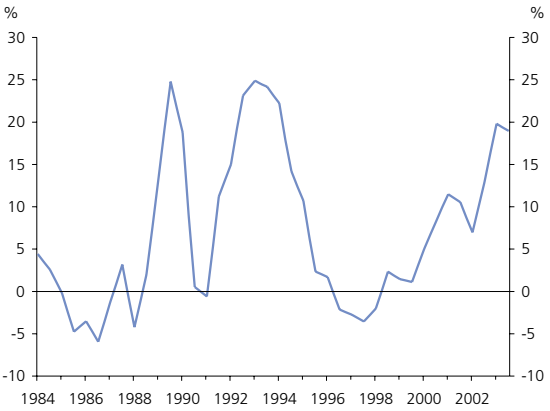
4 See "Currency hedging by exporters and importers," Reserve Bank of New Zealand *Bulletin*, December 2004, for more detail on corporate sector hedging.

The recent strong earnings record suggests that, in spite of rising debt levels, agriculture debt-servicing costs remain manageable. That said, agriculture sector income is prone to considerable swings. This highlights the relative vulnerability of agriculture debt servicing to adverse shocks. And although the near-term outlook for agriculture remains largely favourable, it is unclear whether the recent earnings performance will be sustainable. If global market conditions were to turn less favourable, or the exchange rate was to appreciate further, the agriculture sector could face some financial strain.

Moreover, to the extent that the agriculture debt build-up has been fuelled by escalating farm land prices, some balance sheets in the agriculture sector could be vulnerable to a downturn in the rural land market (figure 11).

Figure 11

Rural land prices, year-on-year change



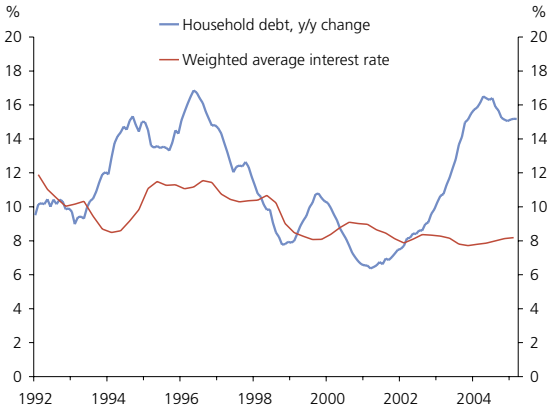
Source: Quotable Value Ltd.

The household sector is more sensitive to adverse shocks

Trends in the financial position of the household sector largely reflect a continuation of those reported in some detail in our previous *Financial Stability Report*. Household borrowing, which accounts for more than 50 per cent of the aggregate loan portfolio of New Zealand's financial institutions, grew by 15 per cent over the year to April 2005. Interest rates that have been low by historical standards have facilitated debt accumulation, although the average interest rate has risen modestly in the last year (figure 12, overleaf).

Figure 12

Household debt growth and interest rates



Source: RBNZ.

With residential mortgage debt accounting for 90 per cent of total household debt, developments in this market are a key driver of household borrowing. Reductions in some key residential mortgage lending rates, driven by competition amongst lending institutions, contributed to a fillip in borrowing toward the end of 2004. However, with the natural lag between borrowings being arranged and being drawn down, it is a little early to tell whether loan demand is holding up at end-2004 levels or reverting to a slower path.

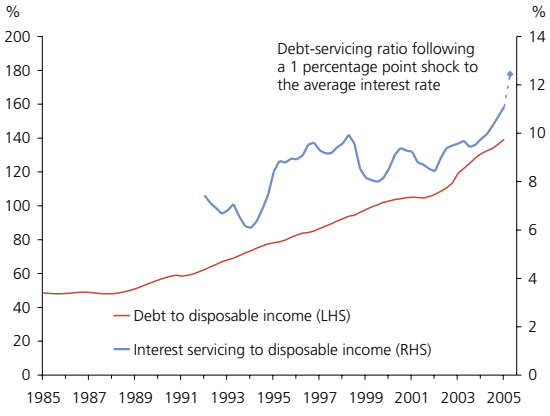
Still, borrowing by households has continued to outstrip growth in household disposable income, and the debt to disposable income ratio has increased further (figure 13). Together with some upward movement in average interest rates, the ratio of debt-servicing costs to disposable income has also increased. On both measures, household indebtedness is in uncharted territory for New Zealand.

The upward trend in debt relative to income reflects, at least in part, improved household access to various sources of financing – a sign that the financial system is responding effectively to borrower needs. At the same time, as household debt continues to increase, households' ability to service debt becomes more sensitive to either unexpected increases in interest rates, or to unexpectedly slow income growth. The aggregate numbers also conceal significant variation amongst individual households. The distribution of the debt burden across households with varying levels of income and gearing is crucial for a thorough assessment of the overall vulnerability of the household sector. We are currently analysing these distributional aspects and will report the results in future issues of the *Financial Stability Report*.

In the housing market, house price inflation has moderated, although it remains at double-digit levels (figure 14). At the same time, the ratio of house prices to rents has continued to rise (ie, rental yields have fallen), and currently is significantly above the average for the past decade. While to some extent this may be a reflection of rental yields falling in line with declining real interest rates, it also suggests that further escalation in house prices cannot be relied on.

Figure 13

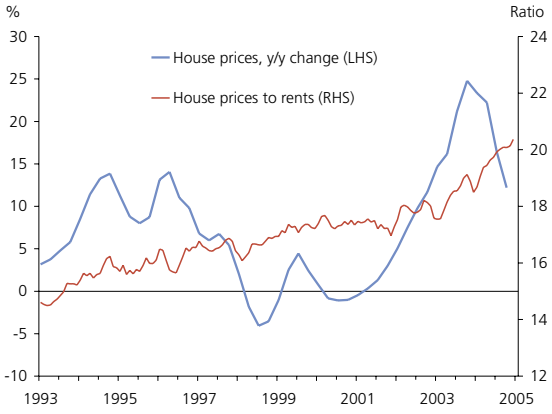
Household debt service capacity



Source: RBNZ, Statistics New Zealand.

Figure 14

Residential property developments



The house price to rent ratio is a three-month moving average.
Source: Quotable Value Ltd, Ministry of Housing, REINZ.

These developments support the view that the household sector may now be more vulnerable to adverse shocks than previously. We do not foresee such developments as a major direct source of financial sector instability arising from widespread defaults on household debt. However, we do see the possibility that the more heavily indebted individual households will experience some financial stress. Also, there is a possibility that the household sector as a whole could curtail discretionary spending, resulting in a lower level of economic activity and weaker credit conditions generally.

3 New Zealand's financial institutions

This chapter reviews New Zealand's financial institutions. It focuses mainly on the banking system, but also reviews non-bank saving and lending institutions, and life insurance companies. This reflects the Bank's intention to maintain surveillance of the financial system beyond the core banking sector. The *Financial Stability Report* will examine these and other non-bank sectors, such as funds management, from time to time.

We assess that the main financial institutions currently are well placed to weather less favourable conditions. The four major banks remain institutions with strong balance sheets, good earnings, high credit ratings, and strong owners. The smaller banks, on the whole, have also been performing well. However, finance companies represent a sectoral risk going forward. With a slowing economy, and a slowing property market in particular, the outlook for these institutions is more challenging. The life insurance sector, overall, has at least partially recovered from difficulties experienced in the early years of the decade.*

3.1 The systemically important banks

Of the 16 banks currently registered in New Zealand, four (ANZ National Bank, ASB Bank, Bank of New Zealand and Westpac Banking Corporation) are considered 'systemically important'. These banks together hold about 85 per cent of the assets of the banking system and 65 per cent of the assets of the total financial system. The failure of any of them would have a significant adverse impact not only on the financial system but also on the wider economy.

Robust lending growth

The total assets of the systemically important banks as a group increased by 10 per cent over 2004, with the largest contribution to that increase coming from growth in lending secured by mortgages on residential property (table 1). Residential property lending is the single most important component of the total assets of these banks, accounting for 44 per cent of their total assets at the end of 2004. This is a slightly higher proportion than a year earlier. Total outstanding residential mortgage lending of the four banks at 31 December 2004 was 15 per cent higher than a year earlier, while other lending grew by only 5 per cent over the year.

Almost 30 per cent of the increase in residential mortgage lending over 2004 occurred in the final quarter of the year, during which time there was vigorous competition amongst several banks in the market for housing loans, particularly in the two- year fixed interest rate market. These efforts to grow market share in mortgage lending, or to at least maintain it in the face of the pricing moves of competitors,

Table 1
Aggregate balance sheet for the systemically important banks

$ billion	2000	2001	2002	2003	2004
Assets					
Financial investments	21	22	21	19	23
Residential mortgage loans	61	65	70	81	93
Other lending	57	65	74	76	80
Other assets	11	10	10	15	13
Total assets	**150**	**162**	**174**	**191**	**210**
Equity and liabilities					
Equity	9	10	12	15	16
Wholesale and retail funding	131	145	152	164	182
Other liabilities	10	7	11	12	11
Total equity and liabilities	**150**	**162**	**174**	**191**	**210**

Source: Registered banks' disclosure statements, as at 31 December.

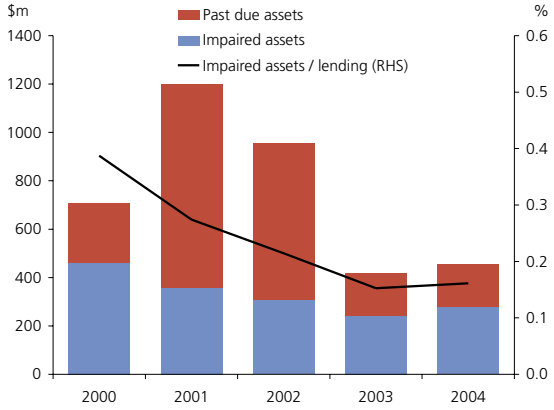
* Sections 3.4 and 3.5 of this chapter have been prepared with assistance from the Ministry of Economic Development and the Securities Commission.

resulted in two banks (the Bank of New Zealand and ASB Bank) recording more rapid growth in their housing loans during the December quarter than the other major banks.

Asset quality for the systemically important banks remains strong. Impaired and past due assets as at 31 December 2004 were less than 0.2 per cent of total lending, a very low proportion by international standards (figure 15).

To fund the growth in lending, the major banks continued to draw on both domestic and offshore sources of funds. Box 2 reviews the current structure of their funding, particularly in relation to the significant amounts they raise from offshore.

Figure 15
Impaired and past due assets for systemically important banks



Source: Registered banks' disclosure statements as at 31 December.

Box 2
Bank funding

New Zealand's banks are the dominant financial intermediaries in New Zealand. Typically, they have a range of funding channels and the cheapest access to funds. Historically, retail deposits were the dominant source of bank funding. However, this has changed over the past decade or so, with wholesale funding, particularly from offshore, becoming much more significant. This change has been due to a number of factors including:

- the openness of New Zealand's financial markets;
- the growing maturity and sophistication of the banking industry subsequent to the opening up of the New Zealand financial system in the 1980s; and
- the low savings rate of New Zealand's households.

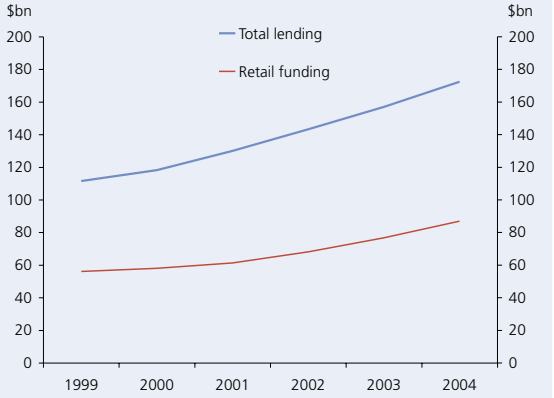
The first two factors have resulted in a greater proportion of the local funding potentially available to banks being invested offshore, for example via unit trusts and other investment channels. Combined with the relatively low level of saving, this means that New Zealand banks do not have a particularly large 'captive' home market from which to draw funding.

From time to time, questions are raised regarding the risks to the financial system due to the degree of reliance on wholesale funding and, in particular, the level of funding from overseas.[5] A specific concern for financial stability is the refinancing risk that could arise if access to offshore wholesale markets was curtailed, say, in an environment of heightened global financial market uncertainty, or concerns about the Australian parent banks.

Funding requirements and sources[6]

Total lending and retail funding have grown at about the same percentage rate since the beginning of this decade, with funding from retail sources having remained approximately constant at about 50 per cent.

Figure 16
Funding 'gap' for systemically important New Zealand banks



Source: Registered banks' disclosure statements as at 31 December.

5 See, for example, IMF Article IV Consultation, IMF Staff Country Report No. 05/152.

6 Note that the data and information provided in this box relates to the four systemically important banks only; the non-systemically important banks are mostly branches of international banks, with materially different funding structures.

Retail funding, although the core of banks' funding, is somewhat inflexible. Banks have some ability to influence the growth of their retail funding through the interest rates they offer and service levels, but can increase it only at the margin without substantially increasing interest rates.

The local wholesale market – comprising mainly corporates and institutional investors – provides another source that banks tap. The main local wholesale channels are issuance of certificates of deposit; the taking of short-term deposits from corporates; and the inter-bank market, in which banks borrow and lend surplus cash amongst themselves.

The most cost-effective source of funding available to cover the gap between banks' New Zealand funding (mainly retail) and their lending is the global wholesale financial market.

The current funding structure of the systemically important banks is summarised in table 2.

Offshore funding – sources, instruments and structures

Most bank offshore funding is raised by way of the issuance of short-term commercial paper (generally 1–6 month instruments) and lesser amounts of medium-term notes (generally instruments with a maturity of more than 12 months). These instruments are issued in the Euromarkets (ie, the raising of funds in countries other than that of the currency's issuer) and the United States money market. They are purchased mainly by overseas financial institutions and institutional investors.

Individual banks use different structures for raising offshore funding. But broadly speaking they involve one or more of:

- issuing directly overseas in the New Zealand bank's own name;
- using the services of a subsidiary company that specialises in raising funding in offshore wholesale markets, and which on-lends to the New Zealand bank; or
- borrowing directly from an overseas parent bank, or an affiliate of the parent.

Factors that influence the choice of structure include:

- Parent/group policy on which group names it wants in the international markets (based on assessments of which can access those markets most cost-effectively).
- Regulatory policies, for example APRA places limits on the amount that an Australian parent bank can lend to its subsidiaries.
- Achieving tax efficiency. The particular corporate borrowing structures used can affect withholding tax costs. Similarly, tax can influence the choice of currency in which funding is raised: low interest rate currencies, such as yen, give rise to a lower withholding tax liability than higher interest rate currencies.

Table 2

Funding structure of systemically important banks

Instrument	Market	Percentage of total liabilities (excl. equity/ reserves)
Deposits (mainly NZD and from NZ residents)	Retail	54
	Wholesale	13
Commercial paper/medium-term notes	Offshore capital markets	17
Borrowing from related parties	Parent banks	8
Other		8

Source: RBNZ.

A feature to note is that parent banks provide relatively little of the systemically important banks' funding – about 8 per cent of their total liabilities. This reflects both the factors mentioned above that limit the extent to which New Zealand banks rely directly on their parents, and also that the New Zealand banks can borrow in their own name in the international banks with the benefit of the implicit support of their parent.

Invariably, the banks hedge the foreign exchange exposure that can be involved with foreign borrowing. This can be done either before or after the funding reaches the New Zealand banks' balance sheets. This means that the currency in which offshore borrowing is denominated on the balance sheets of the New Zealand banks generally is not very meaningful; either way, provided that foreign currency borrowings have been hedged, the bank should not have an exposure to exchange rate risk.

Implications

Reliance on wholesale funding increases the need for the banks and supervisors to be vigilant on a number of fronts. The greatest benefit of wholesale funding – its responsiveness to small changes in interest rates offered, which makes it cost-effective for banks – is also its potential 'Achilles' heel'. Just as offshore wholesale markets are very responsive to small changes in interest returns offered, they can also be very responsive, in the opposite direction, to deterioration in a bank's credit worthiness. This underscores the need for banks to prudently manage their liquidity and the maturity profile of their wholesale funding. It is important that a large proportion of funding does not come due for refinancing at the same time. Reliance on offshore wholesale funding also underscores the fundamental importance of New Zealand banks maintaining the strong credit ratings required in order to be able to access the international markets on favourable terms.

Capital remains adequate

The systemically important banks remain well capitalised, with their total capital relative to risk-weighted assets comfortably above the 8 per cent minimum ratio prescribed by the Reserve Bank (figure 17). Furthermore, the proportion represented by tier 1 capital (capital that is permanently and freely available to absorb losses – mainly shareholders' funds) has been increasing for several years. As a result, the banks' tier 1 capital ratios are well above the required 4 per cent minimum.[7]

The tier 1 capital of all three locally incorporated systemically important banks increased over 2004.[8] This increase was largely due to movements in retained earnings. Dividend payments to the banks' Australian parents were at levels that allowed the New Zealand banks' tier 1 capital to grow at a similar rate to their risk–weighted credit exposures. ASB Bank also made an issue of perpetual preference shares.

Figure 17
Capital adequacy ratios for locally incorporated systemically important banks

Source: Registered banks' disclosure statements as at 31 December.

7 Banks are required to maintain a minimum ratio of tier 1 capital to risk–weighted exposures. Exposures are risk-weighted according to broad categories of relative credit risk.

8 Westpac operates in New Zealand as a branch of the Australian bank, so it has not been subject to capital adequacy requirements on its New Zealand operations. In December 2004, Westpac agreed to locally incorporate.

Table 3

Aggregate income statement for the systemically important banks

$ million	2000	2001	2002	2003	2004
Net interest income	3325	3434	4040	4349	4619
Impaired asset costs	-112	-171	-146	-585	-255
Other income	1933	2083	2039	2166	2227
Operating expenses	-2794	-2719	-2841	-3091	-3381
Profit before abnormals	**2353**	**2627**	**3092**	**2839**	**3211**
Abnormals	-7	-11	196	8	-44
Profit before tax	**2346**	**2616**	**3288**	**2847**	**3168**
Tax	-601	-721	-878	-869	-1018
Net profit after tax	**1744**	**1895**	**2410**	**1978**	**2149**

Source: Registered banks' disclosure statements. For the year ended 31 December.

High earnings under some downward pressure

In 2004, the aggregate profit after tax for the four systemically important banks was $2.1 billion, up 9 per cent on the profit reported for 2003 (table 3). The growth in profit for the banks as a group over 2004 matched the growth in their assets such that the weighted average return on assets remained unchanged at 1.1 per cent, slightly better than the traditionally accepted benchmark of good performance of 1 per cent (figure 18). However, on an individual bank basis, three of the four banks recorded a fall in their return on assets in 2004 compared to 2003.

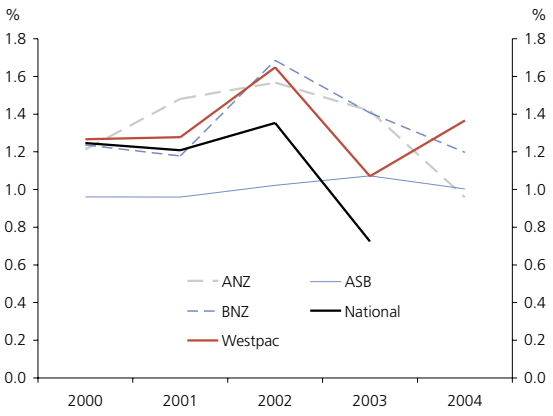
Overall interest margins (net interest income divided by average interest earning assets) remained more or less unchanged over 2004 (figure 19). Thus net interest income growth was largely due to increases in lending by the banks, which in turn reflected the buoyant economic conditions over the year. This suggests that growth in net interest income at the same rate may not be sustainable, should economic activity slow and the rate of credit growth consequently slow. Continuing competitive pressures also appear to have the potential to result in a narrowing of margins in the period ahead, further constraining net interest income growth.

Growth in other income has generally been sluggish, and in 2004 declined both relative to total assets and as a proportion of total income. This out-turn is the result, at least in part, of moves by banks to waive or discount lending related fees as a further inducement to borrowers.

In recent years, the banks have placed a lot of emphasis on controlling expenses. As a result, operating expenses as a proportion of assets and of income have fallen to levels

Figure 18

Net profit after tax as a percentage of average total assets

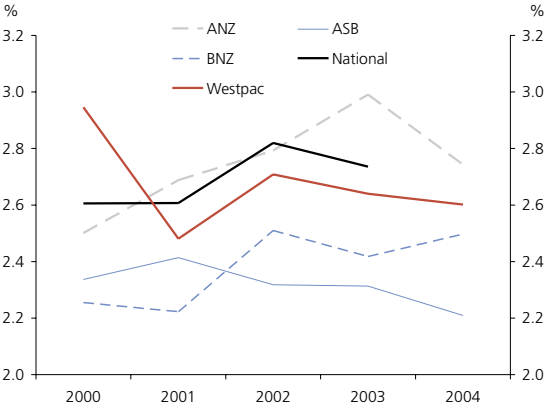


The National Bank was merged into ANZ Bank in 2004. Data for ANZ for 2004 is for the merged ANZ National Bank.

Source: Registered banks' disclosure statements, year ended 31 December.

Figure 19

Interest margins for the systemically important banks

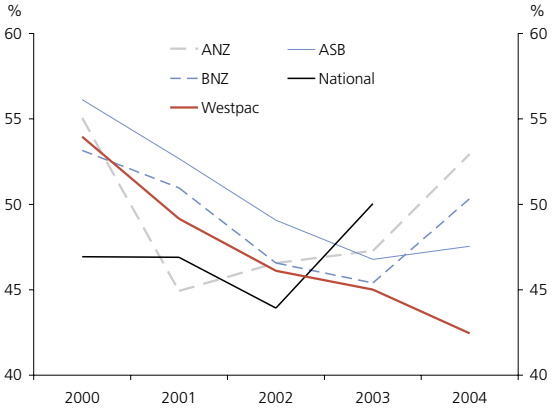


Source: Registered banks' disclosure statements, year ended 31 December.

that are low by international standards. However, there is evidence to suggest that further falls in these ratios will be hard to achieve. In 2004, the operating expenses of most of the systemically important banks increased significantly, pushing their cost to income ratios up (figure 20). The factors underlying this trend include costs incurred as a result of moves to improve service to customers and increase market share, and, in the case of ANZ National Bank, the costs of integrating the National Bank following its acquisition. These factors could remain important drivers of the banks' performance in the immediate future.

At the time of writing, two banks (ANZ National and Westpac) had announced interim results for the six months ended March 2005. These show moderate to flat growth in after-tax earnings, with the strong competition in the residential mortgage market in late 2004 evident in interest rate margin compression.

Figure 20
Cost to income ratios* of the systemically important banks



Source: Registered banks' disclosure statements, year ended 31 December.
* Operating expenses as a percentage of total income.

As noted in our previous *Financial Stability Report*, the Inland Revenue Department has been reviewing the tax paid by the systemically important banks over the last five years on structured finance transactions. Amended assessments requiring the payment of around $280 million of additional tax and interest have so far been issued. The banks have estimated that the potential maximum liability (including interest) could be in excess of $1.6 billion, although ANZ National Bank does have an indemnity for an estimated $120 million (including interest) from the former owners of the National Bank for tax on transactions pre-dating the merger. However, the banks have indicated that they will contest the assessments and it is not clear what the final amount of the additional tax liability will be.

Some potential vulnerabilities

We noted in our previous *Financial Stability Report* that the absence of significant credit quality problems for the major banks reflected both the low risk nature of the majority of the lending by those banks, and a benign credit environment. While our previous conclusions about the high quality of the major banks' assets remain valid, there are at least three qualifications that need to be taken into account.

First, as discussed in chapter 2, the expected economic slowdown will result in a weaker credit environment for banks. With a large proportion of bank lending to the household sector secured against residential property, this sector is unlikely to be the source of major direct financial problems for the banks. But financial consequences could be felt elsewhere on banks' balance sheets, if households curtail spending and lower economic activity impacts on banks' business borrowers.

Second, New Zealand banks have quite high concentrations of exposure to the corporate sector. While there has been a significant fall in the number of large exposures to non-bank counterparties in the last few years,[9] such exposures still account for a significant proportion of banks' equity and a higher proportion than is the case in Australia. The four major banks had thirteen such exposures between them as at 31 December 2004. In aggregate, these exposures amount to at least half the aggregate capital of the four major banks. It would only require lending to one of these borrowers to be re-classified as past due or impaired for there to be a significant impact on the banks' reported asset quality.

9 There were 38 exposures to non-bank counterparties in excess of 10 per cent of the lending bank's capital in December 2002, compared with 13 now. However, the fall is at least partly due to the purchase of the National Bank of New Zealand by ANZ. The merger will have resulted in some separate large exposures to the same counterparty being merged into a single exposure. Also, some exposures that were greater than 10 per cent of one or other of the individual bank's equity will be a lesser percentage of the combined bank's equity.

A third factor that could undermine the quality of the systemically important banks' assets is emerging competitive pressures. The economic outlook suggests that the demand for loans may slow in the period ahead and banks may look for ways to maintain recent strong lending growth, to protect market shares and to sustain income growth. The resulting increased levels of competition will not be limited to banks as non-bank lenders will also be facing the same pressures.

The recent moves to use pricing to achieve an advantage over other lenders in the residential mortgage market are one example of what could happen in the future. However, the impact of price cutting (either by lowering interest rates or by reducing loan establishment fees) on profitability means that this strategy may not be sustainable in the long term, and banks may look for other solutions.

Banks may target customers who previously would not have been able to meet the banks' criteria for a mortgage. For example, customers may be permitted to borrow a greater proportion of the value of the property offered as security. Generally banks require customers to have some funds of their own to contribute to the purchase price, but recently there have been moves to offer residential mortgages with a 100 per cent loan-to-value ratio, although with some restrictions such as requiring the extra amount borrowed to be guaranteed by, or borrowed jointly with, a family member.

Another possibility would be for the systemically important banks to adopt some of the practices and products used by smaller non-bank lenders. In particular, there has been growing interest in 'low-doc' loans that allow customers to self-certify their income levels (and hence ability to service the loan) rather than supply proof of income. These loans have proved quite popular in Australia with the APRA having noted that anecdotal evidence suggests that 'low-doc' loans comprise about 15 per cent of residential lending in that country.[10] The Australian parents of the systemically important banks have begun to offer such loans to a limited extent in response to the introduction of 'low-doc' products by non-bank lenders. In New Zealand only two major banks have so far moved to offer the product, and the amounts lent to date have been small.

The danger inherent in moves to attract more business in the face of a slowing market and more intense competition is that in doing so banks will compromise on their credit standards and lend to less creditworthy borrowers. The additional risks need to be managed and appropriately priced into the cost of the credit offered. We will continue to monitor developments in this area.

3.2 Australian parents of the systemically important banks

The four systemically important New Zealand banks are all Australian-owned. This very concentrated ownership of the New Zealand banking system by Australian banks means that the state of the Australian system is of critical interest. Also, the New Zealand operations of the four banks all represent significant proportions of their parent's global operations, contributing from 10 to 30 per cent of their parent's total annual earnings.

The Australian parents are also the largest four banks in that country, and dominate a banking system that international credit rating agency Standard & Poor's has described as one of the least risky that it reviews.[11] The Reserve Bank of Australia (RBA), in its March 2005 *Financial Stability Review*, noted that Australian financial intermediaries "remain in sound condition".[12]

After-tax profits reported by three of the four banks for their most recent financial year increased strongly from the previous year (table 4). However, in most cases the return on assets was below that reported by their New Zealand subsidiary. Two Australian parents reported returns on assets of less than 1 per cent. Commonwealth Bank of Australia (CBA) has been undergoing a significant restructuring and National Australia Bank (NAB) reported a lower profit. NAB has had to address the poor performance of its UK and Irish subsidiaries (the latter have now been sold), and the issues raised by problems with its foreign exchange options trading.

10 Regulation Impact Statement (RIS) on APS 112 – Capital Adequacy: Credit Risk. Available at www.apra.gov.au/ADI/Regulatory-Impact-Statements.cfm.

11 Standard & Poor's Bank Industry Overview: Australia, 17 November 2004.

12 Reserve Bank of Australia, *Financial Stability Review*, March 2005, p. 23.

Table 4

Australian parent banks

Latest balance date	ANZ 30 Sep 04	CBA 30 Jun 04	NAB 30 Sep 04	Westpac 30 Sep 04
Total assets ($A billion)	259	306	411	245
Net profit after tax ($A million)	2815	2572	3177	2579
Return on average assets (%)	1.1	0.9	0.8	1.1
Return on equity (%)	18.1	13.0	14.0	17.6
Impaired assets/total lending (%)	0.4	0.2	0.5	0.4
Total capital adequacy ratio (%)	10.4	10.3	10.6	9.7
Credit rating (Standard & Poor's)	AA-	AA-	AA-	AA-

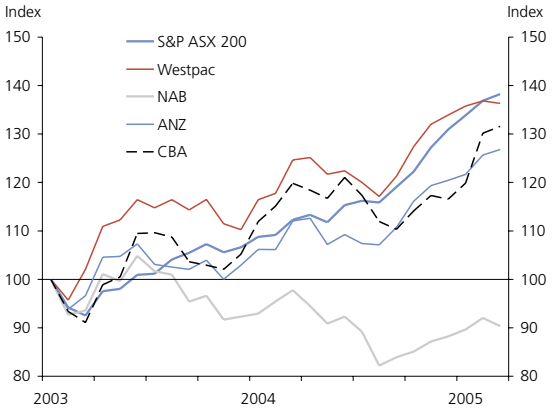
Source: Banks' annual reports. These figures are for the global consolidated bank.

The recent performance of the major Australian banks is reflected in the equity prices of those banks (figure 21).

A notable feature of the major Australian banks' recent financial performance has been a declining contribution to total earnings from net interest income. The entry of new institutions (including non-bank originators of residential mortgages) has contributed to an environment in which the major banks have faced strong competition for both lending opportunities and retail deposits. Consequently interest margins have fallen steadily over the last few years. Competition looks set to remain intense as the economy slows.

Figure 21

Australian bank equity prices



Source: Bloomberg.

The banks have responded to this trend in part by seeking to diversify their income by increasing their involvement in funds management activities. These efforts now appear to be paying off. Non-interest income in general and funds management income in particular are growing as a proportion of total bank earnings.

Sustained cost containment efforts have also helped maintain good financial performance. The cost to income ratios of most of the banks have declined from levels of 60 per cent or more in the 1990s to around 50 per cent, or even lower, in 2004. However, several recent developments including the adoption of international accounting standards, preparations for the implementation of the Basel II capital framework and restructuring by some banks have made it difficult to maintain the low cost to income ratios achieved.

The recently reported results for the six months to March 2005 point to some slowing in profit growth for ANZ Bank and Westpac. In releasing their results, both banks commented on the prospect of a more challenging environment in the future, given a slowing economy and a continuing high degree of competition. CBA's interim results for the six-month period ended 31 December 2004 show a 50 per cent increase in profit from the corresponding period of the previous year, reflecting previous year costs, and benefits from, the bank's restructuring programme, and a strong performance from its funds management business.

Like their New Zealand subsidiaries, the major Australian banks have very low levels of non-performing assets. Impaired assets represent less than 1 per cent of total gross lending. The primary reasons for this good performance are very similar to those for the New Zealand operations: loans secured by mortgages on residential property make up a significant proportion of banks' total assets and banks have been operating in a favourable credit environment due to a well-performing economy.

The RBA notes that there are several reasons why the levels of problem loans could increase in the future.[13] In particular, the RBA notes a trend for banks to adopt new approaches to lending, including 'low-doc' loans, that could carry with them significant risks unless managed carefully.

3.3 Other New Zealand registered banks

The other, non-systemically important New Zealand banks are a diverse group of relatively small institutions. They broadly fit into two groups: three small retail banks (TSB Bank, Kiwibank and St George Bank) and a number of branches of large international banks that in this country mainly specialise in wholesale financial market and corporate activity.

Small retail banks

The small retail banks are all locally incorporated entities, with TSB Bank and Kiwibank the only New Zealand-owned registered banks. Rapid growth in the total assets of these three banks as a group since 2002 (table 5) has been driven by the two new banks that commenced operations over that period – Kiwibank and St George Bank (which trades as Superbank). The financial performance of these two new banks has similarly heavily influenced the overall profitability of the group. Both banks are start-up operations (ie, they had no existing business when they were registered), and both expected that it would take some time to become profitable given the costs involved in establishing a bank and the time it would take to build a customer base. Both banks made progress during 2004, with Kiwibank reporting an initial (first half year) profit. Also, Kiwibank's owner, New Zealand Post, subscribed an additional $15 million of share capital in the first quarter of 2005 to support the bank's expansion.

Although Kiwibank has announced its intention to expand into offering banking services to small businesses, all three of these banks currently concentrate on residential mortgage lending, funded mostly by retail deposits. Residential mortgage lending represents more than 90 per cent of their total lending. The low-risk nature of much of their lending is reflected in exceptionally low levels of impaired assets.

These banks have an important role to play in adding competition and contestability to the New Zealand banking market. They offer important points of difference from the systemically important banks, including New Zealand ownership, a regional focus, a keenness to differentiate their products from those of the major banks, and potentially a lower cost structure. These are features that they share with some non-bank financial institutions that also specialise in providing personal banking services, such as building societies and the PSIS.

The future financial performance of the small retail banks (and their non-bank competitors) will depend in part on the future competitive strategies of the systemically important banks. Recent growth in lending and profits by the small retail banks has been achieved in the context of a well-performing economy when the systemically important banks' lending and earnings have also increased strongly. However, as discussed above, faced with a slowing economy the major banks may look to compete more vigorously in the residential mortgage market. The smaller banks may then face a greater challenge in maintaining their market share and earnings growth.

Table 5

Small retail banks

As at 31 December	2000	2001	2002	2003	2004
Total assets ($ billion)	1.4	1.7	2.2	3.1	4.3
Total lending ($ billion)	0.8	0.9	1.3	2.1	2.9
Net profit after tax ($ million)	17	14	9	6	16
Return on average assets (%)	1.33	0.95	0.46	0.21	0.44
Impaired assets/total lending (%)	0.11	0.10	0.01	0.00	0.01

Source: Registered banks' disclosure statements.

13 Reserve Bank of Australia *Financial Stability Review*, March 2005, pp 27–29.

Table 6

Wholesale banks

As at 31 December	2000	2001	2002	2003	2004
Total assets ($ billion)	29	26	28	26	28
Total lending ($ billion)	12	11	10	10	10
Net profit after tax ($ million)	60	278	378	449	478
Return on average assets (%)	0.25	0.91	1.33	1.65	1.67
Impaired assets/total lending (%)	0.74	2.09	2.12	0.32	0.25

Source: Registered banks' disclosure statements.

Wholesale banks

Overall the total assets of the specialist wholesale banks have not grown over the last few years (table 6). However, within this aggregate performance there is considerable variation. The assets of some of the banks that specialise in corporate advisory work tend to fluctuate quite widely over time. For example, the assets of the New Zealand branches of ABN AMRO Bank N.V. and Deutsche Bank increased significantly over 2004 after falling in 2003.

Although as a group the other non-systemically important banks recorded a strong financial performance in 2004, there was considerable variation in the profitability of these banks. Whereas ABN AMRO and Deutsche Bank both recorded returns on average assets in excess of 2 per cent, the New Zealand branches of Citibank and HSBC both recorded returns on assets of 0.4 per cent. However, this range of results may reflect differences in the business being conducted: fee income from corporate advisory work tends to be less related to the size of the bank's balance sheet.

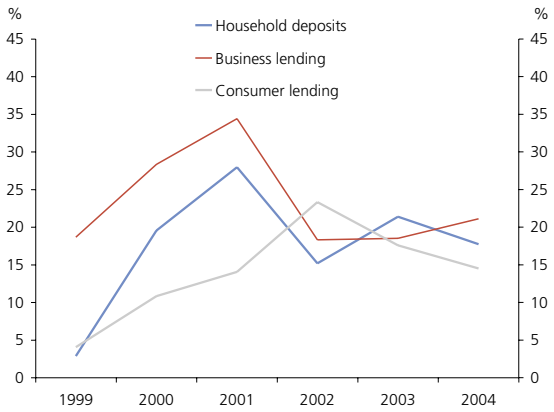
As with the small retail banks, these mainly wholesale registered banks perform a valuable role in the New Zealand banking market. Operating as branches of major international financial institutions allows them to draw on expertise from and the large balance sheets of their parents. They also have direct links to financial institutions in other countries to back the provision of banking products and services to large corporates in New Zealand.

3.4 Non-bank financial institutions

Credit-providing non-bank financial institutions (NBFIs) continued to expand quite rapidly in 2004, following on from rapid growth in recent years. These institutions comprise mainly finance companies, building societies and credit unions (see box 3 for details). While household deposit growth and consumer lending slowed a little from the pace in 2003, business lending growth held up (figure 22).

Figure 22

Deposit and loan growth rates of NBFIs



Source: RBNZ annual and quarterly surveys, adjusted for series breaks, including securitised lending.

While many finance companies are long-established and experienced in consumer and business lending, more than a third lend principally for property investment and development. The latter lenders, as a group, have grown the fastest amongst finance companies, and experience indicates that recent rapid growth can be a marker for greater risk in a slowing economy. Household lending, which is also a large part of the business of many finance companies (and building societies and credit unions), generally poses less risk. Nonetheless, if rapid growth has been achieved by

(continued on p. 24)

Box 3

Smaller lending institutions

Registered banks account for more than 90 per cent of total domestically-sourced credit provision. The remainder is accounted for by a numerous and diverse group of smaller lenders (over 150, including about 60 credit unions). These comprise building societies, finance companies, credit unions, and the Public Service Investment Society (PSIS), which is a co-operative company.

While the NBFI group is much smaller than banks, they are important in particular credit markets. They provide half of consumer credit and over 15 per cent of commercial property lending, with the share of development lending significantly higher (figure 23).

Finance companies

Finance companies have no institution-specific legislation. Rather, they are ordinary companies whose main line of business is the provision of financial services. Finance companies raising funds from the public, like any other company that issues securities to the public, are required to issue a prospectus and an investment statement. The instruments issued often take the form of a debenture, giving investors a first charge over the assets of the company, but unsecured deposits are also offered. (Depending on the terms of the specific contracts, there can be little difference in substance between these alternative forms of investment.)

In broad terms, finance companies comprise two main groups: overseas-owned and domestically-owned. Overseas-owned finance companies are active as providers of vendor finance and more generally. They lend mainly for business and consumer purposes, the latter mainly in connection with car finance, credit cards and general consumer credit. They fund mostly from overseas but also significantly from registered banks, with very little borrowed from households. Their assets in total amount to over $5.5 billion.

Domestically-owned finance companies, with total assets of almost $8 billion, are funded substantially through public offerings of debentures and deposits to households. A few of the more established companies also tap bank funding. Over half of this group's business lending is for property development and investment, with plant, machinery and transport equipment lending comprising much of the rest. Consumer credit, at about half their business lending total, comprises mainly car and hire purchase loans.

Building societies and PSIS

There are about ten active building societies. (The PSIS has a very similar 'savings institution' profile.) These institutions had assets over $3.5 billion at December 2004, with almost 70 per cent of loans for housing. Households are the source of almost all funds, taken as deposits or as building society shares (which in most respects are equivalent to deposits).

To raise funds from the public, building societies and the PSIS must issue a prospectus and an investment statement. These reveal that a few building societies now have less traditional loan portfolios, with less than half lent to households. Others, including the PSIS, continue to lend mostly to households.

Credit unions

There are about 60 credit unions that range widely in size, but in aggregate have assets of around $500 million. All credit unions' lending is to members. Membership eligibility in a credit union is defined by a 'common bond', which may be geographical or occupational. The maximum amount that each member may deposit with a credit union is $250,000. Credit unions' lending activities range from first mortgage housing loans to small short-term unsecured personal loans.

Figure 23

Share of deposits and lending by NBFI group

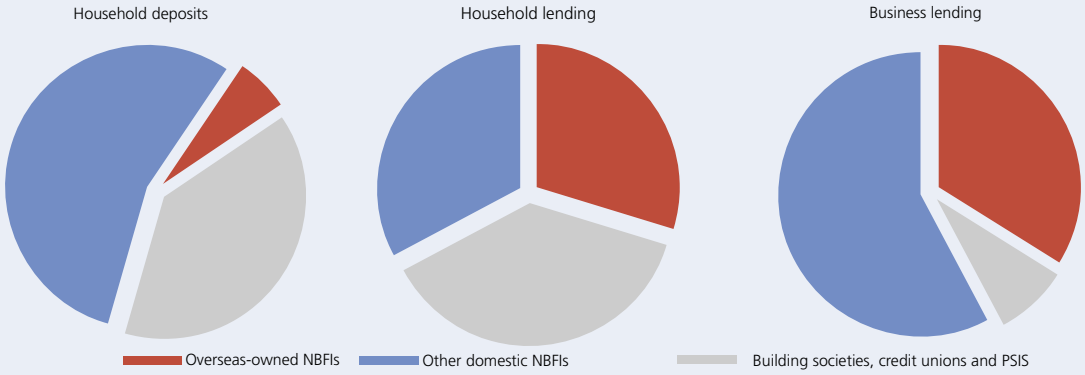
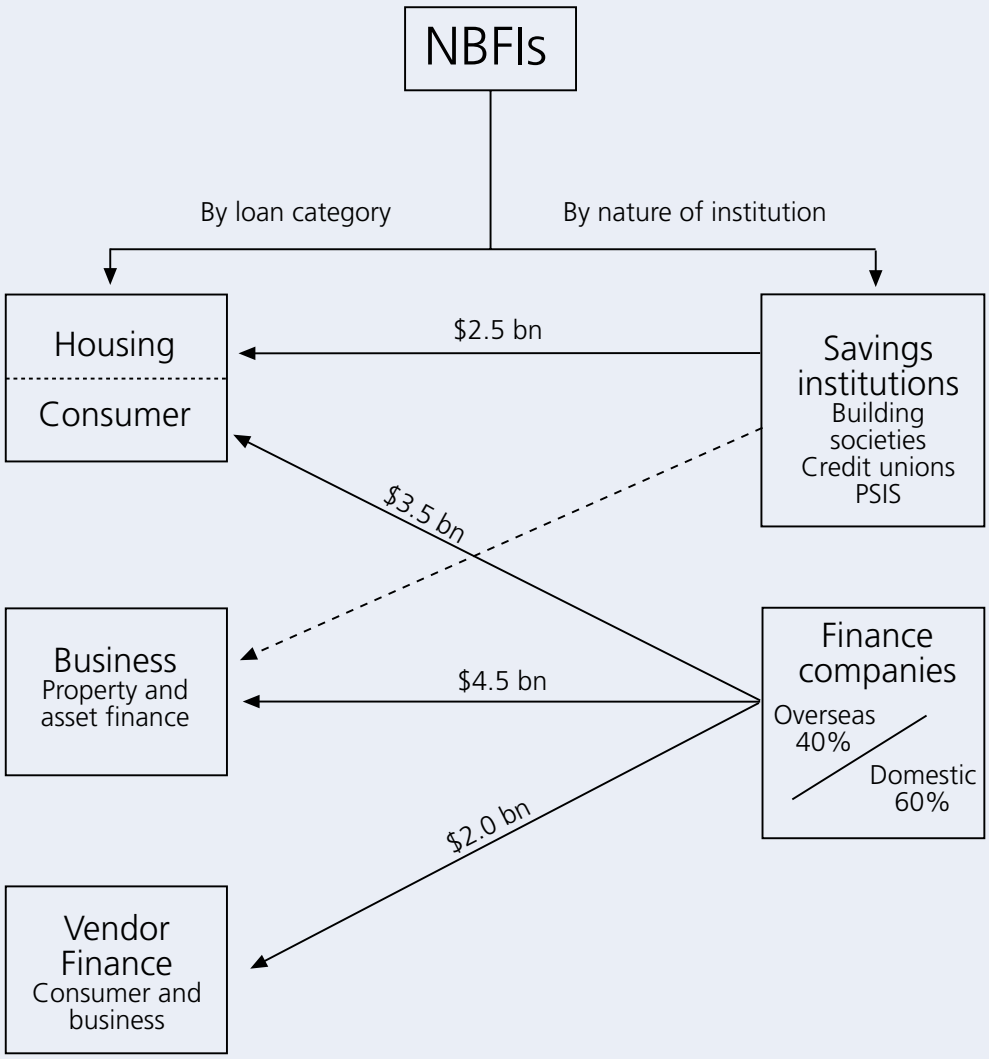


Figure 24

Overview of NBFI sector



Source: Registrar of Credit Unions, RBNZ estimates and balance sheet data from RBNZ December 2004 annual and quarterly NBFI surveys.

lending to high-risk individuals, higher default rates and weaker financial out-turns can result.

Recent interest rate increases will increase the cost of raising funds for finance companies. Available data suggests that the sector as a whole is fairly well-placed to re-price its assets in time to deal with any pressures on interest margins. Therefore, the main challenges for the sector may come from any difficulties that borrowers have in meeting higher debt-servicing costs. A number of domestic finance companies will meet their first real test in an economic downturn. Standard and Poor's was reported this year as saying that recent rapid growth in loan books, the prevalence of many small players, and a lack of diversification in some loan books are warning signs for investors.

In September 2004 the Securities Commission issued a discussion paper on disclosure by finance companies, and pointed to a number of areas where it considered the requirements for disclosure in prospectuses and investment statements were not being adequately met. In April, it followed up with a further paper, in which it largely confirmed its initial views, outlined where better compliance was required, and indicated that it would be taking enforcement action where necessary. We have also noted some expansion in commercial information services available to help investment advisers and investors to make sound investment decisions. Both of these developments should help to promote a more discriminating investor market.

3.5 Life insurance

Life insurers play two roles in the financial system: they enable people to manage the long-term financial risks associated with death or disablement; and they can act as a vehicle for savings and investment. Because life policies are long-term contracts, life companies need to maintain the public's confidence in their ongoing soundness. Without public confidence in insurance intermediaries, there would be a greater tendency for people to under-insure, leaving them more exposed to financial risk.

Overview of the industry

Since the late 1980s, life companies operating in New Zealand have demutualised, and the larger firms have evolved into wider wealth management groups that also deal with general insurance, superannuation and funds management. All but one of the larger life companies are Australian-owned, and some operate as branches in New Zealand. The remaining firms tend to be either branches of international firms or locally-owned 'boutique' firms that specialise in certain products.

Life company assets in New Zealand have been shrinking both in absolute terms and as a proportion of total group funds under management (table 7). There has also been a major change in the relative importance of the products they offer. Whole-of-life and endowment policies have been in decline for many years, and new sales of these products are limited. Most life insurance today takes the form of term life policies, which do not include a saving element.

Unitised life insurance products, such as insurance bonds, represented more than a quarter of client funds in the early 1990s, but now they are also in decline. The decline in the assets held by life companies is partly because the savings role of life policies is increasingly being fulfilled by other managed fund products, such as unit trusts, that are promoted within the same group.

The main risks facing life companies are investment and actuarial risk. Exposure to investment risk has declined as life companies have moved away from selling policies with a saving component, but a substantial number of these policies remain on their balance sheets. Some investment assets also need to be held to cover actuarial risk, as well as any ongoing obligations resulting from claims made under, for example, disablement policies.

Life companies have a number of links to the rest of the financial sector. All of the major banks own life companies, although most of these are quite small. The exception is Sovereign – the largest life company by annual premiums collected – which is owned by CBA and is part of the ASB Group. Banks also have a small amount of financial risk exposure to life company groups, mostly arising from dealing in financial derivatives such as interest rate swaps. Life companies, while not holding investment portfolios as large as in earlier years, are still significant participants in the New Zealand equity and bond markets.

Table 7

Life company funds under management

$ billion	Life insurance		Other funds under management
	Unitised products	Non-unitised products	
Dec 1999	2.27	7.48	19.83
Dec 2000	2.15	7.09	20.80
Dec 2001	2.13	6.60	23.62
Dec 2002	1.75	5.74	20.76
Dec 2003	1.70	6.15	22.52
Dec 2004	1.86	6.35	23.29

'Unitised' is mostly insurance bonds. 'Non-unitised' includes whole-of-life, endowment and term life policies.
Source: RBNZ.

Regulation and supervision

The lead regulator of life insurers is the Ministry of Economic Development, which registers life companies and reviews their annual financial statements. Registered life companies must lodge a $500,000 deposit with the Public Trustee. For policies with an investment component, life companies are also required to issue a prospectus and investment statement under the Securities Act 1978.

The industry is governed mainly by the Life Insurance Act 1908. The Government has acknowledged that the Act is outdated, and in November 2004 the Law Commission published its review of life insurance regulation and supervision.

Recent developments

Globally, the life insurance industry has been through a tough period in the last few years. Insurers enjoyed consistently strong investment returns through the 1990s, which may have led to excessively fine pricing of underwriting risks, with investment returns being relied on to make up the difference. But from early 2000, global equity markets went into a three-year decline, and insurers faced large investment losses.

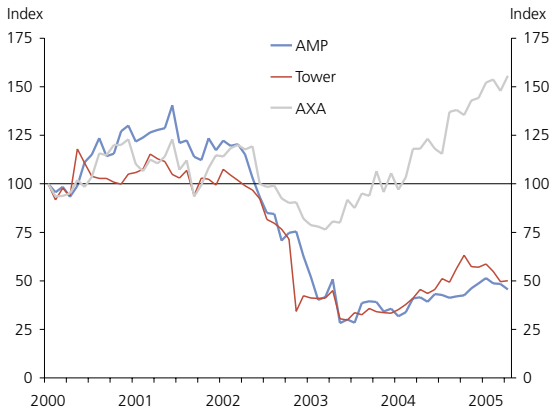
New Zealand insurers tend to be relatively less exposed to international equity markets, so they did not face this problem to the same degree. However, at least two of the larger life companies operating in New Zealand suffered as the result of large losses on direct overseas investments – AMP in the UK, and Tower in Australia. Through a combination of restructuring, recapitalisation and improved investment performance, the industry appears to have stabilised in the last two years.

Timely data on the financial performance of life insurers is limited. Share prices of listed insurers (albeit reflecting the value of the total business, rather than just the life component) highlight the extent of the strain on the industry during 2002–03 and the subsequent improvement (figure 25).

Figure 25

Share prices of listed life companies

Jan 2000 = 100



Source: Bloomberg.

4 New Zealand financial markets

In this chapter we look at the New Zealand government bond and foreign exchange markets.

Overall, the government bond market has been functioning effectively, with steady price-making by the key dealing institutions. However, some 'pockets' of illiquidity have emerged recently, and indications are that these may become a recurring feature in the operation of the market. The Reserve Bank has been considering how it might address this issue, with details expected to be provided to the market in the coming months.

The New Zealand dollar foreign exchange market has also been functioning well, at a time when the exchange rate has been at or about 20 year (and post float) highs. Measures of volatility of currency options prices do not suggest that market participants are experiencing or expecting any degree of market disorder.

4.1 The New Zealand government bond market

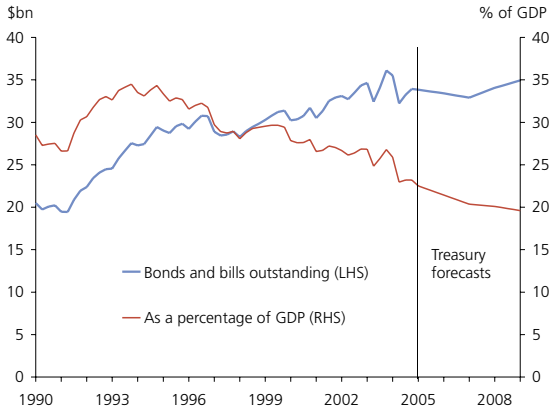
Bonds issued by the Government have a near-zero default risk and are actively traded. These attributes give government bond yields an important benchmark role in the pricing of other fixed interest financial instruments. However, interest rate swaps also serve this role, and are now the main instrument that investors use to speculate on, and hedge, interest rates.[14] Market participants estimate that turnover in the interest rate swap market is now around ten times that for government bonds. Nonetheless, the government bond market will continue to play an important role in New Zealand capital markets, underpinning other markets, particularly during periods of financial stress.

Some recent trends

Supply of government bonds to the market in recent years has been limited. This is the result of the Government running substantial fiscal surpluses, which mostly cover the financing of the Government's investment outlays. The Treasury's December 2004 projections indicate that this position is expected to continue, with the amount of government securities outstanding forecast to remain around current levels over coming years.[15] This means that the amount of government securities outstanding has fallen relative to the size of New Zealand's economy over the last decade, and is forecast to fall further over the next five years (figure 26).

Figure 26

Government securities outstanding



Source: RBNZ, The Treasury, Statistics New Zealand.

Meanwhile, demand for government bonds has been increasing. Banks hold government bonds for two main reasons:

- for prudential (liquidity) purposes; and
- as a source of the liquidity required for real-time settlement of large-value payments.

The demand for government bonds for both these purposes has been increasing. Prudential needs increase as banks' balance sheets grow, and payments-related needs increase as payments volumes increase. Also, the entry of the New Zealand dollar into the Continuous Linked Settlement (CLS)[16] arrangement for settling foreign exchange transactions in late 2004 further increased demand. Because the bonds a bank holds for prudential and payments-related purposes need to be available to the bank at all times, they tend not to be traded in the market.

Demand for government bonds, currently, is also being driven by New Zealand's strong economy, and hence relatively high interest rates. Offshore investors now hold

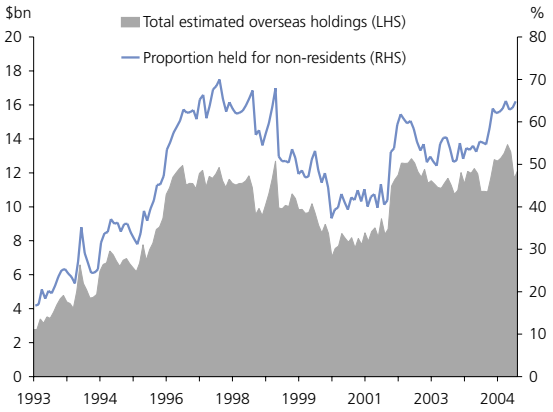
14 An interest rate swap is an agreement between two parties to exchange interest payments on an agreed notional amount. See "A primer on derivatives markets", Reserve Bank of New Zealand *Bulletin*, June 1999, for more details on interest rate swaps.

15 See The Treasury, *December Economic and Fiscal Update 2004*, http://www.treasury.govt.nz/forecasts/defu/2004/. The 2005 *Budget*, which will update the December 2004 projections, is scheduled for 19 May.

16 See the October 2004 *Financial Stability Report* for a discussion on how CLS works.

Figure 27

Offshore holdings of government bonds

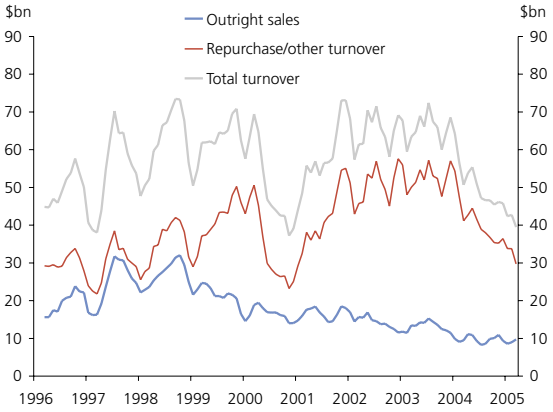


Excludes Reserve Bank and other government sector holdings.
Source: RBNZ.

a higher proportion of the total amount on issue than at any time in the past six years (figure 27). While market participants estimate that over 50 per cent of their trading at the moment occurs with offshore investors, some offshore investors have been unable or reluctant to trade their bonds back to the market.[17] Hence, the upsurge in offshore holdings has, if anything, further detracted from the liquidity of the market.

Figure 28

Monthly government bond market turnover



Three-month moving average.
Source: RBNZ.

17 Some investors have investment covenants that prevent them from entering into repurchase agreements. Also, some investors might choose not to do so because of the operational expense involved.

Overall the market is functioning well

In the October 2004 *Financial Stability Report* we discussed the attributes of a sound and efficient financial market. These include:

- a significant number of active market participants, including investors and market-makers;
- the ability of investors to transact large volumes;
- Low costs of trading, including narrow bid-offer spreads; and
- market prices that move in a steady rather than volatile manner.

In our recent contacts with market participants, a down-trend in market turnover – in both repo and outright transactions – has been increasingly mentioned (figure 28). To some extent this reflects the increasing role of interest rate swaps as an instrument for trading interest rate positions, but it will also stem from the tight supply and demand factors identified above.

Nonetheless, market contacts generally still indicate that they can transact if and when they need to, although with some increase in the potential for large trades to cause bond prices to spike.

The number of market-makers in New Zealand government bonds fell from six to five on the merger of ANZ Bank and the National Bank in late 2004. This potentially reduced the capacity of the market to sustain temporary supply and demand imbalances. But to date, that has been much more of a potential than an actual issue.

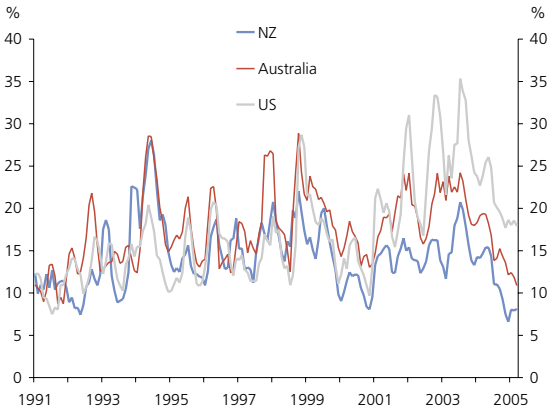
Neither have there been signs of market-makers being less ready to buy and sell at the normal bid-offer spread (of three basis points[18] for a $10 million parcel). If anything, dealers indicate that competition among local banks has resulted in spreads narrowing to very tight levels for offshore and institutional clients, even for larger volumes.

The volatility of ten-year government bond yields has also fallen over the past two years (figure 29, overleaf). Lower volatility is normally associated with a stable and well-functioning market. However, the main driver behind this trend has been the relatively tight range within which global long-term yields have fluctuated during the past two years.

18 A basis point is 0.01%.

Figure 29

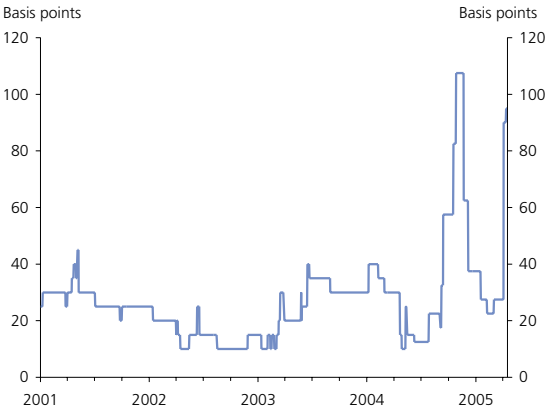
Historical volatility of ten-year bond yields



Annualised, three-month rolling standard deviation.
Source: RBNZ.

Figure 30

Cash rate minus repo rate on July 2009 government bond



Repo rates are indicative only.
Source: Bank of New Zealand.

But there have been 'pockets' of illiquidity

As outlined, despite tight supply and demand, most measures of market liquidity suggest the government bond market has been functioning well. However, over the last year, some 'pockets' of illiquidity have emerged. At times, specific bonds have become very difficult and/or expensive to obtain in the market; something that dealers refer to as a bond 'going special'. When a bond is 'special', its price does not necessarily reflect its underlying value, and its price can become very volatile. With supply likely to remain limited over coming years, market participants foresee a risk of these occurrences becoming more frequent.

A recent instance involved the July 2009 government bond. The difference between the cash rate and the repo rate[19] on the July 2009 bond rose sharply on two occasions in the past year (figure 30).[20] On these occasions, market participants could only obtain the July 2009 bond in the market at a high cost. This was because they faced a binding commitment to settle a contract for which they needed a specific (the July 2009) bond, and there were no ready sellers in the market. The low repo rate reflected the extra premium market participants had to pay to obtain the otherwise unavailable bond.

The potential for bonds to go 'special' can create undesirable incentives in the market. It discourages market participants from taking 'short' positions, that is, from taking positions in a bond that would require delivery of a specific bond at a specific future date. The risk in an illiquid market is that if the dealer does not already hold the bond, they will not be able to obtain it in the market at the required date, and face defaulting on the contract. It can also create incentives for dealers to hoard large amounts of a particular government bond, with an expectation of benefiting from spikes in rates because of its scarcity in the market. Both tendencies could unhelpfully reduce the overall liquidity of the market, at a time when market turnover overall has been declining.

The Reserve Bank has an interest in promoting a well-functioning government bond market, given its pivotal role as by far the most active debt security market in New Zealand. In the light of that role, while the Bank has no strong views on how large or small the market should be, it is motivated to see it remain a well-functioning market.

One step taken by the Bank in support of that objective has been increasingly to use foreign exchange swaps in its daily liquidity management operations with the banks, rather than repurchase agreements. This has the advantage of not

19 The repo rate for a bond is the implied interest rate in a repurchase transaction, where the holder sells the bond for a specified period at one price and simultaneously agrees to buy it back on a specified future date at another price.

20 As suggested by indicative market rates.

withdrawing government bonds from the market when the Bank injects liquidity into the banking system.[21]

However, while this helps the market in general, it does not address the specific 'pockets' of illiquidity described. Hence, the Bank has been considering whether there is a case for it to operate additionally in the market in a way that would more specifically address that issue. The Bank expects to have further contact with the market on this issue in the coming months.

4.2 The New Zealand dollar foreign exchange market

The two dominant themes in foreign exchange markets over the past year or so have been US dollar weakness and strong investment in high-yielding currencies. In early 2005 the New Zealand dollar reached its highest level against the US dollar since the currency was floated in March 1985.[22]

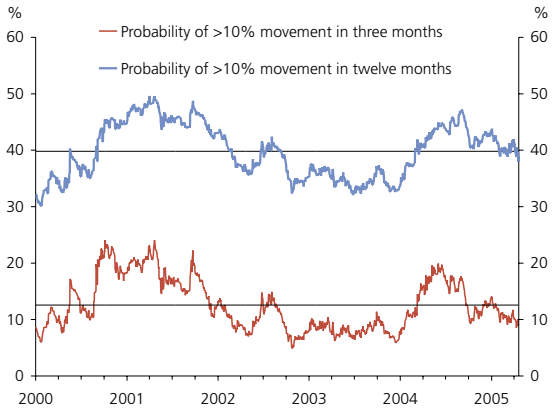
At times when exchange rates are unusually high or low, the risk of foreign exchange markets becoming disorderly tends to receive more attention from commentators. This is no less the case currently, given the extent of global current account imbalances.

Option prices are one way of assessing market participants' perceptions of these risks.[23] Currency options allow investors to buy and sell protection against future movements in the New Zealand dollar and other currencies. If investors feel the risk of a large depreciation or appreciation is high, they will tend to bid up the price of those options.[24]

Currently, New Zealand dollar options prices are showing little evidence of market nervousness. The market

Figure 31

Option-implied volatility of NZD/USD



Source: UBS Warburg, RBNZ calculations.

is presently pricing around a 40 per cent chance that the New Zealand dollar will move more than 10 per cent over the next twelve months, which is in line with the average 'volatility' expectation over the last five years (figure 31). The corresponding probability that the exchange rate will move by more than 10 per cent over the next three months is 10 per cent, slightly below average expectations over the past five years. For comparison, following the US dollar resurgence in mid-2004, these probabilities reached 47 per cent and 20 per cent, respectively.

These indicators point to a continuation of stable market conditions in the period ahead. However, as with most indicators, they can take account only of the information currently known, and always leave open the possibility of unexpected shocks.

21 See "Liquidity management in the New Zealand banking system", Reserve Bank of New Zealand *Bulletin*, December 2004, for more on how the Reserve Bank's choice of liquidity management affects the financial system.

22 The NZD/USD reached 0.7465 on 17 March 2005.

23 We note that the New Zealand dollar options market is relatively small by global standards and so might sometimes show 'noisy' results. However, liquidity appears to be improving judging by turnover statistics from the 2004 BIS triennial foreign exchange turnover survey. The 2004 survey showed that NZD/USD options turnover more than doubled over the previous three years.

24 See "Extracting market expectations from option prices: an application to over-the-counter New Zealand dollar options", Reserve Bank of New Zealand Discussion Paper, 2002/04, for more on the mechanics of these techniques.

5 Recent developments in financial regulation

A number of aspects of financial sector regulation in New Zealand are currently under review and development. This reflects the natural and ongoing process of updating regulation to changing circumstances, as well as, perhaps, that it is now approaching 20 years since the major financial sector reforms in New Zealand in the second half of the 1980s.

Three themes run through the current policy development programme.

The first is the objective of ensuring that New Zealand's financial regulation, and financial regulators, are effective and efficient. These comprise an important part of the infrastructure required to support a vibrant financial sector. This is particularly the case for the financial sector, where public confidence is required for achieving the participation of investors, which in turn is required for the system to play its full role in mobilising and allocating savings.

Second, the last five to six years have seen the development and refinement of international codes and standards covering most aspects of financial regulation. These increasingly define what is regarded internationally as good regulatory practice.

Third, New Zealand has an exceptionally open financial system; for example, over 98 per cent of the assets of the New Zealand banking system are on the balance sheets of branches or subsidiaries of foreign-owned institutions. The foreign owners, overwhelmingly, are based in Australia.

This openness presents particular challenges for financial regulation in New Zealand. These relate, on the one hand, to maximising the benefits from having a very open financial system in terms of competition, access to international capital, and facilitation of cross-border trade by New Zealand firms. On the other, there is a need to ensure that the regulatory regime is appropriate for New Zealand conditions and to ensure that New Zealand authorities could maintain the operation of the financial system locally, should that be required in a crisis. Close attention is being given to these issues in the trans-Tasman context, including in relation to the wider programme of initiatives being pursued by the Government to further develop a Single (trans-Tasman) Economic Market.

5.1 Enhancing trans-Tasman regulation and supervision

The last year has seen the release of two major reports on how best to advance trans-Tasman harmonisation and cooperation of financial regulation. The first of these was a joint report by New Zealand and Australian officials on the development of a framework for closer integration in banking supervision, (see the October 2004 *Financial Stability Report* for summarised details). The second reported on New Zealand's financial system regulation, and was prepared jointly by the New Zealand Treasury, Reserve Bank, and Ministry of Economic Development. Box 4 contains a high-level summary of the report to the Minister of Finance.

Trans-Tasman banking supervision

Earlier this year, in their annual bilateral meeting, the Minister of Finance and the Australian Treasurer agreed to establish a Trans-Tasman Council on Banking Supervision.[25] This Council consists of the respective Treasuries and Reserve Banks of each country, and the APRA. It is chaired alternately by the Secretaries of the two Treasuries, and is represented at the highest level within the member institutions. Its main role is to enhance coordination, cooperation, and harmonisation of trans-Tasman bank regulation, and thereby promote a joint approach to trans-Tasman banking supervision.

While the Council will seek to facilitate the integration of the two markets to the greatest extent possible, this will not come at the expense of the safety, stability and efficiency of either country's financial system. The existence of the Council does not lessen the existing statutory objectives, powers, and responsibilities of the respective authorities.

The Council is to report to Ministers by the end of May on legislative changes that may be required to ensure the Reserve Bank of New Zealand and APRA can support each other in the performance of their current regulatory responsibilities at least regulatory cost.

In addition to the inter-agency work in support of the Trans-Tasman Council, the Reserve Bank of New Zealand has been working with APRA on how best to coordinate aspects of banking supervision operations. A milestone

25 See http://www.beehive.govt.nz/ViewDocument.aspx?DocumentID=22227 for the Terms of Reference for the Council.

Box 4

Review of major financial institutions

Early this year, an officials' working group charged with reviewing the regulation of major financial institutions submitted its report to the Minister of Finance. The working group was asked to report on the efficiency and effectiveness of financial sector in New Zealand, their impact on financial and economic development, and whether this could be further enhanced through some new form of trans-Tasman arrangement. Key findings included:

- Evidence suggests that New Zealand's financial system is efficient and stable, although vulnerabilities remain. Banks are in a strong financial position and have been very profitable over recent years. Delivery of services has kept pace with overseas and market conditions are sufficient to create competitive pressures.
- The Reserve Bank plays an overview role in analysing and reporting on the stability of the financial system. While this role is appropriate, effective coordination amongst regulators, principally the Reserve Bank, Securities Commission and Ministry of Economic Development (MED), is necessary to ensure that potential systemic risks emerging from outside of the banking sector can be detected and acted on. In light of this, the working group considered that the Reserve Bank should continue to produce its Financial Stability Report on a six-monthly basis and that MED and the Securities Commission should be invited to contribute to this report.
- Market discipline (mainly through disclosure) and self discipline (mainly through director attestations) should be important pillars of any banking supervision framework, as is the case currently in New Zealand. However, the working group supported the initiatives being undertaken by the Reserve Bank to enhance its regulatory capacity through improving its ability to detect emerging problems and react accordingly. These include using its powers under section 95 of the Reserve Bank Act to require banks to periodically undergo third party reviews of their financial and accounting systems, risk management systems, internal control and governance arrangements, and undertaking work on crisis preparedness.
- A number of deficiencies have been identified in the regulation of non-bank financial institutions. MED, with input from Treasury and the Reserve Bank, is undertaking a number of reviews in the area of non-bank financial regulation. If these reviews result in changes to supervisory arrangements in the financial sector, then the current institutional arrangements will need to be reconsidered.
- The working group did not consider that moving to a joint trans-Tasman regulator for prudential regulation and supervision is desirable at this time as the benefits are likely to be small and the costs potentially high. However, the working group considered that formalising through a joint trans-Tasman committee, the policy harmonisation, information sharing and coordination work already being undertaken would ensure that the momentum towards greater integration is maintained where appropriate.

development has been the establishment of coordinated arrangements for implementing new capital standards (the Basel II framework) for trans-Tasman banks, in a way that is efficient and effective for both jurisdictions. The Reserve Bank of New Zealand has agreed with APRA the Terms of Engagement for Basel II implementation.[27] The Terms of Engagement sets out the Reserve Bank of New Zealand's and APRA's intent to implement Basel II in a way that maintains each supervisor's right to set its own minimum levels of capital, while at the same time seeking to reduce compliance costs where possible. It also provides that the RBNZ and APRA will conduct supervisory reviews of banks operating in both jurisdictions in a way that makes use of each supervisor's comparative advantage.

Trans-Tasman mutual recognition of security offer documents

A proposed regime for mutual recognition to allow issuers to offer securities in both Australia and New Zealand, using the same offer documents and structure is being developed. A discussion paper outlining the regime was issued jointly by the New Zealand and Australian Governments in 2004. The proposal has received broad support and it is expected that the legal processes required to bring it into effect will be implemented in the coming months. (This initiative

26 The report and associated papers can be viewed at http://www.rbnz.govt.nz/finstab/banking/supervision/index.html.

27 The terms of engagement can be viewed at http://www.rbnz.govt.nz/finstab/banking/regulation/1497871.html.

is part of a broader work programme under the trans-Tasman Memorandum of Understanding on Business Law Coordination.)

5.2 Specific policy developments

The following provides a brief summary of the main areas of current policy development (with references to web sites where more details can be found). It covers developments in banking supervision, in the regulation of the non-bank financial institutions and of financial markets, and some areas of business regulation more generally that have particular relevance to financial institutions and markets. The Reserve Bank has prepared this chapter in conjunction with the Ministry of Economic Development, which has prime responsibility for non-bank and business regulation.

Banking supervision

During the last two years or so the Reserve Bank has been reinvigorating aspects of its banking supervision policies. Those policies are based on three pillars: self discipline (corporate governance); market discipline (disclosure); and regulatory discipline (prudential standards, the main one being a capital standard). Recent developments in banking supervision policy traverse all three of these areas.

Local incorporation policy

This policy requires all systemically important banks in New Zealand (and some categories of retail banks) to be incorporated in New Zealand. It is designed mainly to ensure that the Reserve Bank would have legally certain and rapid access and control over these banks' assets and liabilities in the event of failure. Westpac Banking Corporation, which to date has traded as a branch in New Zealand, announced in December 2004 that it has agreed to locally incorporate. We will be working with Westpac on the details of its incorporation over the coming year.

Outsourcing

In October 2004 the Bank issued a consultation paper setting out a proposed policy on outsourcing by systemically important banks. The purpose of the policy is to ensure that when these banks outsource important functions, they prudently manage the risks involved from not having those functions under their direct control. The core of the proposed policy is that the board of directors of a bank should at all times be satisfied that they have legal and practical control of the bank's core functions. Besides being central to prudent risk management, such a policy helps to ensure that a statutory manager, if ever required, would be able to continue to operate the bank in a way that would, among other things, maintain the circulation of liquidity to the financial system and the wider economy. The outsourcing policy is cast in terms of those objectives, with banks being left with scope to determine how they are achieved. The aim in adopting this approach, over a more specific and prescriptive approach, is to avoid imposing unnecessary constraints on how banks manage the details of their outsourcing arrangements.

Submissions on the consultation paper[28] closed at the end of February, and the Bank is currently considering those submissions.

Bank disclosure requirements

Several amendments to the disclosure requirements for registered banks came into force at the end of March. The amendments facilitate banks' early adoption of international financial reporting standards, and include a number of other changes relating to banks' disclosure of exposures to connected parties, to insurance business, and to concentrations of credit risk.[29]

Bank capital requirements

In June 2004, the Basel Committee on Banking Supervision finalised and released a new framework for establishing minimum levels of regulatory capital for banks. This

28 The consultation paper can be viewed at http://www.rbnz.govt.nz/news/2004/0160640.html.

29 For a fuller summary of the amendments, see "Amendments to bank disclosure requirements", Reserve Bank of New Zealand *Bulletin*, Volume 68, No.1, March 2005. The full description of the disclosure statement requirements, including the recent amendments, is contained in "Registered Bank disclosure statements" *Supplement to the New Zealand Gazette* of 10 February 2005, Wellington: Friday, 11 February 2005 – Issue no. 35.

framework will be phased in over the period 2006–2008. It will replace the Basel Accord developed by the Basel Committee in 1988, which is best known for establishing the minimum standard that banks should maintain capital at a level not less than 8 per cent of their risk exposures. The new framework maintains the 8 per cent minimum standard, but introduces several alternative means of assessing the credit risk, operational risk and market risk against which capital is to be held. These range from simple measurement approaches (similar to those in the 1988 Accord) to advanced modelling approaches. The Reserve Bank has decided that the more advanced approaches, based on banks' internal risk modelling, will be available to banks that meet certain criteria.

The majority of banks in New Zealand are part of banking groups with operations in a number of countries. The Reserve Bank will therefore be liaising with the relevant foreign supervisors to ensure a well-coordinated approach to Basel II implementation for such banks. New Zealand's systemically important banks are all members of banking groups supervised by APRA. Consequently, we have been, and will be, working closely with APRA throughout the Basel II implementation process (see above for details).

5.3 Other financial sector regulation

A number of reviews of specific areas of non-bank financial regulation are currently in train. These include:

- **The Law Commission Report on the Life Insurance Act 1908**: In April 2003 the Law Commission was asked to review the regulatory regime applicable to Life Insurance. The Law Commission published its report in November 2004, and the Government is due to respond by early June.[30]
- **The Taskforce on Regulation of Financial Intermediaries**: This task force was appointed by the Government in November 2004 and asked to report on the regulation required to ensure quality financial information and advice is provided to the investing public. The task force is following a two-part consultative process: issues identification (now complete), and the development of a range of options for addressing the issues identified. It is planning to meet with stakeholders to discuss possible options, and to report back to the Government by mid-2005.[31]
- **The Review of Credit Unions legislation**: The Government has decided to progress changes to the Friendly Societies and Credit Unions Act 1982, in two phases. In the first phase, the requirement that credit unions' membership be based on a 'common bond' will be liberalised, and provision will be made to enable credit unions to group into stronger 'associations' of credit unions. The second phase is expected to address credit unions' legal status and corporate governance arrangements; the way they raise capital; their abiliity to borrow and invest outside their membership; and the mechanisms needed to enable credit unions to convert into a limited liability company.[32]

These three areas of policy development will be taken forward from their present stage as part of a more general review of the regulation of financial products and product providers. This will also include the fourth part of the Government's Securities Law Reform Programme, which is a review of the Securities Act 1978. The objective is to establish a consistent regulatory framework for the regulation of insurance (life and general), collective investment schemes, non-bank financial institutions, and investment advisers. Related to this review will be consideration of the institutional arrangements for New Zealand's financial regulators.

Other areas of business regulation that have particular relevance to the financial sector include:

The Securities Legislation Bill

The Securities Legislation Bill focuses on securities trading law (ie, the trading of securities on securities exchanges. The Bill is currently before the Commerce Select Committee and

30 See www.med.govt.nz/buslt/ins-sup/life-insurance/index.html

31 See www.med.govt.nz/buslt/bus_pol/task-force/index.html

32 See www.med.govt.nz/buslt/bus_pol/bus_law/credit-unions/index.html

is due to be reported back to the House in June 2005. It is anticipated that the Bill will have an enactment date of November 2005.[33]

The Review of the Financial Reporting Act

The Ministry of Economic Development is currently reviewing the Financial Reporting Act 1993. A discussion document, released in November 2004, canvassed a variety of issues, including the institutional and enforcement arrangements related to financial reporting, the scope of who should be required to report publicly, and several issues associated with the mechanics and practicalities of financial reporting. It also asked for preliminary views on the regulation of auditors and auditing standards. Submissions closed on 25 February 2005, and are currently under consideration. It is expected that recommendations will be made to the Minister of Commerce by the middle of the year.[34]

Anti-money laundering regulations

In October 2003, the Financial Action Task Force (FATF) and Asia Pacific Group on Money Laundering (APG) conducted an assessment of New Zealand's anti-money laundering/countering the financing of terrorism (AML/CFT) framework.[35] The assessment formed part of the IMF's Financial Sector Assessment Programme (FSAP) review of the New Zealand financial system conducted in November 2003.

The Government has indicated that measures will be implemented to address issues expected to be raised in the assessment report, and arising from more recent developments in international standards in this area. Initiatives under consideration include:

- strengthening customer due diligence requirements for financial institutions;
- a registration regime for money transfer and currency exchange service providers;
- requirements to attach originator information to wire transfers;
- introduction of mandatory requirements regarding financial institutions' internal AML/CFT procedures and controls;
- strengthening 'fit and proper persons' criteria for senior managers and directors of financial institutions; and
- the establishment of a comprehensive monitoring framework to ensure institutions' compliance with AML/CFT requirements.

It is expected that a public consultation paper will be issued by the Ministry of Justice shortly.

33 See www.med.govt.nz/buslt/bus_pol/bus_law/securities/bill/index.html

34 See www.med.govt.nz/buslt/bus_pol/bus_law/corporate-governance/financial-reporting/index.html

35 Although FATF revised its international AML/CFT standards in 2003, the New Zealand assessment was based on the FATF standards applying prior to 2003.

6 The payment system

The payment system is the set of arrangements that enable banks, businesses and consumers to transfer money from one to another. Most transactions in the economy involve a financial payment, and the infrastructure that enables these payments to be made with reliability and integrity is of fundamental importance to the functioning of a modern economy. Most people probably take the payment system for granted, and do not appreciate the scope and complexity of its underpinnings, or the risks that need to be managed in order to keep it functioning even in conditions of stress. The financial flows through the payments system are very large – more than $35 billion crosses the Reserve Bank's accounts on an average day. A robust payment system is one of the core infrastructures required for financial stability.

In the last 20 years the New Zealand payment system has been transformed through technological innovation, in terms of both the services provided to customers and the management of risks. As a result, it is a more robust system today, although it still faces some issues and challenges for the future.

6.1 Development of the payment system

Historically, bank processes involved collecting all the transactions entering the banking system each day, crediting and debiting customer accounts, and aggregating all the amounts to work out the net amount each bank was due to pay or receive via Reserve Bank accounts at the end of each day. This system was operationally very reliable, but it did involve some large potential risks – in particular, the rules and processes which would apply if a bank failed to settle the net amount due were potentially very disruptive for other (survivor) banks, and for their customers.

In the early 1990s, the Reserve Bank commenced to develop a programme for risk reduction in the payment system. This was motivated partly by its central banking role in the payment system, and also by its relatively newly-acquired responsibility for the prudential supervision of banks (with the aims of maintaining a sound and efficient financial system, and avoiding the damage that could be caused by a bank failure). The objective from the outset was to ensure that payment system risks were identified, monitored, and managed appropriately.

The programme has been developed and implemented in close cooperation with the banking industry, which shares the Bank's interest in appropriate risk management. Some major changes have been implemented over the last decade, which have greatly reduced the risks in the system, and also provided better systems for managing the risks that remain. Recently, the Bank's interest in the payment system has been recognised by extending the Bank's statutory powers to cover this area explicitly. While there is still some unfinished business, a great deal has been achieved to date.

The importance of payment systems to modern economies was formalised internationally in 1999 when the Basel-based Committee on Payment and Settlement Systems first issued draft standards for systemically important payment systems.[36] These principles overlapped substantially with the objectives that the Bank had already established, and New Zealand has a very high degree of compliance with the principles.[37]

6.2 Roles and responsibilities

It is evident from the structure of the system (see Box 5 overleaf) that the Reserve Bank has a number of different roles in the payment system.[38] These are:

- Issuer of currency;
- provider of Exchange Settlement Accounts – the accounts which commercial banks maintain with the Reserve Bank so that they can settle interbank obligations;
- ESAS operator – providing the system which enables real-time gross settlement of transactions across the accounts at the Reserve Bank;
- implementer of monetary policy – which involves managing the overall liquidity of the banking system using the parameters determined by monetary policy settings;

(continued on p. 38)

36 See http://www.bis.org/publ/cpss43.htm for the current version of the Core Principles.

37 See 'Recent developments in the payment system', Reserve Bank of New Zealand *Bulletin*, March 2003, for more details on New Zealand's compliance with the Core Principles.

38 See http://www.rbnz.govt.nz/payment/0154525.html for a more detailed description of the Reserve Bank's roles and responsibilities.

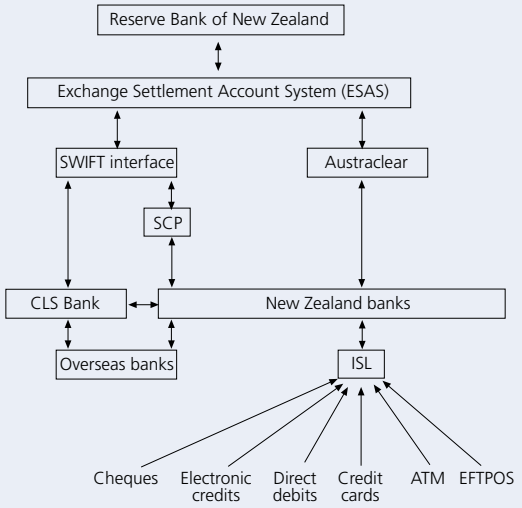
Box 5

Structure of the New Zealand payment system

The payment system has a number of different components to handle the different types of payment, which have varying attributes. An overview of the structure of the system is provided in figure 32.

Figure 32

Structure of the New Zealand payment system



Note: This diagram oversimplifies some features of the system, particularly the routing of some 'retail' transactions, which may be handled within individual banks rather than passing through ISL.

The main components of the system are as follows:

Exchange Settlement Account System (ESAS)

ESAS is a Reserve Bank owned and operated system, which maintains the commercial banks' accounts at the Reserve Bank on a real-time basis. Payment instructions submitted by the banks are settled finally and irrevocably when sufficient funds are available, a process called real-time gross settlement (RTGS). The Reserve Bank provides liquidity within the system during each day through automated purchases of securities, which are repurchased by the banks at the end of each day ('autorepos'). This enables large transaction volumes to be handled efficiently.

Exchange settlement accounts are currently held by some registered banks, the Crown, and CLS Bank (see next page). Non-banks are not precluded from holding accounts, but none to date has found any good reason to do so.

The average daily number and value of transactions through ESAS in 2004 are shown in table 8. The peak daily flow was $49.4 billion.

Austraclear

Austraclear is a system licensed to, and operated by, the Reserve Bank that provides a depository for debt and equity securities, and the facility to transfer these securities on a real-time delivery versus payment basis. Cash payments that do not involve a security transfer (and vice versa) can also be made. Payments are final and irrevocable once settled across ESAS. Austraclear also provides the platform for the automated liquidity provision described above.

Austraclear contains virtually all the tradable debt securities in the New Zealand market, and a high proportion of the equities on issue. Reflecting this, there are 329 members, including all wholesale financial institutions and most large companies.

Same-Day Cleared Payment Service (SCP)

SCP is a system owned and operated by the banking industry that is used to process payments between banks, and between bank customers, on a real-time basis. The technical infrastructure for SCP is provided by the Reserve

Table 8

Transaction flows through ESAS in 2004 (excluding autorepo transactions)

	Average daily number	Average daily value ($ billion)
SWIFT (SCP and CLS Bank)	3239	28.3
Austraclear	834	7.2
Total	4072	35.4

Source: RBNZ.

Bank. Payments are submitted to ESAS using the SWIFT network, and are final and irrevocable.

The members of SCP are the nine registered banks that are most involved with the provision of payment services.

CLS Bank International (CLS)

CLS Bank International is a New York company owned by a number of large international banks, which provides a payment versus payment system for settling foreign exchange transactions. It substantially reduces settlement risk and economises on the liquidity required to make foreign exchange settlements. It works by collecting payment instructions from member banks, and matching and combining these into net pay-in requirements which each member is then required to provide. Payouts to members are only made when the funds have been received, so that credit risk is eliminated.

CLS Bank receives payments from New Zealand banks, and makes payments to them using its exchange settlement account at the Reserve Bank and ESAS, accessed via the SWIFT network.

The New Zealand dollar joined the CLS Bank system in December 2004. In the March quarter of 2005, the average daily value of New Zealand dollar transactions settled through CLS Bank was $25 billion. This represents approximately two-thirds of total New Zealand foreign exchange transactions, and suggests that CLS Bank has quickly achieved a higher penetration in the New Zealand market than in any other country.

Interchange and Settlement Limited (ISL)

ISL is the central retail payment processing switch in New Zealand. The system is used to interchange cheques, direct debits and credits, and some other kinds of transactions. It does not process all retail transactions, as some of these are handled within individual banks. It is owned by eight registered banks via a limited liability company.

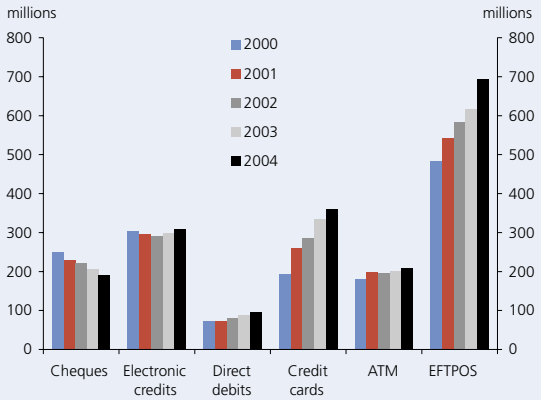
ISL operates on a batch rather than real-time basis. Transactions from all sources are aggregated, and settlement positions are advised to the participants who arrange inter-bank settlement through Austraclear on a bilateral net basis at the end of the banking day.

The owners of ISL set the rules governing its operations, including access requirements, transaction pricing, and the contractual arrangements. At present, the participants are eight registered banks who are members of the New Zealand Bankers' Association (NZBA). In addition, some non-bank financial institutions have agency arrangements in place with participant banks. The average daily transaction flow through ISL in 2004 was $6.0 billion.

Recent trends in the numbers of retail payments are shown in figure 33. The figures need to be interpreted with caution, but it is particularly notable that cheque usage has now fallen to little more than 10 per cent of the number of transactions, down from more than 50 per cent a decade earlier. EFTPOS and credit card transactions have steadily expanded in recent years. The 'flat' numbers for electronic credits and direct debits may reflect the fact that some efforts have been made in recent years to divert high-value transactions out of ISL and into the RTGS payment streams (SCP and Austraclear). In 2004, the NZBA reports that there were 50.8 million 'internet banking' transactions, and 131.8 million 'PC banking' transactions, illustrating the rapid penetration of these access methods.

Figure 33

Non-cash payments – number of transactions



Source: New Zealand Bankers' Association.

- system liquidity manager – where the Bank provides liquidity facilities intra-day to facilitate the efficient operation of settlement systems;
- provider of Austraclear, a system offering depository, wholesale registry, securities transfer and cash payment services;
- user – the Bank uses the payment system for its own transactions; and
- supervisor and regulator – the Bank's oversight role is discussed further below.

Many parts of the domestic payment system are owned and operated by the private sector, involving a number of different entities, including ISL and the companies operating the EFTPOS and credit card networks. These generally operate as conventional companies, with rules determined by contractual arrangements rather than legislation. Similarly, the rules applying to different payment products are generally specified in private contracts. An exception is for cheques, where specific legislation exists. In addition, a number of pieces of general legislation can have application to banking transactions, including, for example, the Consumer Guarantees Act, the Credit Contracts and Consumer Finance Act, the Electronic Transactions Act, and the Fair Trading Act. All of the industry arrangements are also subject to the competition provisions of the Commerce Act.

An important role is played by the New Zealand Bankers' Association (NZBA) and its Payment System Committee (PSC). This Committee agrees the rules and procedures for processing some types of payments, and generally coordinates the banking industry's approach to policy and operational issues in the payment system. The Reserve Bank participates in the PSC in an observer capacity.

NZBA is also responsible for the Code of Banking Practice, which is an industry-developed set of standards of conduct which all signatories bind themselves to observe. The Code is supported by the Banking Ombudsman, an office funded by the industry, which has a dispute resolution role between customers and banks in relation to amounts up to $120,000 in most cases.

6.3 Risk reduction

The Bank's overriding financial system objective is to encourage financial system efficiency and soundness, and to reduce the damage that could arise from a bank failure or other financial system distress. The Bank also aims to minimise the risk or the perception that either the Government or the Bank may be expected to bail out any financial institution that encounters difficulties.

With respect to the payments system, the Bank has been pursuing several interrelated specific objectives:

- To ensure that payment system risks are reduced to acceptable levels, and are managed appropriately by system participants.
- To ensure that the payments system can continue to operate without disruption in the event of the sudden withdrawal of a participant from the system, or following other types of financial crisis, or following natural disasters etc.
- To encourage movement towards delivery versus payment arrangements in all financial markets – especially with respect to high value transactions.
- To help ensure that the status of payments is certain at all times, and, in particular, that the legal environment supports 'finality' and 'irrevocability' in payment instructions.
- To encourage banks and others to offer efficient, reliable and relevant payments services to their customers.
- To maintain an open, flexible and competitive system, and ensure that no unwarranted entry or operational barriers exist.

While the Bank's interest is in financial system stability, it has concentrated on the affairs of registered banks – and its formal supervisory jurisdiction has, until recently, been limited to registered banks. However, the Bank also has a significant interest in the affairs and rules of individual payment systems and any other agreements relating to payment clearing and/or settlement – since these can have a direct impact on systemic stability, and because they interconnect banks in a variety of ways which may involve risks.

In 2003 a new section (Part 5B) was inserted in the Reserve Bank Act, giving the Bank formal jurisdiction over

the payment system for the first time. The Bank's new powers are primarily to obtain and publish information: they give the Bank the ability to throw the spotlight on any issues of public interest. The powers must be used for the purpose of promoting a sound and efficient financial system. It is envisaged that this will formalise what has already been happening, but it does give the Bank additional leverage if material issues of concern are identified, or are not satisfactorily addressed. The Bank expects to consult with the industry soon as to how these powers might be exercised.

Since 1995, the Bank has been the Administrator of the Bills of Exchange Act and the Cheques Act. A banking law reform project, which amended these Acts and repealed the Banking Act, was completed in 1995. No further reviews of these Acts are currently planned.

A considerable amount of intra-day risk has existed in the past because transactions (some of which were irrevocable) were settled on a deferred multilateral netted basis, underpinned by failure-to-settle rules which were unsatisfactory from a systemic perspective. The Reserve Bank considered that risk reduction – to the extent necessary – could be achieved through some or all of the following methods:

- Moving transactions onto a real-time gross settlement (RTGS) basis, where settlements are final and irrevocable at the point when they occur. This was implemented in 1998 for domestic high value transactions, and the entry of the New Zealand dollar to CLS in 2004 has achieved the same outcome for the inter-bank settlement of many foreign exchange transactions. The earlier figures show that we now have $35 billion per day moving through these systems. Recently, a new Part 5C of the Reserve Bank Act has provided for the designation of certain payment systems to provide greater assurance about the finality of payments across these systems.
- Adopting legally robust bilateral or multilateral netting arrangements for certain transactions. The Bank promoted netting legislation to facilitate this. The new Part 5C also protects netting arrangements within designated payment systems.
- Adopting legally and financially robust failure-to-settle arrangements in respect of any payment streams which continue to involve deferred settlement. The Bank has actively promoted, and actively participated in, a comprehensive review of these rules within the NZBA, and this work is now well advanced.

6.4 Future issues

The last decade or two has seen some major changes in the payment system – notably the large scale migration from paper-based to electronic processes, markedly improved local and global customer access to national payment services, and major gains in terms of risk-reduction (table 9, overleaf). These trends still have some distance to run, but future changes may involve moves towards greater sophistication rather than radical change. New participants and new service providers can be expected to emerge from time to time, and the system should be open to innovation and improvement. But it is also of interest that the oldest payment technology – currency – remains in widespread use (indeed the value of currency on issue continues to grow). Longstanding forecasts of a 'cashless society' have yet to be realised.[39]

With regard to settlement risk management, much has been achieved, with the introductions of RTGS and CLS being particularly significant steps. The main outstanding issue in this area is to complete the revision of the failure-to-settle rules in the (mainly retail) systems that continue to rely on deferred settlement rather than real-time settlement. This work is well advanced in the NZBA, and the Bank looks forward to a successful conclusion that will provide a high degree of certainty as to the status of transactions at all points in the process. At that time, any residual credit risks will be clearly identifiable, and they will need to be managed appropriately.

In the near future, the Bank will be developing a framework for implementing its new statutory powers for oversight of payment systems, and consulting with the industry on its proposals. In most respects this framework is

39 For a discussion of some of the issues involved with electronic 'money' see: http://www.rbnz.govt.nz/speeches/0030141.html

likely to formalise past practices, although consideration of likely future issues may add some new dimensions.

In the medium term, risk management issues in the payment system are likely to involve a continual focus on maintaining the integrity of the system, and its resilience in the face of disruptions – whether caused by technological failures, natural disasters, or deliberate attacks. The increased reliance on sophisticated electronic systems is a source of both strength and weakness – strength in that the systems can be designed to be very robust and problems can be detected very quickly; and weakness in that there is a high degree of dependence on the systems, increased vulnerability to technological attacks, and limited fall-backs if the systems are compromised. These considerations emphasise the importance of underpinning all the components of the payment system with robust and well-tested business continuity plans, and continual vigilance and renewal in preventing, detecting and responding to security breaches or any other threats to integrity. These are likely to be areas of increased focus for the Reserve Bank in future. It is essential that public confidence in the payment system is maintained.

Table 9

Some key payment system developments

1979	First ATM installed.
1979	First credit cards issued.
1984	EFTPOS emerged in the NZ retail scene.
1987	Development of the Kiwi Inter-bank Transfer System (KITS) for handling some high-value payments.
1989	RBNZ Act – no explicit reference to payment systems.
1990	Austraclear system introduced under licence to RBNZ.
1990	RBNZ raised concerns about payment system risks with NZBA.
1992	ISL became operational.
1992	NZBA Payment System Committee formed – RBNZ as observer.
1995	Banking law reform project completed – repeal of Banking Act, and amendments to cheques law.
1998	ESAS introduced and RTGS implemented.
1999	Netting and payments finality legislation passed.
1999	Consultations with payment switches initiated.
1999	Committee on Payment and Settlement Systems (CPSS) Core Principles draft issued.
Y2K	Extensive contingency planning/BCP testing.
2000	KITS decommissioned, SCP commenced.
2001	NZBA Failure to Settle project formally commenced
2001	RBNZ raised access and governance issues with NZBA.
2003	RBNZ Amendment Act – provided for payment system oversight and designation.
2004	ESAS and Austraclear designated under Part 5C of the Reserve Bank Act.
2004	New Zealand dollar enters CLS.

Graphical appendix[40]

International

Figure A1a

Real GDP growth

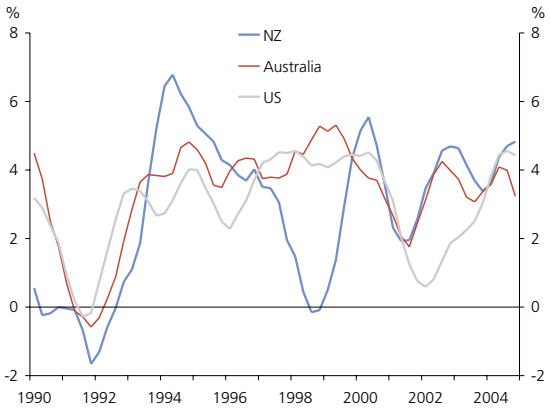


Figure A1b

Real GDP growth

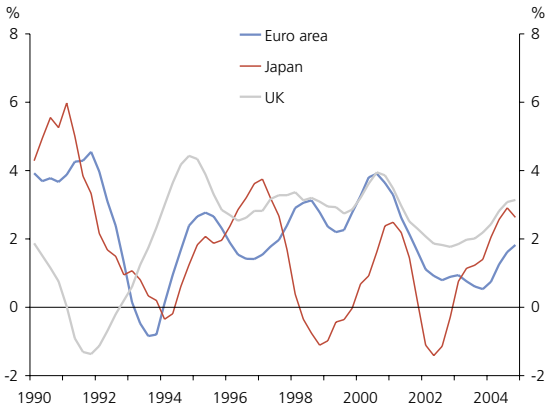


Figure A2a

Current account balance

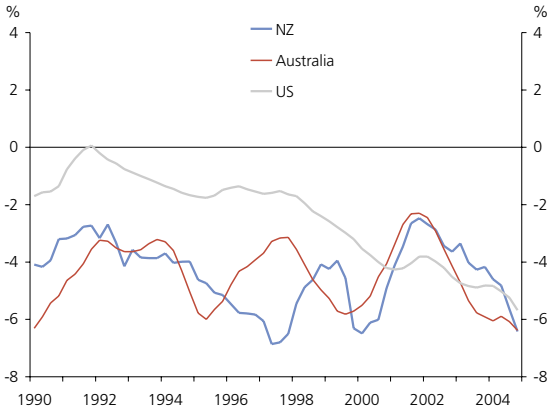


Figure A2b

Current account balance

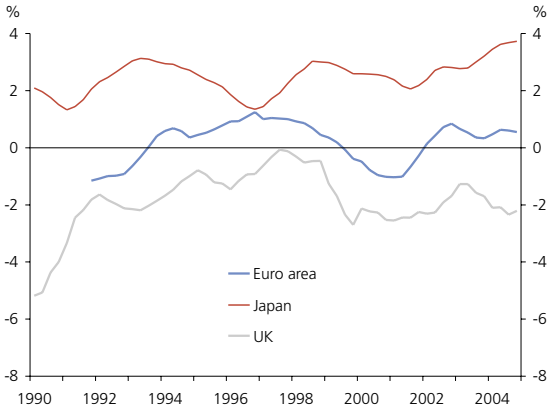


Figure A3

Trade-weighted exchange rate indices

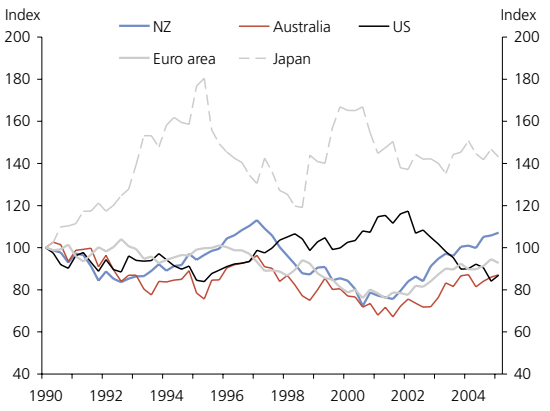
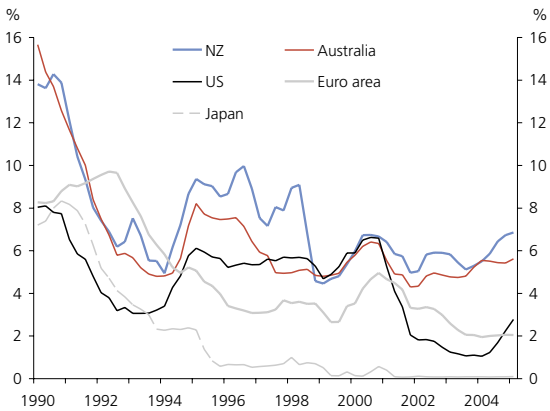


Figure A4

Short-term interest rates



40 Definitions and sources are listed on pp. 49-50.

Asset prices

Figure A5

Equity market indices

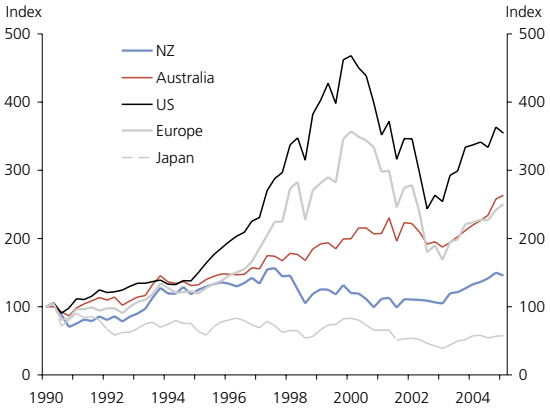
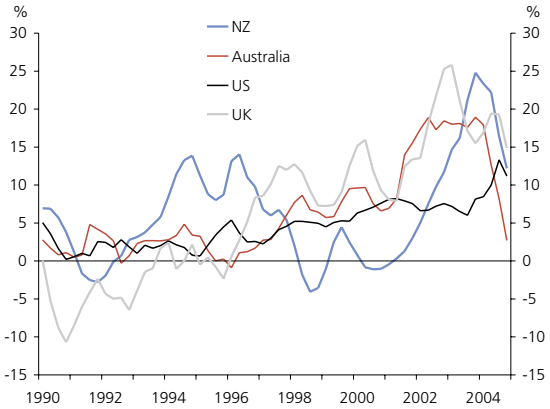


Figure A6

House price inflation



New Zealand

Figure A7

Household debt and servicing costs

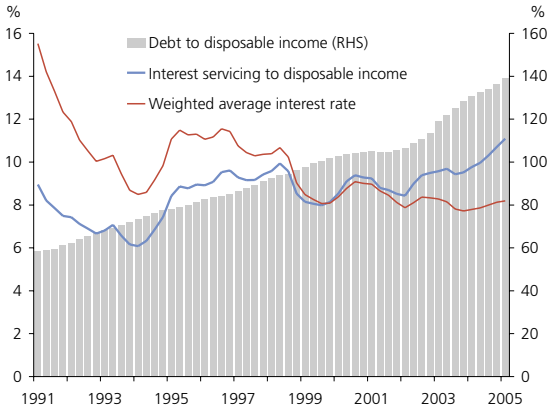


Figure A8

Household assets and liabilities

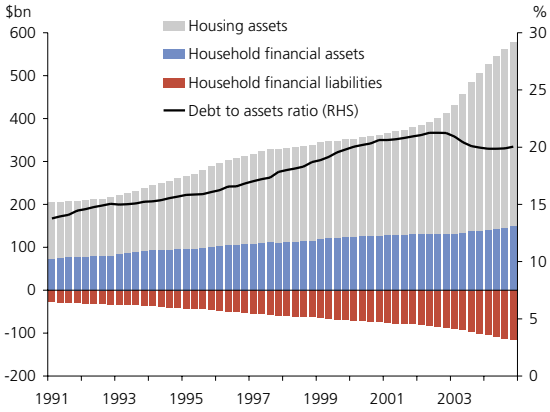


Figure A9

Property price inflation

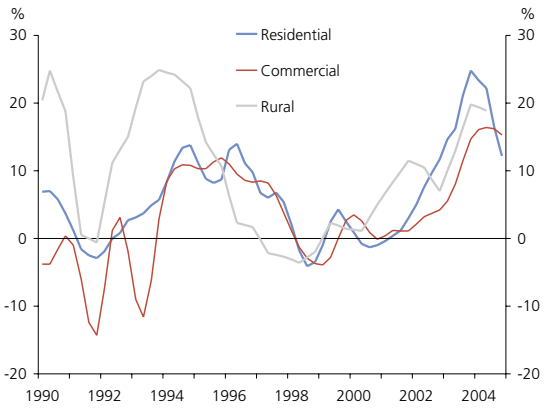
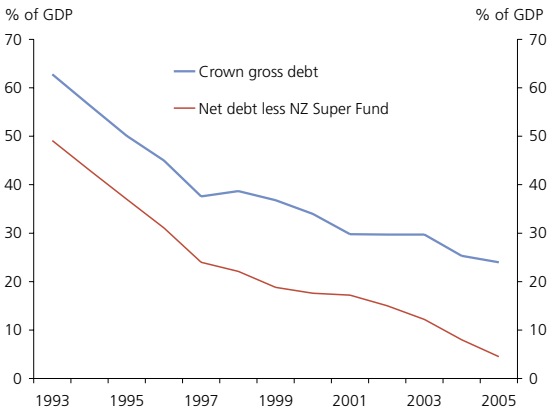


Figure A10

Government debt



New Zealand financial system assets and liabilities

Table A1

Financial system liabilities

$ billion	1990	1995	2000	2004
Banks				
Households	28	37	41	56
Other domestic sources	25	30	41	83
Non-residents	11	22	56	73
All other liabilities	7	9	42	24
Total	**71**	**98**	**180**	**236**
Other deposit-taking institutions				
Households	3	4	4	9
Other domestic sources	1	1	3	2
Other funding and liabilities	1	1	2	7
Total	**5**	**6**	**9**	**18**
Funds under management				
Household assets	25	41	56	53
Other sector assets	2	2	4	7
Total	**27**	**43**	**60**	**60**
Total financial system liabilities	**103**	**147**	**249**	**314**

As at 31 December. Source: RBNZ.

Table A2

Financial system assets

$ billion	1990	1995	2000	2004
Banks				
Households	20	41	66	103
Other domestic	36	45	72	91
General Government	8	6	7	6
Non-residents	2	2	17	22
All other assets	5	4	18	14
Total	**71**	**98**	**180**	**236**
Other deposit-taking institutions				
Households	2	3	4	7
Other sector loans	2	2	4	8
Other assets	1	1	1	3
Total	**5**	**6**	**9**	**18**
Funds under management				
Domestic fixed interest	na	na	27	24
Domestic equities	na	na	7	9
Domestic other	na	na	4	5
Overseas investments	na	na	22	22
Total	**27**	**43**	**60**	**60**
Total financial system assets	**103**	**147**	**249**	**314**

As at 31 December. Source: RBNZ.

Table A3

New Zealand registered banks as at 30 April 2005

Registered bank's name	Market share(1)	Credit ratings		Parent	Country of parent
		S&P	Moody's		
ABN AMRO Bank NV	0.4	AA-	Aa3	branch (2)	Netherlands
ANZ National Bank Limited	32.1	AA-	Aa3	ANZ Banking Group Limited	Australia
Commonwealth Bank of Australia	1.1	AA-	Aa3	branch (2)	Australia
ASB Bank Limited	15.4	AA-	Aa3	CBA	Australia
Bank of New Zealand	17.5	AA-	-	NAB	Australia
Citibank N A	0.9	AA	-	branch (2)	USA
Deutsche Bank A G	5.9	AA-	Aa3	branch (2)	Germany
Kiwibank Limited	0.6	AA-	-	NZ Post	New Zealand
Kookmin Bank	0.1	BBB+	A3	branch (2)	South Korea
St. George Bank New Zealand Limited (3)	0.2	BBB-	-	St. George Bank Limited	Australia
Rabobank Nederland	0.3	AAA	Aaa	branch (2)	Netherlands
Rabobank New Zealand Limited	1.5	AAA	-	Rabobank Nederland	Netherlands
The Bank of Tokyo- Mitsubishi, Ltd	0.1	A-	A1	branch (2)	Japan
The Hongkong and Shanghai Banking Corporation Limited	2.6	-	Aa3	HSBC Holdings	UK
TSB Bank Limited	0.9	BBB-	-	Taranaki Community Trust	New Zealand
Westpac Banking Corporation	20.4	AA-	Aa3	branch (2)	Australia

(1) Registered banks' assets as a proportion of the total assets of the banking system, as at 31 December 2004.
(2) The New Zealand registration is for a branch of the overseas bank.
(3) A joint venture with Foodstuffs NZ, controlled by St George Bank Ltd.

Table A4
Selected NBFI assets and liabilities

as at 31 December 2004	Overseas-owned NBFIs		Domestically-owned NBFIs		Building societies and PSIS		Total NBFIs
	$m	Share	$m	Share	$m	Share	$m
New Zealand dollar funding							
NZ resident households	568	7%	4424	54%	3190	39%	8183
Other funding	1130	49%	1106	48%	80	3%	2316
Non-residents	2865	95%	69	2%	72	2%	3006
Total NZD funding	4563	34%	5599	42%	3270	24%	13431
Foreign currency funding	218	77%	64	23%	0	0%	282
Other liabilities	575	70%	186	23%	58	7%	819
Capital and reserves	75	6%	864	72%	267	22%	1206
Total liabilities	5431	35%	6713	43%	3595	23%	15740
Lending							
Farm lending	13	2%	328	42%	440	56%	781
Business lending	2193	35%	3500	56%	551	9%	6243
Housing lending	158	7%	22	1%	2090	92%	2270
Consumer lending	1938	53%	1517	42%	181	5%	3635
Total NZD loans by sector	4302	33%	5367	42%	3262	25%	12929
Foreign currency loans	121	65%	64	34%	0	0%	186
All other loans and assets	1008	38%	1282	49%	333	13%	2625
Total assets	5431	35%	6713	43%	3595	23%	15740

Source: RBNZ NBFI SSR. Includes NBFIs with total assets exceeding $100 million.
Totals may not add due to rounding.

Banking sector indicators

Figure A11

Capital adequacy ratios

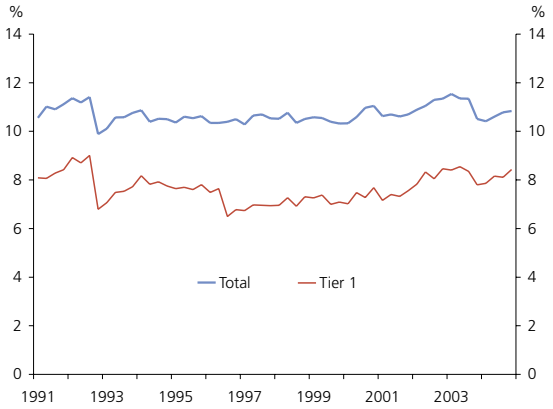


Figure A12

Asset quality

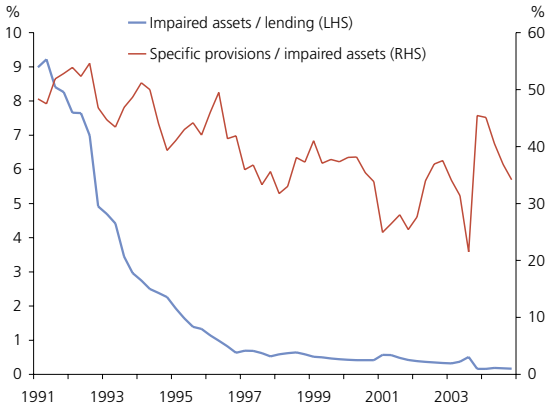


Figure A13

Return on assets

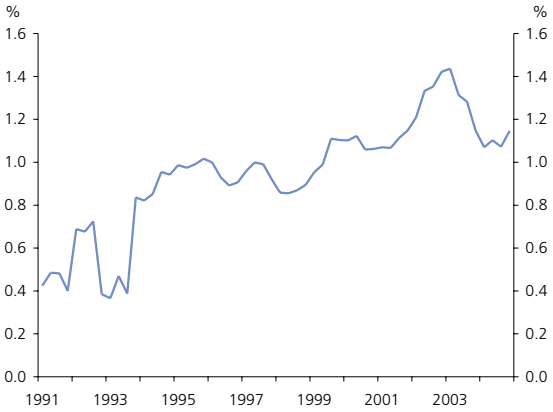


Figure A14

Operating costs to income

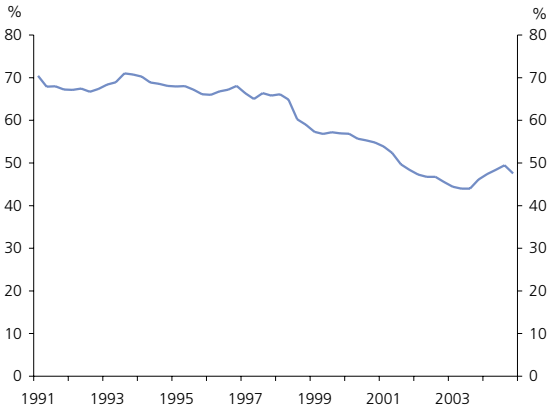


Figure A15

Lending margins

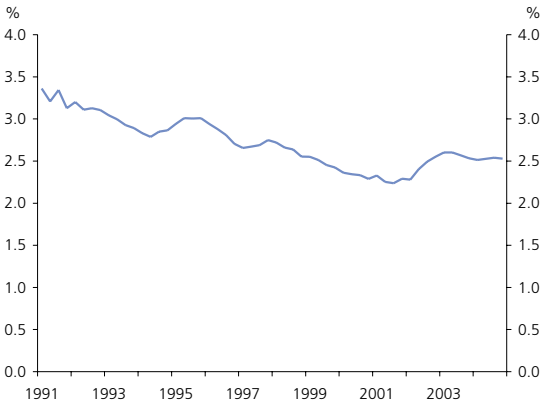


Figure A16

S&P credit ratings for registered banks

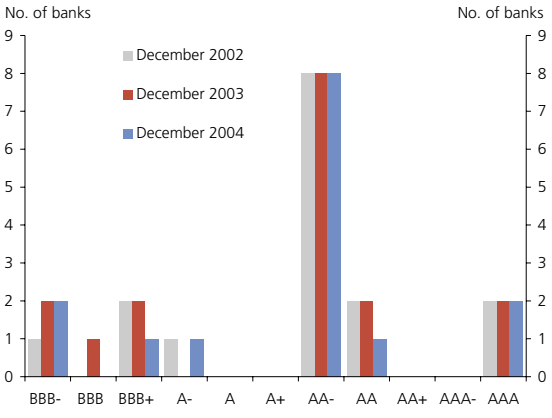


Figure A17

Bank asset composition

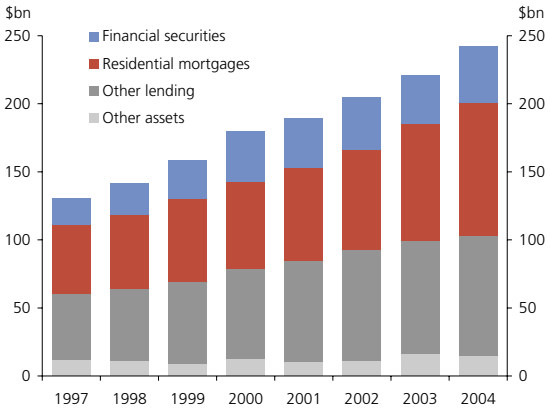


Figure A18

Bank funding composition

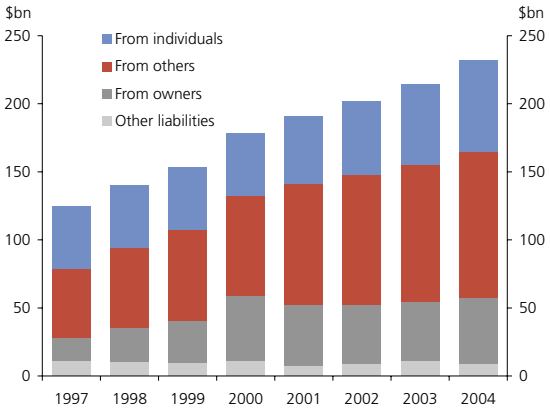


Figure A19

Bank asset growth

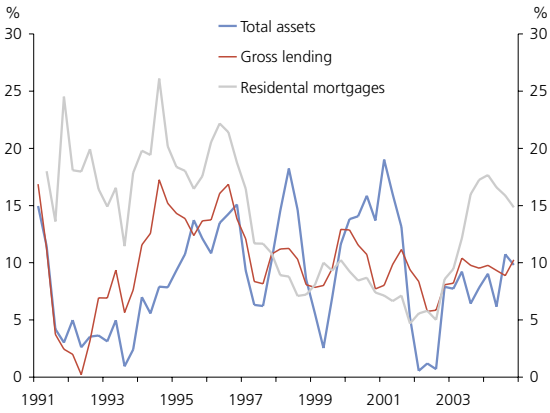
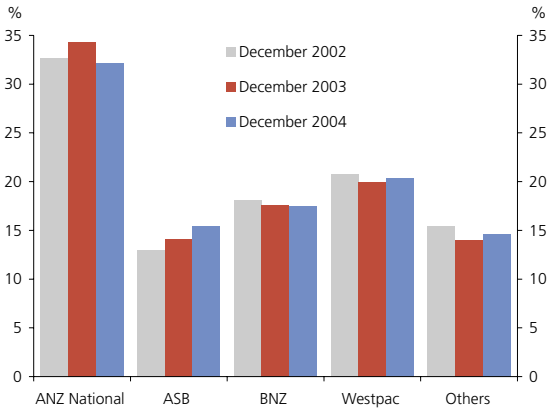


Figure A20

Bank market share



Non bank financial institutions

Figure A21

NBFI asset composition

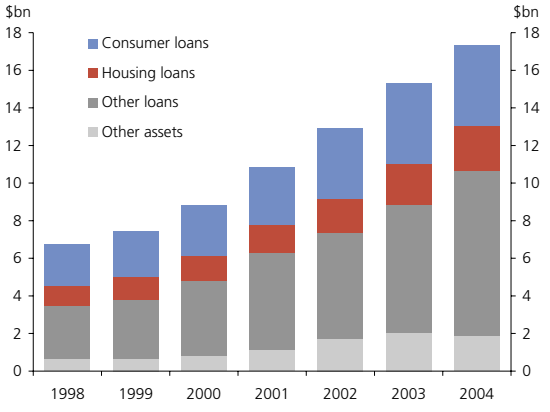
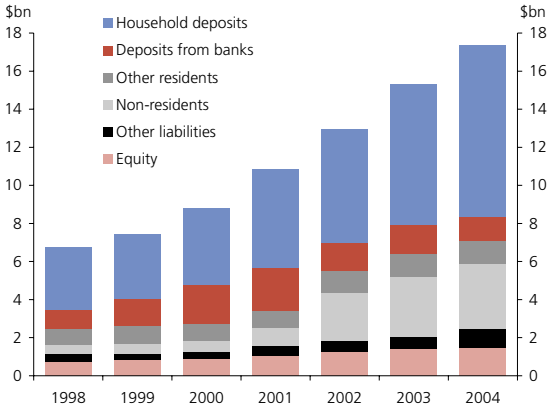


Figure A22

NBFI funding composition



New Zealand financial markets

Figure A23

Government bonds on issue and turnover

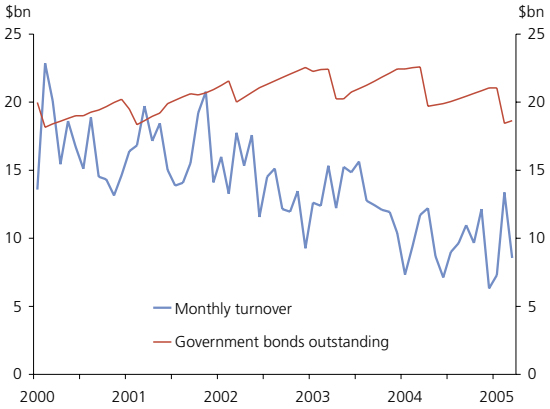


Figure A24

Ten-year government bond spreads

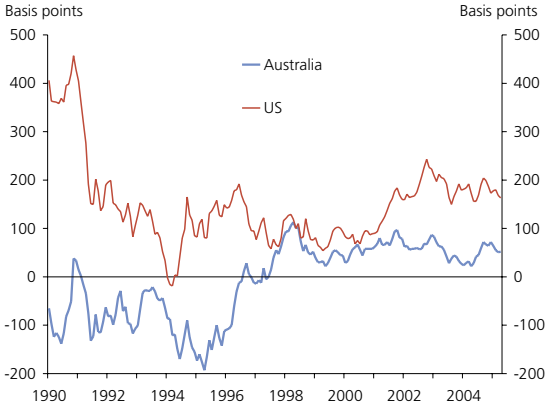


Figure A25

NZD/USD turnover in domestic markets

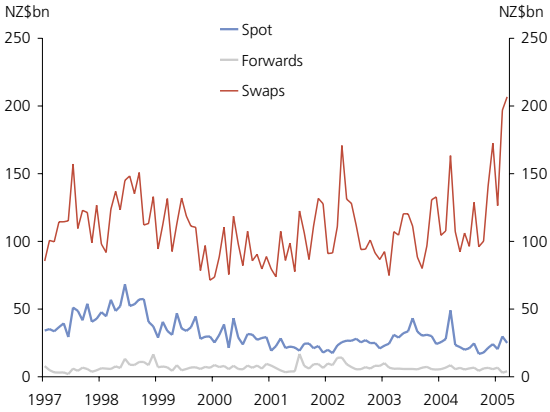


Figure A26

NZD/USD and implied volatility

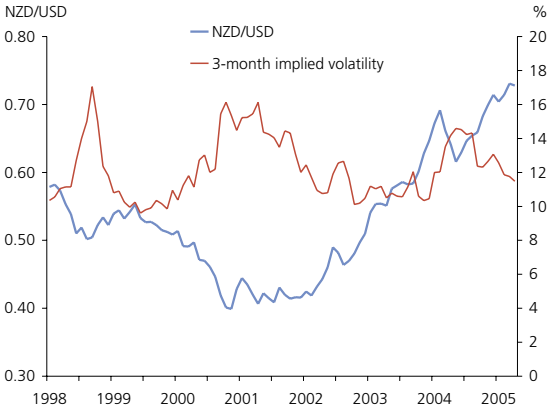


Figure A27

Equity market capitalisation to GDP

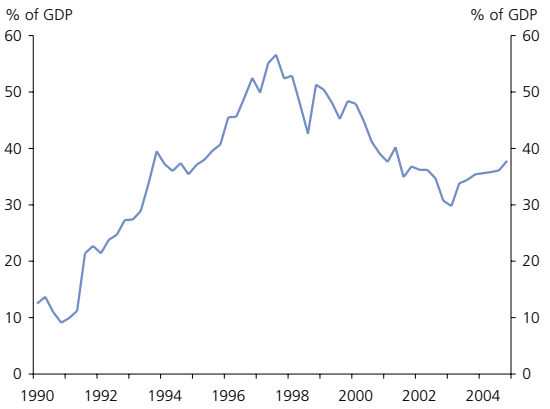
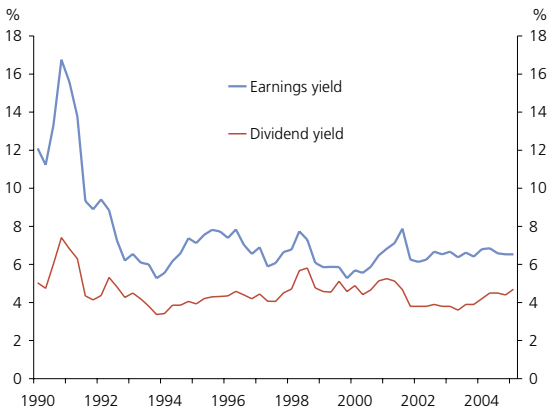


Figure A28

Earnings and dividend yields



Notes to the graphical appendix

The appendix contains a suite of charts that will appear regularly in the *Financial Stability Report*. They provide an overview of developments in a set of key economic and financial indicators. Definitions and sources (in italics) are noted below. The data for the charts in this *Report*, including those in the graphical appendix, are available on the Reserve Bank website.

1	Real GDP growth	Annual average percentage change in real GDP. *Datastream*.
2	Balance of payments	Current account balance as a percentage of GDP, four-quarter total. *Datastream*.
3	Trade-weighted exchange rate indices	Trade-weighted indices, 31 March 1990 = 100. *Bank of England*.
4	Short-term interest rates	Yields on 90-day bank bills. *Datastream*.
5	Equity indices	Morgan Stanley Capital Indices, 31 March 1990 = 100. *Datastream*.
6	House price inflation	Year-on-year change in national house price indices. *Datastream*.
7	Household debt	Household debt excludes student loans. Household disposable income is gross before deduction of interest paid, and is interpolated from March year data from *Statistics New Zealand*, with *RBNZ* 2004 and 2005 forecasts. Weighted average interest rate is published *RBNZ* mortgage rate data with an estimate for consumer loan interest rates.
8	Household assets and liabilities	Housing assets are *RBNZ* estimates of aggregate private sector residential dwelling value, based on data from Quotable Value Ltd. Household financial assets are as published annually by *RBNZ*, with aggregate quarterly figures interpolated prior to 1995, based on component estimates from then. Household liabilities are from *RBNZ* series as for figure A7.
9	Property prices	Year-on-year change in property price indices. Commercial and rural property prices are interpolated from semi-annual figures. *Quotable Value Ltd.*
10	Government debt	*The Treasury*.
11	Capital adequacy ratios	Tier 1 and Tier 2 capital as a percentage of risk-weighted assets, for all locally incorporated banks. *General Disclosure Statements* (*GDS*).
12	Asset quality	Impaired assets as a percentage of total lending; specific provisions as a percentage of impaired assets; for all registered banks. *GDS*.
13	Return on assets	Net profits after tax and extraordinary items, as a percentage of average total assets, four quarter average, for all registered banks. *GDS*.
14	Costs to income	Operating expenses as a percentage of total income, four quarter average, for all registered banks. *GDS*.
15	Lending margins	Net interest income as a percentage of average interest earning assets, four-quarter average, for all registered banks. *GDS*.
16	Credit ratings	Standard and Poor's credit ratings on New Zealand dollar long-term senior unsecured obligations in New Zealand. HSBC is excluded as it is not rated by S&P in New Zealand. *GDS*.
17	Bank asset composition	As at 31 December. *GDS*.
18	Bank funding composition	As at either 30 September or 31 December. *GDS*.
19	Asset growth	Year-on-year change in total assets of all registered banks. Gross lending is before provisions. *GDS*.

20	Market share	Bank assets as a percentage of total assets of registered banks. December 2002 share for ANZ National Bank is the combined shares of ANZ Bank and National Bank. *GDS*.
21	NBFI asset composition	*RBNZ Annual Statistical Return* and *NBFI SSR* as at December.
22	NBFI funding composition	*RBNZ Annual Statistical Return* and *NBFI SSR* as at December.
23	Government bonds issued and turnover	*RBNZ*.
24	Ten-year government bond spreads	Yield on ten-year benchmark New Zealand government bond, less yield on US and Australian equivalents. *RBNZ*.
25	NZD/USD turnover in domestic markets	*RBNZ* survey.
26	NZD/USD and implied volatility	Standard deviation used to price three-month NZD/USD options. *UBS Warburg*, *RBNZ*.
27	Equity market capitalisation to GDP	Total market capitalisation of firms listed on New Zealand Stock Exchange, as a percentage of annual nominal GDP. *Datastream*.
28	Earnings and dividend yields	Earnings and dividends as a percentage of total market capitalisation. *First New Zealand Capital*.