Financial Stability Report

November 2006

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Corrections from print version

p 7: Figure 2.5, heading.

p 18: Figure 3.3.

p 53: n. 14.

p 54: n. 29, n. 30.

1 Summary and assessment

The *Financial Stability Report* provides a regular overview of the Reserve Bank's assessment of relevant financial system risks in New Zealand. It also provides a summary of the Bank's activities aimed at promoting financial system soundness and efficiency. The financial system comprises financial institutions, financial markets, payment and settlement systems, and the broader macroeconomy. The Bank assesses financial stability to exist when all relevant financial risks are adequately identified, priced, and allocated to those best able to manage them.

Since our May *Financial Stability Report*, the global saving-investment imbalances have persisted. Savings continue to accumulate rapidly in some countries; in particular, official foreign reserves in some Asian and oil exporting economies. These savings continue to be intermediated principally through the US and European financial systems, reaching end users who are mostly households, particularly in the US. In turn, these funds are being used to fund consumption and a strong rise in asset prices – especially house prices, until recently.

It is likely that the rapid increase in global liquidity in recent years has put strains on the ability of the global financial system to fully identify, price, and allocate financial risk. In particular, low official interest rates have tempted many investors to take larger risks elsewhere. These circumstances have reduced credit spreads in some of the higher-risk investment vehicles. A sudden rise in actual or expected official interest rates and/or credit risks could thus see a more painful adjustment to the imbalances than is currently expected by most economic forecasters. This adjustment could be reflected in more dramatic exchange rate changes (eg, a lower US dollar) and/or a rise in long-term interest rates, with correspondingly lower US domestic spending. One positive sign is that US household spending growth may slow in line with its housing activity. In addition, oil prices have declined. Both factors are assisting in the rebalancing of global savings. However, even much stronger trade balance shifts would take several years to materially alter the global imbalance picture.

At present, New Zealand remains a significant net recipient of global savings; our current account deficit remains at record levels, in large part driven by household borrowing demands. Corporate debt-gearing has also risen recently. Most of the foreign savings are being intermediated through the domestic banking sector into residential mortgages. Bank funding remains very competitively priced, with New Zealand's credit spreads low.

Given the reliance on foreign capital, any rapid change in global perceptions of New Zealand's credit-worthiness would dramatically alter the cost of capital. A sudden decline in global investor confidence would also impact negatively on liquidity in key financial markets. The New Zealand foreign exchange market is currently experiencing a high level of 'cyclical' liquidity, with foreign currency speculators chasing yields.

Banks operating in New Zealand are competing aggressively at present to retain and grow their market share in mortgage lending. To the extent that this competition leads to credit standards slipping, overall financial system risks will rise. Non-performing loans are very low at present, and banks remain well capitalised. However, there is evidence that some of the Australian parents of locally registered banks are taking increased risks in their lending practices. This evidence includes growth in low-doc lending, acceptance of

higher loan-to-value ratios and debt-servicing burdens, and lending at significantly reduced interest margins. There is also increasing anecdotal and other evidence of these practices becoming more widespread among New Zealand registered banks.

Households have an unusually high concentration of their wealth in housing, and their debt-gearing and debt-servicing ratios are near record levels. In addition, a material proportion of loans to small-to-medium size enterprises are collateralised by residential property. Households and the business sector are thus very susceptible to any change in economic conditions. Should households come under strain to service their debts, and house prices begin to soften considerably, the quality of banks' balance sheets would deteriorate. Farm values are also currently at very high levels relative to their underlying earnings, and the farming sector has registered rapid growth in bank debt. An unexpected decline in farm earnings would increasingly impact negatively on bank balance sheets. The Reserve Bank will be watching such developments closely, in particular as it implements the new capital standards under Basel II.

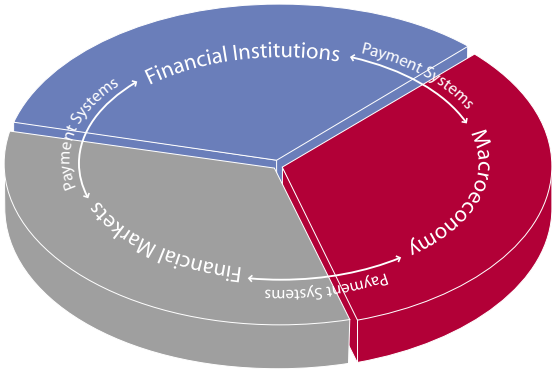
The non-bank deposit-taking financial sector has continued to grow rapidly in terms of assets, despite the slowdown in the economy and signs of isolated stress in some institutions and sectors (eg, the second-hand car market). While some deposit-taking finance companies will continue to come under stress, it is unlikely that these isolated incidents will challenge New Zealand's overall financial stability.

The Reserve Bank is working closely with Australian regulators and officials to ensure the financial stability of both countries is maintained without unnecessary regulatory cost. Legislation has recently been passed in New Zealand and is progressing in Australia that formalises each regulator having regard to trans-Tasman financial stability when implementing policy. Implementation of the Reserve Bank's local incorporation policy is now also complete, with the registration of Westpac New Zealand Limited making all large banks compliant. Progress is also being made on implementing the outsourcing policy, Basel II capital requirements for banks, and the oversight of the payments and settlement system in New Zealand. All of these activities promote soundness and efficiency in the financial system.

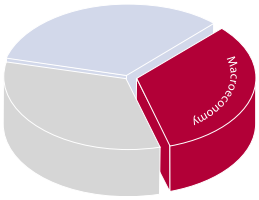
In summary, the relevant financial system risks in New Zealand appear adequately identified. However, there are some concerns that the global pricing of financial risk is too low. Given New Zealand's foreign indebtedness, this makes the cost of capital susceptible to sudden changes in foreign investor sentiment. While banks appear well capitalised and sound, the households to which they are lending aggressively are increasingly geared and vulnerable to sudden changes in economic circumstance. Liquidity in the foreign exchange market is also being cyclically bolstered by foreign investor interest. Overall, we continue to view a gradual slowdown in domestic spending and a reduction in the current account deficit as the most likely path to rebalancing in the New Zealand economy. However, risks remain that will need to be monitored by all participants in the financial system.

Alan Bollard
Governor

Figure 1.1
Financial system components



2 The economic and financial environment



The global financial system has performed well and is expected to remain stable. However, key financial risks remain relevant. These risks include persistent and large global savings and investment imbalances, and historically low credit spreads, which suggest risk may be under priced across a number of markets. High international house prices, rising levels of household debt servicing costs, and rising levels of corporate debt, present further challenges.

Risks to New Zealand's economy include a high level of foreign debt, in large part driven by households. Slowing economic growth has also resulted in a more challenging business environment for New Zealand companies. Mergers and acquisitions have increased as companies seek to sustain medium-term growth in earnings. This has in turn raised corporate indebtedness.

2.1 The international environment

The global financial system has remained stable, supported by a robust outlook for global growth. Markets are continually subjected to shocks, and participants' ability to manage these shocks is also supportive of financial stability. Since the time of the last *Report*, global financial systems have managed significant losses in some hedge funds, political turmoil in a number of emerging markets, and credit rating downgrades of a few large bond issuers.

Global imbalances persist

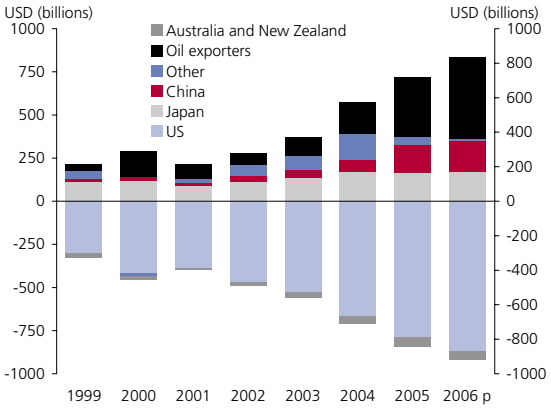
Global savings-investment imbalances have increased over recent months, with the US current account deficit remaining around historically high levels, and some Asian central banks continuing to increase their holdings of foreign currency reserves. Figure 2.1 shows the expanding US current account deficit, along with expanding current account surpluses in the oil-exporting nations and China.

However, US export growth has increased and import growth has slowed in recent months. Whether this improvement in the trade balance is sustained will depend on, among other things, the level of the USD and whether the recent slowdown in the US housing market spills over to slower domestic spending.

The recent decline in oil prices is also likely to help slow US import growth, as well as reduce the current account surpluses in the oil-producing nations. After peaking just above USD 75 per barrel in July, oil prices have fallen by around 25 percent to just below USD 60 per barrel, although they remain well above the levels seen earlier in the decade. If sustained, these lower oil prices are likely to have a number of direct and indirect rebalancing effects.

Figure 2.1

Current account positions



Source: IMF World Economic Outlook (September 2006 issue), IFS, ECB, and RBNZ staff calculations. Calendar years.
Note: 'Other' includes: EMEAP countries, UK, Euro area and Canada.

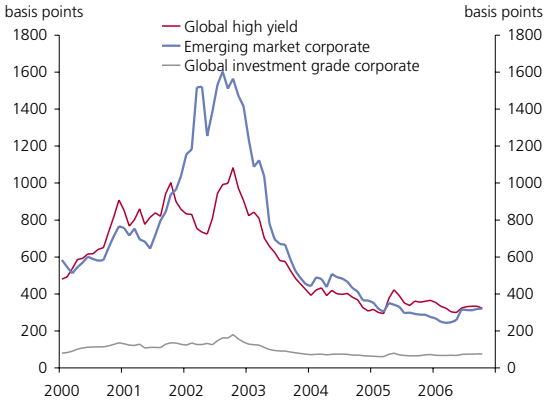
However, even if this improvement in the US trade balance is maintained, the size of the existing imbalances means that the potential for a disorderly correction in the US dollar exchange rate, and/or US domestic spending, will remain for a number of years. The US remains a current account deficit nation, which implies it has a large capital account surplus. However, the latter also reflects the world's positive perception of the US financial system. As long as this perception persists, a continued slow adjustment in the current imbalances as global savers recycle their investment in the US financial system is the most likely scenario.

Credit spreads for higher risk assets remain historically low

The scale and pace of the flow of funds globally raises questions as to how well financial risks are being identified, priced and managed. One potential area for concern is the current level of credit spreads for higher risk assets, which despite having increased slightly over the past six months remain historically low (figure 2.2).

Figure 2.2

Spreads to US 10 year Treasury bonds



Source: Merrill Lynch, Bloomberg.

There are a number of reasons advanced for why the current low level of these credit spreads may be justified and sustainable. One is that credit-worthiness has improved for many corporates and governments, following strong earnings growth, robust global growth, and the associated rise in commodity prices. Some emerging economies, corporates and governments have received credit upgrades, in part a result of growth in foreign reserves by many Asian and oil-producing country central banks. However, the extent of spread contraction may also overstate the reduction in fundamental risks. A global slowdown could precipitate a sharp downward correction in commodity prices and corporate earnings, along with the credit-worthiness of the companies and economies exposed to them. Meanwhile ,corporate debt-gearing has grown considerably.

Another factor behind the lower spreads could be the increased use of structured finance products, such as credit default swaps and collateralised debt obligations, to hedge and transfer credit risk. If the allocation and pricing of risk between market participants is improved through the use of these products, then system stability will also be improved. However, there are concerns about the transparency of these products: credit risks can change over time (eg, as company structures change), and some investors may not have fully identified the actual risks they are managing. In part this relates to the relatively new nature of many of the structured finance products, as they are relatively untested during a severe global slowdown.

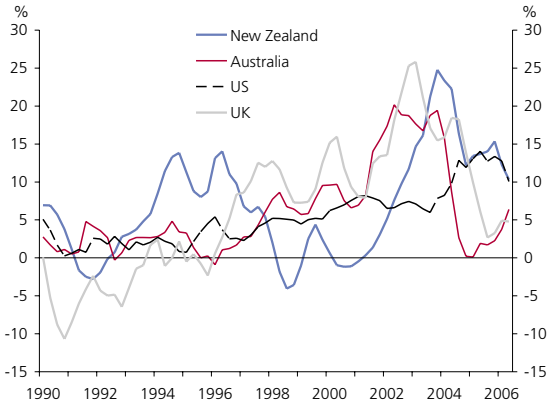
It seems likely that generally low official interest rates have also prompted some investors to take on more risk in order to maintain returns, thus contributing to the narrowing in credit spreads. Large purchases of US Treasury bonds, for example, by some Asian central banks, have resulted in historically low US government bond yields. While US inflation expectations appear to remain reasonably contained, at these yields investors may not be adequately compensated for upside risks to inflation.

International housing markets

Recent years have been characterised by sizeable house price gains in a number of developed economies, with annual house price inflation in New Zealand, Australia, and the UK having peaked above 20 percent. More recently, Australia and the UK have experienced a period of low or zero house price growth (figure 2.3). In the US, annual house price inflation peaked at around 15 percent late last year, and has since fallen sharply, to around zero percent on some measures. House price inflation has also been

easing in New Zealand, but remains around 10 percent on an annual basis.[1]

Figure 2.3
International house price inflation



Source: Quotable Value New Zealand, Datastream.

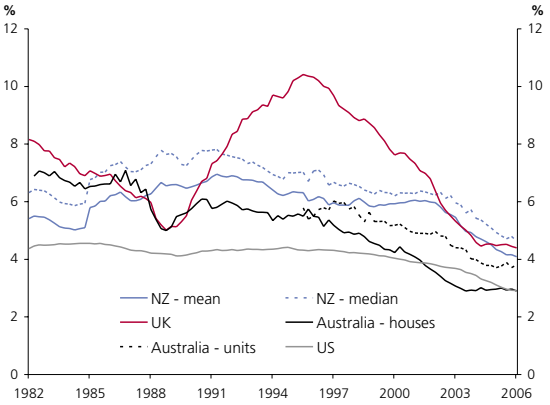
Recent large increases in international house prices appear beyond those that could be explained by long-term economic fundamentals alone. Downward trends in rental yields imply that rents have not kept pace with the growth in house prices (figure 2.4). House prices relative to household incomes are also significantly higher than at the beginning of the decade. Households are also now spending a significant share of their disposable incomes on interest payments on mortgage debt (figure 2.5).

While long-term data suggests that nation-wide nominal house price declines are rare in most OECD countries, these declines do take place, sometimes in the context of dramatic corrections (eg, in Scandinavia in the early 1990s). By contrast, declines in real house prices are not rare, and have occurred several times in recent New Zealand history. House prices fell in real terms in the early 1990s, 1998, 2000, and 2001.

A sustained period of real house price declines would likely coincide and contribute to a period of slower economic growth and restraint in domestic spending. Moreover, banks that have lent on expectations of rising house prices rather than on household cash flows would come under pressure in their mortgage books. In New Zealand, mortgage lending on residential property accounts for around 44 percent of total bank assets.

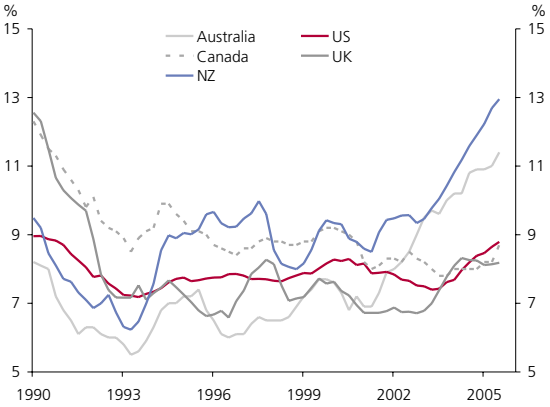
[1] Quotable Value New Zealand Limited, annual percent change in quarterly house prices, June 2006.

Figure 2.4
International rental yields on residential property



Source: REINZ, Datastream, Quotable Value NZ Ltd, RBA, RBNZ calculations.

Figure 2.5
Debt servicing ratios



Source: Australian Bureau of Statistics, Bureau of Economic Analysis, Bank of Canada, Stats Canada, Office for National Statistics, and RBNZ.
Note: Australia excludes unincorporated enterprises.

2.2 Australia

Apart from being New Zealand's largest trade partner, Australia is an increasingly important direct equity investor in New Zealand, and New Zealand's major banks all have Australian parents. Given these links, the stability of the Australian financial system is materially relevant to that of New Zealand.

The International Monetary Fund (IMF) has recently performed a Financial Sector Assessment Programme in Australia, and assessed the Australian financial system to be sound.[2] The risks highlighted by the IMF were related to the

[2] http://www.imf.org.

Australian banking sector; in particular, the concentration in mortgage lending, and the potential that competition might lead banks to raise their risk profiles in response to pressure on profit growth. These points are consistent with our assessment of the risks within the New Zealand banking system. These issues are discussed in Chapter 4; the remainder of this section reviews Australian households and corporates.

Australian households

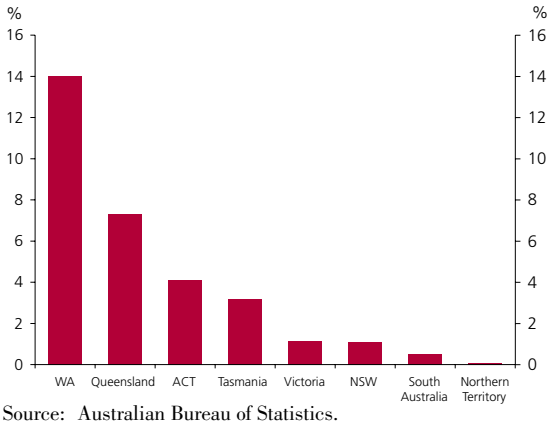
Australian nationwide house price inflation has recently increased, largely reflecting exceptional growth in Western Australia. By contrast, house prices in Sydney remain more than 8 percent below their late 2003 peak. Even this figure obscures considerably larger declines in some realised property values, particularly for apartments. To date, house price declines have resulted in only limited realised losses for banks in their loan portfolios.

In their September 2006 *Financial Stability Report*, the Reserve Bank of Australia (RBA) noted that increases in household debt were attributable to borrowing for the purchase of both owner-occupied and investment properties. The RBA also linked debt increases to a greater willingness on the part of households to carry debt later in life, and to competition in the banking sector. Competition has lead to an easing of credit standards, which has resulted in increased levels of debt, and some recent growth in mortgage arrears (although arrears are still at historically low levels). These trends are evident in New Zealand also. Higher debt levels have increased Australian household vulnerability to economic conditions. Despite this, many households remain willing to take on further debt. In part this is because household net worth has increased due to rising household financial assets. The RBA views Australian household finances to be in a reasonably positive state; Australian household financial assets grew by 19 percent in the year to March 2006, and now make up 40 percent of total household assets.

Australian corporates

Australian corporate sector balance sheets and profitability are strong, although most of the recent profit growth is occurring in mining and related sectors. Record high commodity prices have driven a 44 percent increase in Australian mining profits over the year to June 2006. Conversely, non-mining profit growth was relatively subdued. The large concentration of these highly profitable mining companies in Western Australia, and to a lesser extent Queensland, has provided a considerable boost to those states. Other states, particularly New South Wales and Victoria, are growing only slowly (figure 2.6).

Figure 2.6
Australian state and territorial growth rates to June 2006



Source: Australian Bureau of Statistics.
Note: Growth rates are annual growth in state final demand.

While the strong profit growth means that firms have more internal funding available to finance expenditure, it appears that there has been a strong and broad-based increase in business sector intermediated borrowing. Over the year to September 2006, business credit grew by 15.9 percent, outpacing housing credit growth of 14.2 percent. The increase in business lending is related to competition in the banking sector; as housing lending growth has slowed banks have focussed their attention more on expanding business lending.

The RBA report that the debt-to-equity ratio for listed companies has increased to around 65 percent. If unlisted private equity companies were included in this ratio, it would most likely increase. However, interest payments as a percent of profits are low at present. This reflects strong profit growth, low nominal interest rates, and bank competition resulting in lower spreads on business lending. Corporate gearing does not appear to be a current threat

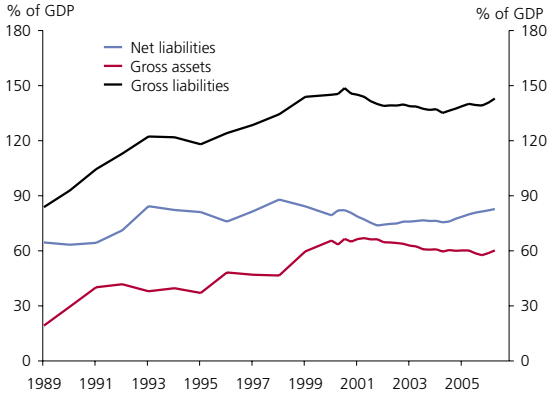
to Australian financial stability, but the favourable picture is largely influenced by the mining industry and hence may mask stress in some sectors.

2.3 New Zealand's external imbalances

Evolution and outlook

New Zealand's current account deficit is very substantial, at approximately 9.5 percent of GDP, with net foreign liabilities at around 80 percent of GDP. Figure 2.7 shows the evolution in net foreign liabilities since 1989, as well as charting the gross foreign asset and liability levels. The cost of servicing net liabilities is recorded in the investment income component of the current account. The investment income balance has recorded a net income deficit that has increased from around 5 per cent of GDP in the late 1980s to around 7.5 percent currently (figure 2.8).

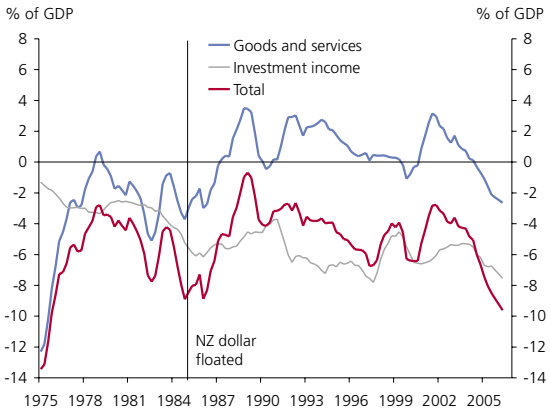
Figure 2.7
International investment position
(net foreign liabilities)



Source: Statistics New Zealand, RBNZ calculations.
Note: Data prior to 2000 are from discontinued Statistics New Zealand data.

The trade deficit has also expanded relative to where it was in the late 1980s, and is currently around 2.5 percent of GDP. Much of the expansion reflects the cyclical nature of the trade balance, with household consumption and residential and business investment strong. We expect that a slowing domestic economy and, to a lesser extent, a lower exchange rate will help to improve the trade balance in coming years (see the September 2006 *Monetary Policy Statement*). Even so, net foreign liabilities are likely to rise over the next few years as the current high level of liabilities is exacerbated by the servicing costs.

Figure 2.8
Components of current account deficit



Source: Statistics New Zealand, RBNZ calculations.
Note: Annual average.

New Zealand is vulnerable to the effects of potential shifts in investor sentiment

The key risk that arises from New Zealand's large foreign debt liabilities is the 'rollover' risk – ie, the risk associated with re-financing the required volume of funding at similar prices (interest rates and exchange rates) when the loans mature. The shorter the maturity of the debt, the more frequent is the rollover. Debt currently accounts for around 65 percent of New Zealand's total net liabilities, and a large proportion of this debt is intermediated by short-term wholesale bank funding. Around half of all New Zealand's debt liabilities have maturities of less than one year.

If foreign investor sentiment towards New Zealand shifts so that the required volume of external financing becomes difficult to obtain – reflecting increased liquidity and market risk – then New Zealand's risk premium would likely increase. In turn, the higher risk premium would cause a sharp rise in New Zealand's interest rates. However, there are a number of other factors which assist in the management of these risks.

- The debt 'rollover risk' may be somewhat reduced in New Zealand because some of the funding is done by banks through their foreign parents. These debt liabilities may hence be less susceptible to changes in financial market sentiment related only to New Zealand.

- New Zealand's net debt liabilities are largely held by the private sector, with net government foreign liabilities essentially zero. This is generally thought to be favourable, as private sector agents are better able to judge the optimal level of borrowing that they can sustain. In aggregate, such activity should lead to productive investment. This proposition is being challenged in New Zealand's case at present, given the concentration of debt for the purchase of houses. New Zealand corporates have increased their direct offshore funding, partly reflecting the liberalisation of financial markets and the relative ease in terms of price and availability of accessing global capital.
- The currency denomination of the liabilities provides some insulation from the effects of exchange rate movements. All other things equal, a depreciation in the New Zealand dollar increases New Zealand's net debt liability in NZD terms. However, the extent of this increase is limited by the large proportion of debt that is denominated in New Zealand dollars (around 40 percent). By contrast, a depreciation reduces New Zealand's net equity liability. This is because foreign holdings of New Zealand's equity assets are largely denominated in NZD, while New Zealand holdings of foreign equity assets are typically denominated in foreign currencies.
- New Zealand foreign currency debt is largely 'hedged', either through natural hedges, or by virtue of having been raised through the banks (which hedge their currency exposures). Some of these hedges are of relatively short duration, albeit in highly liquid markets. Currently, a large amount of this hedging capability is being met by foreign investors in the Eurokiwi and Uridashi bond markets (see Chapter 3).
- The risks of a high external debt position are mitigated by New Zealand's floating exchange rate, which provides a rebalancing mechanism for the economy and financial system.

The above factors alleviate the risks associated with New Zealand's reliance on foreign capital to fund domestic spending. However, they do not eliminate those risks. A material change in foreigners' appetite for New Zealand assets could lead to sizeable exchange rate depreciation and an increased risk premium on borrowings. These effects could lead on to an abrupt slowdown in economic growth, with the end borrowers – predominantly domestic residential mortgage borrowers – likely to be most affected.

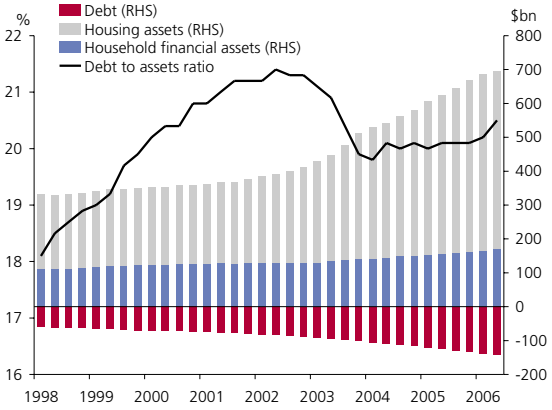
2.4 The household sector

Households continue to take on debt

The value of household assets has increased in recent years. However, the gains largely represent house price increases and increases in debt have meant that the household debt-to-asset ratio has remained relatively stable (figure 2.9). Around 90 percent of household debt is accounted for by residential mortgages, and total household debt grew by 14 percent in the year to June (figure 2.10).

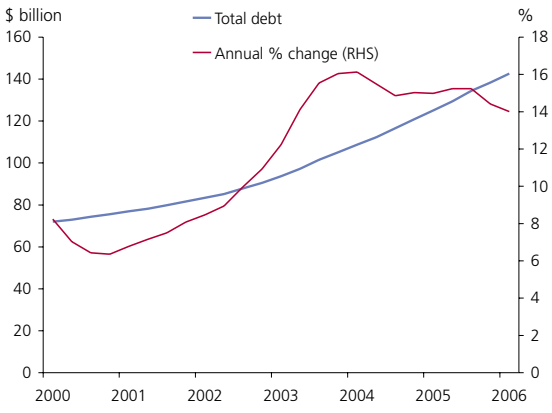
While households have seen increases in debt servicing costs (figure 2.11), economic conditions have been supportive, with low unemployment and strong wage

Figure 2.9
Household debt and assets



Source: RBNZ survey.

Figure 2.10
Household debt



Source: RBNZ survey.

growth. However, debt servicing costs are likely to rise further, with about one third of all mortgage rates due to be re-priced over the course of 2006. Despite the recent renewal of 2004's 'mortgage war', the effective mortgage rate is expected to continue rising over the next six months.[3]

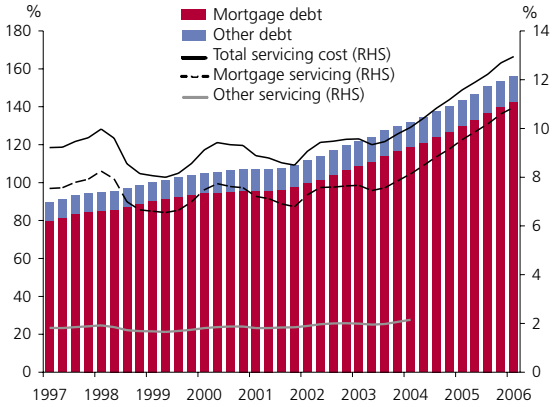
Further, the increases in house prices over the past five years are ahead of changes in the economic fundamentals, such as household income and population growth. Hence there is a risk that house prices could decline in the future to correct back towards levels more in line with economic fundamentals. While house prices have continued to grow, the rate of growth has slowed since the beginning of 2006, and the volume of sales has fallen.

Households are vulnerable to changes in their economic situation that could reduce their ability to meet their scheduled debt repayments, and to potential declines in house prices. If a household cannot maintain repayments, the house may have to be sold in order to repay the mortgage. If a household is forced to sell the house into a weak market, it may have to bear a loss from the lower house price. The situation is worsened if the household is in a negative equity position at the time of the sale – ie, if the house price has fallen below the amount outstanding on the mortgage. These effects can spread beyond households and into the business sector, as it is not unusual for mortgages to be used to fund small and medium sized businesses.

From the lenders' perspective, a fall in house prices will lower the value of the banks' collateral and result in a deterioration in asset quality. However, if the borrower has positive equity in the house the bank can recoup the mortgage. Therefore, the bank is more likely to experience a financial loss if two joint conditions are met: (1) the borrower has had to undertake a stressed sale, and (2) the proceeds from the stressed sale are insufficient to cover the remaining balance of the mortgage.

Figure 2.11

Households' debt and debt servicing costs, as a percentage of disposable income



Source: RBNZ survey.
Note: The debt servicing cost is the ratio of interest payments to disposable income.

[3] Many of the mortgages that are due to re-price around the end of this year were previously set at 2004's relatively low 'mortgage war' rates. These mortgage rates are expected to be market increased by around 50 to 75 basis points, based on current market rates.

Box 1
Residential property as an investment choice

Housing accounts for 75 percent of households' total assets in New Zealand, compared to around 60 percent in Australia, 50 percent in the UK, and 40 percent in the US (figure 2.12).

Expressed as a percentage of household disposable income, housing assets are 570 percent in New Zealand – among the highest in the selected OECD countries (table 2.1). By contrast, the ownership of financial assets by households is lowest in New Zealand, both as a share of household assets and as a share of disposable income.[4]

These international comparisons are difficult, due to measurement differences across countries. There are also omissions in the measurement of New Zealand household assets to consider.[5] Further, for many people the house in which they live does not represent wealth that they can choose to hold in other forms. However it does appear that New Zealanders have a strong preference for holding their wealth in the form of residential property investment. This box notes some contributing factors towards this preference, and points out the risks that come with a high level of exposure to residential property.

Generally speaking, there are a number of factors that drive investor preference towards housing. Widely cited explanations include tax considerations, and institutional and historical factors. Some economists argue that people might take on a large debt to buy a house as a way of pre-committing to saving, by being forced to save by paying off the mortgage at regular intervals. There may also be a sense of security attached to owning tangibly 'real', rather than paper financial assets.

In New Zealand there are differences in the tax treatment of residential investment and other types of investment assets (deposits, bonds, and equities). Importantly, capital gains on housing assets are frequently tax-exempt, but capital gains on financial assets are usually taxed.

The tax system may also combine with lending practices of New Zealand's banks and credit institutions to encourage investment in housing. It is possible for households to 'negatively gear' investment properties, so that a loss is created whereby interest expenses on a property exceed the income derived from the property. The loss can be deducted from income for tax purposes. This, combined with the general acceptance of housing as a form of collateral by banks, may create a particularly strong influence towards investing in housing for New Zealand households.

Lastly, the historical experience of the 1987 stock market crash was particularly severe in New Zealand, and this may have made people particularly wary of investing in shares. High inflation throughout the 1970s and 1980s meant the returns on housing were better than on bonds and other fixed-interest financial assets. Because of high and variable inflation, real interest rates were often negative during this period. Hence the real value of the mortgage debt diminished rapidly, and most fixed-interest financial assets made negative real returns.[6]

However, exposure to the residential property market comes with risks. While returns have been strong over recent years, this will not always be the case, and the diversification benefits are weak.

A basic rule of investing is to diversify risks by investing in a wide range of assets, which allows investors to achieve the same total expected return for less risk. By having all or most of their wealth in housing, households are concentrating risks. Relying on continued house price inflation to justify risk-taking is problematic, especially when the house prices appear to be out of line with

4 See Goh (2005) 'Developments in New Zealand Corporate Sector', Reserve Bank of New Zealand *Bulletin*, Vol. 68, No. 2. Hodgetts (2006) 'Household savings and wealth in New Zealand', Joint Working Group of Government Officials and ISI (1999), 'Saving rates and portfolio allocation in New Zealand,' Treasury Working Paper 99/9, New Zealand Treasury.

5 Some important household assets are excluded from the data in New Zealand. These include commercial property, equity in unincorporated businesses, and some direct ownership of overseas assets.

6 Alexander, Holm, and Pearson (1998), *The Real Story – saving and investing now that inflation is under control*, Reserve Bank of New Zealand.

underlying economic fundamentals. In addition, house prices, unlike some financial prices, are tied to local economic conditions. A study has found that in all 16 regions of New Zealand, regional real house prices are strongly influenced by economic cycles, suggesting that housing provides a poor hedge against local household income security.[7]

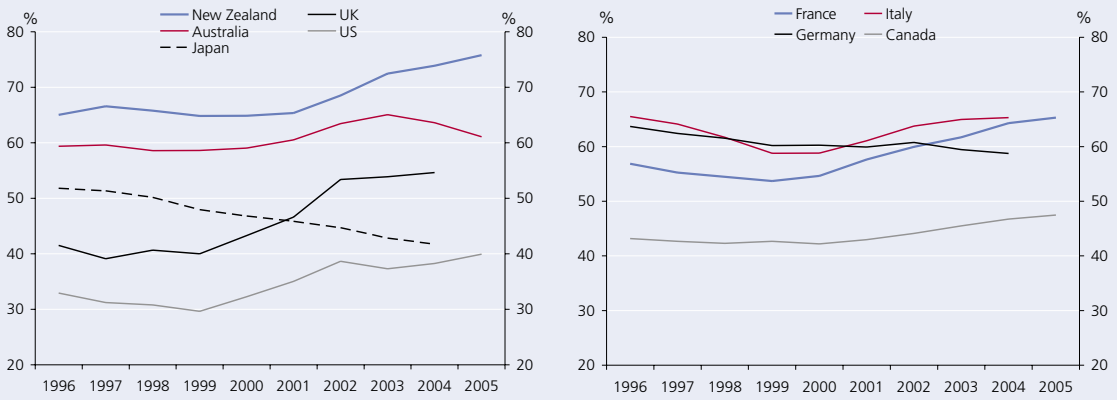
Second, housing is a 'lumpy' asset. It is difficult to buy a part of a house, while you can buy a part of a company through shares. Most households therefore have to borrow to purchase a house, and once they do, the repayments consume a large part of their income. The large borrowing required adds to the riskiness of investing in housing, while the reduction in financial savings implies that households

Table 2.1
Household balance sheets of selected countries
(percent of household disposable income)

	Non-financial assets (mainly housing)	Financial assets	Debts	Net financial wealth	Net wealth
New Zealand	567	181	151	31	597
Australia	529	337	151	186	715
Canada	308	340	128	213	520
France	563	299	91	208	771
Germany	400	281	108	173	572
Japan	358	499	132	367	725
United Kingdom	497	413	155	258	755
United States	283	426	132	294	576

Source: OECD, Reserve Bank of Australia, RBNZ.
Note: Figures are for end of 2005, except for Germany, Japan, and UK, where figures are for end of 2004. Non-financial assets consist mainly of dwellings and land.

Figure 2.12
Housing assets
(per cent of total household assets)



Source: OECD, Reserve Bank of Australia, RBNZ.

[7] Aitken, Grimes, and Kerr (2003) 'Housing and Economic Adjustment,' Motu Economic and Public Policy Research Trust Working Paper 03-09.

have less means to cope with significant shocks to their income.

Housing is also an 'illiquid' asset. Although housing markets are relatively competitive, the transaction costs are quite significant once commissions, legal and other fees are taken into account (about 4 percent of the asset value). Transaction costs are most important when the holding period is short, making housing unsuitable as a means to smooth consumption over income shocks.[8]

Finally, there are risks that affect the economy as a whole. A shift away from financial saving by households reduces the pool of domestic funds available for domestic investments. Increasing indebtedness makes borrowers, and hence the economy, more sensitive to factors which impact on debt servicing capability – see Section 2, New Zealand's External Imbalances.

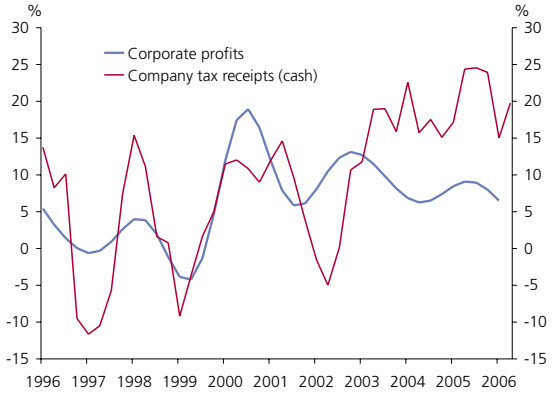
2.5 The corporate sector

Profitability continues to soften

Corporate profit growth has slowed recently following more than five years of strong growth (figure 2.13).[9] Surveys of business confidence anticipate a further slow down in earnings over the next year, particularly in the retail and service sectors. In addition to lower earnings, respondents in these sectors also anticipate a fall in employment.

Figure 2.13

Growth in corporate profits and company tax



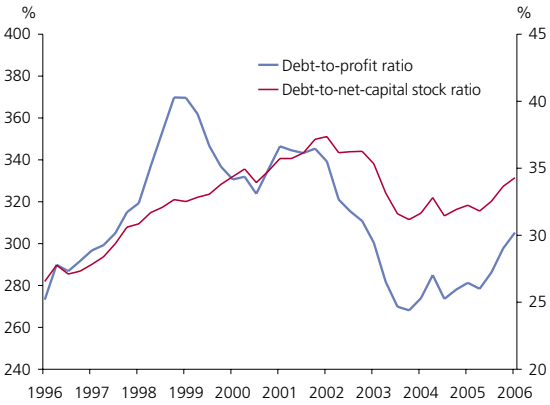
Source: Statistics New Zealand, Treasury.

Corporate leverage has increased

Figure 2.14 shows two debt ratios, debt-to-profit and debt-to-net capital stock, which can be viewed as a rough proxy for the ratio of debt-to-assets. The upward drift in both ratios suggests that corporate sector balance sheets have become more leveraged over the past 12 months, although there is likely to have been significant variation across sectors. At June 2006, bank lending to the corporate sector amounted to $56 billion, roughly 75 percent of total estimated corporate sector debt.

Figure 2.14

Corporate debt ratios



Source: Statistics New Zealand, RBNZ calculations.

[8] Goetzmann and Spiegel (2001) 'The policy implications of portfolio choice in underserved mortgage markets', Low-Income Homeownership Working Paper Series 01.8, Joint Center for Housing Studies of Harvard University.

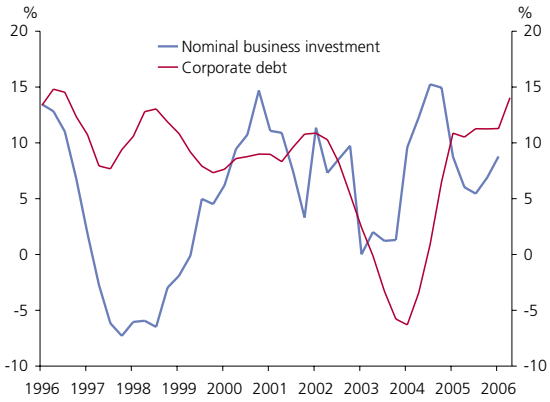
[9] Corporate profits are Statistics New Zealand's estimate of net operating surplus, which is roughly equivalent to an Earnings Before Interest, Tax, Depreciation, and Amortisation (EBITDA) measure. The data is published as part of the National Accounts. We have excluded farms, sole proprietorships, and owner-occupied dwellings. See Goh (2005), ibid.

Mergers and acquisitions driving increases in corporate debt

The apparent upturn in corporate leverage is partly explained by recent merger and acquisition activity. At the start of the year, Standard & Poor's highlighted the increasing risk appetite of the sector as firms search for earnings growth in more challenging economic conditions.[10] Anecdotal evidence suggests that recent acquisitions by private equity financiers could also be increasing corporate sector leverage. Private equity finance involves taking control – usually of an ailing firm – and cutting costs to improve profitability. The restructured entity is typically sold within a three- to five-year time period. Increasingly these investors are seeking control of healthy but low debt firms. These firms are then re-leveraged before resale.

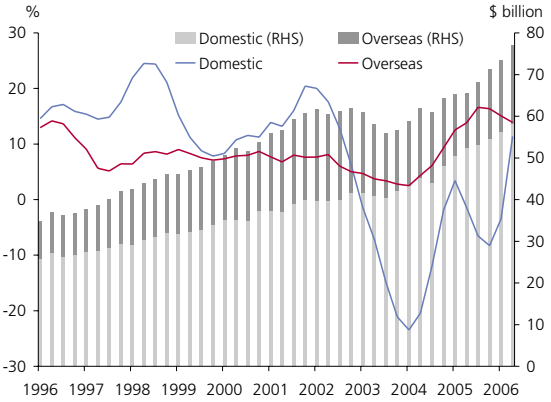
Despite the increase in corporate leverage, overall the sector's balance sheets remain sufficiently strong to weather a period of slower growth in earnings. Growth in profit over the past five years has strengthened corporate balance sheets. Much of the growth in investment in recent years has been financed investment through retained earnings, or through raising new equity (see figures 2.15 and 2.16).

Figure 2.15
Growth in total corporate debt and nominal business investment



Source: Statistics New Zealand, RBNZ.

Figure 2.16
Growth in corporate debt



Source: Statistics New Zealand, RBNZ.

Agricultural sector remains vulnerable but limited risk to financial stability

Previous *Reports* have highlighted the vulnerability of the rural sector to higher interest rates and weaker commodity prices. Renewed strength in the exchange rate, weaker export prices (particularly for meat and dairy products), and rising costs are expected to continue to place pressure on profitability. Energy costs, which account for about 20 percent of farm expenses, remain high, and finance costs have also increased.[11]

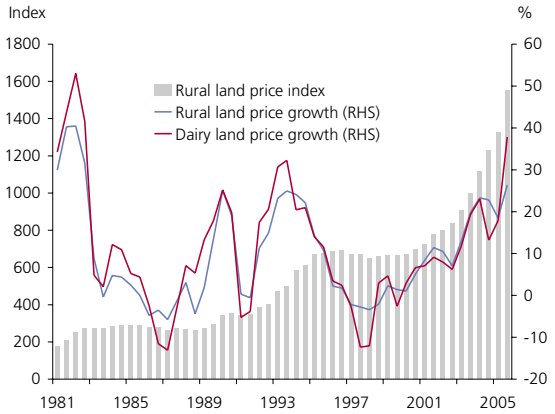
Bank credit to the agriculture sector amounted to $28.2 billion as at June 2006, or roughly 11 percent of total bank assets. While this represents a small proportion of bank balance sheets, the lending risks are concentrated, with about 20 percent of indebted farms thought to account for around 80 percent of the rural debt. Credit growth to the agricultural sector has been supported by growth in rural land prices, which have increased more rapidly than farm productivity (figure 2.17). Annual growth in rural land prices surpassed its 1993 peak in 2005. Consequently, leverage relative to farm profits has increased sharply (figure 2.18). This is in contrast to the corporate sector, where the same ratio has increased more moderately and remains below its 1998 peak.

[10] "Australia & New Zealand ratings round-up 2005, outlook: credit cycle turning", Standard & Poor's Ratings Direct, January 2006.

[11] See Ministry of Agriculture and Forestry, "Situation and outlook for New Zealand agriculture and forestry: an update to the December SONZAF", July 2006.

Figure 2.17

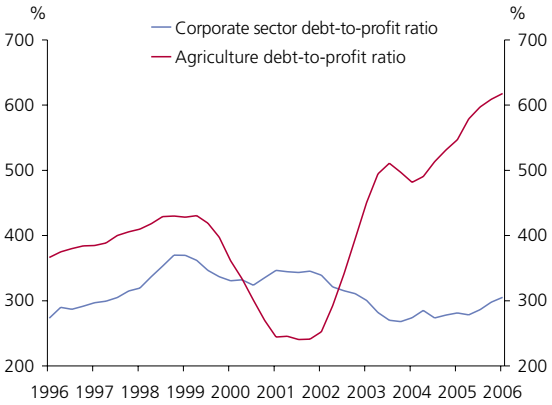
Rural land prices



Source: Quotable Value New Zealand Ltd.

Figure 2.18

Corporate and agriculture sector debt to income



Source: Statistics New Zealand, RBNZ.

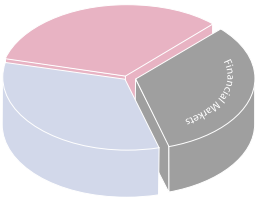
Parts of the dairy industry appear particularly highly geared. The dairy industry accounts for close to 60 percent of bank credit to the agricultural sector. Dairying has been at the forefront of productivity gains in recent years and has contributed to increases in agricultural land prices, but there are signs that these land prices have become excessively high.

Land prices should be linked to the profit that the land can generate (along with other factors). However, the individual farmer's payout from Fonterra Co-operative Group Ltd (Fonterra) is based primarily on the level of production. Hence, higher production capacity has heavily influenced farm and land prices. Moreover, marginal costs are greater than marginal revenue on many farms, suggesting that the profitability of some farms could well be higher if they reduced production.

New entrants – buyers of established farms or conversions of farms to dairy from other uses – are likely to be highly leveraged. As a result many have negative cash flows. With average interest expenses amounting to 82 cents per kilogramme of milk solids (or 23 percent of farm expenses, or 70 percent of farm cash surplus)[12] for owner operated farms, a weaker-than-anticipated payout from Fonterra could pose a threat to the solvency of these farms. However, the number of new entrants is low relative to the number of established farms, many of which have little debt.

[12] See http://www.rbnz.govt.nz/statistics/monfin/agfarm.xls, and Dexcel Limited (2006), "Economic survey of New Zealand dairy farmers, 2004-05"

3 New Zealand's financial markets



The foreign exchange and fixed interest markets have continued to operate satisfactorily, with a very high level of turnover. Liquidity in the New Zealand dollar (NZD) market is very high, reflecting the high level of cyclical interest in NZD investments. Such liquidity is by definition transitory. A rapid reversal of these transitory flows for some unexpected reason would pose challenges to the smooth functioning of the market.

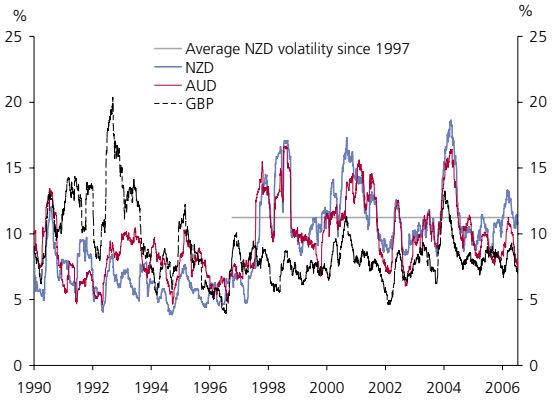
The value of the NZD appears high relative to some underlying economic fundamentals. In large part this represents strong cyclical demand driven by international investors chasing interest rate differentials. Such a high level of participation in the NZD market makes its level susceptible to any sudden re-pricing of global market risk premia and monetary policy expectations.

Similar challenges exist in the interest rate markets which are presently dominated by offshore market participants who have been attracted by New Zealand's cyclically high interest rates.

3.1 The foreign exchange market

Since the last *Report*, the NZD market has operated in an orderly manner but within a relatively wide range. Short-term exchange rate volatility (figure 3.1) has fallen back to below post-1997 average levels but remains somewhat higher than Australian dollar (AUD) volatility. This is largely a reflection of unusually high levels of trading activity, and interest from a wide range of market participants.

Figure 3.1
Volatility in the NZD, AUD and British pound (GBP)



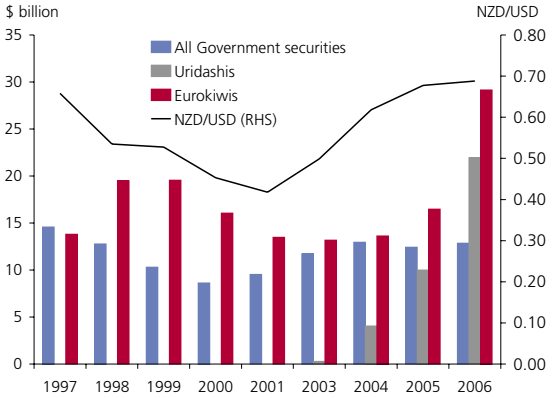
Source: RBNZ.

Liquidity conditions in the NZD market continue to remain favourable and are at historically high levels, reflecting both structural and especially cyclical factors. Trading volumes, whilst slightly lower than levels seen late last year and early this year, are historically high. With these strong levels of trading activity, bid-offer spreads (the difference between where market participants are prepared to buy and sell the NZD) are at low levels.

Factors supporting these strong liquidity conditions include high levels of NZD-denominated offshore bond issuance, such as Uridashi and Eurokiwi bonds, and high levels of short-term trading activity from foreign investors such as hedge funds. Continued high New Zealand interest rates relative to offshore, along with a growing perception that the positive yield gap is likely to persist for some time, has been a key driver of the increase in offshore investor participation in New Zealand financial markets. The level of foreign investment in New Zealand via Uridashi and Eurokiwi bonds as well as government securities, is at historic highs (figure 3.2, overleaf).

Figure 3.2

Estimated foreign holdings of selected securities in NZD



Source: RBNZ.

In addition, there has been an increase in pension funds offering foreign currencies as an asset class in their own right, and a rapid growth in more highly leveraged investment vehicles typified by hedge funds.

While some of the growth in the market seen in recent years is structural (as the economy and trade flows have grown, and as some long-term investors have entered the market) much of the activity of these investors is cyclical. To some extent, as the market has grown, more of these shorter-term participants have been attracted, thereby increasing liquidity further – although probably not in a long term structural sense. Box 2 describes the various types of participants in the New Zealand foreign exchange market.

The cyclical nature of many of these participants could present challenges to the orderly functioning of the foreign exchange market. Investor perceptions of New Zealand assets could become more negative if there were a narrowing in interest rate differentials between New Zealand and the major economies, for example due to a larger than expected weakening in the domestic economic outlook. In these circumstances the normal response of foreign investors would be a gradual reduction in their holdings of New Zealand bonds, resulting in a capital outflow. These capital outflows can be large, but even large capital outflows are manageable if they are spread over a reasonable period of time.[13]

[13] For example, financial markets were orderly during the 1999-2001 period, in which capital outflows were roughly 12 percent of GDP.

However, larger and faster capital outflows pose greater risks to financial stability by exacerbating pressure on exchange rates and interest rates, and creating uncertainty. Such capital outflows could arise, for example, if a sudden negative shift in investor sentiment were to coincide with a withdrawal of cyclical participants who were previously providing liquidity at unusually high levels.

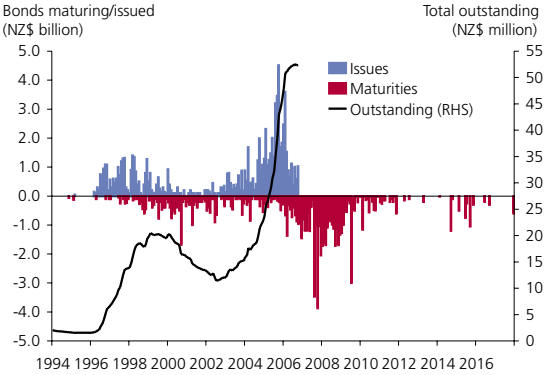
A sudden fall-off in Eurokiwi and Uridashi investments in New Zealand could be one example of this type of negative scenario. There is a relatively high level of Uridashis maturing in the coming year (NZD$10.2 billion) leaving the New Zealand market exposed to changes in the sentiment of Japanese retail investors towards New Zealand.

However, we expect a significant proportion of the soon-to-mature Uridashi bonds will be rolled over into alternative NZD products, even if the NZD interest rate differential narrows. The dispersed nature of the investors (across many Japanese households) and their typical investment horizon (long-term holders of financial assets more focussed on income) support the view that they are unlikely to suddenly and simultaneously withdraw from New Zealand assets.

Figure 3.3

Offshore New Zealand dollar denominated bond issuance

(Eurokiwi and Uridashi bonds)



Source: RBNZ.

Box 2

Participants in the New Zealand foreign exchange market

The recent increase in NZD exchange rate volatility has seen an increased focus on the role of short-term speculative participants in the NZD foreign exchange market. The size of the market has grown considerably in recent years, reflecting both structural growth as the underlying economy and trade have grown, and a cyclical upswing in global investor activity.

There is a wide range of participants in the foreign exchange market, including trade-related and corporate participants, and a variety of investors and entities that manage funds globally. Each have different aims and therefore may behave differently in the market. The sum of the activities of this diverse group of participants provides the liquidity that ensures that the NZD foreign exchange market functions soundly and efficiently (ie, trade and investment transactions can be conducted with reasonable ease at a fair price and transaction cost).

In particular, foreign participants (eg, hedge fund managers) play an important role in providing liquidity, although the extent to which they participate in the market varies according to their perception of the underlying cyclical state of the economy, and the relative level of interest rates in New Zealand versus offshore. Given the cyclical and expectations-driven nature of these sorts of investor flows, participation and liquidity in the New Zealand market (as elsewhere) can change quickly.

Participants in the NZD foreign exchange market can be broadly segregated into the following categories:

- *Exporters and importers (trade financing):* These participants enter the foreign exchange market in order to pay or receive monies as a counterpart to the trading of goods or services. This sort of activity roughly comprises a small amount of aggregate market activity.
- *Long-term foreign investors:* This category includes long-term debt and equity investment into and out of New Zealand. The amount of this sort of activity is harder to assess and will tend to be large, one-off flows.
- *Short-term speculative investors:* The remaining foreign exchange flows are linked to global funds management, unrelated to some underlying economic activity such as a trade flow or equity return. These flows are dominant drivers of activity on a day-to-day basis.

There is also some government activity. This includes the demand and supply of currency due to shifts in government holdings of securities and Crown budget flows. However, this is a very small part of the market.

These broad categories of foreign exchange market participants are outlined in figure 3.4. It is the cyclically determined flows that tend to determine the short -to-medium-term variations in the exchange rate. They also play the dominant role in liquidity provision (volume) in the foreign exchange market given the mobile nature of such capital.

Over recent years, in part due to low global interest rates, global investor appetites for higher risk products have grown. This has seen an increase in pension funds offering foreign currencies as an asset class in their own right, as

Figure 3.4

Examples of participants in the NZD foreign exchange market

More cyclical participants	Retail investors, eg, Uridashi bonds
	Short-term leveraged investors
More structural participants	Governments, international financial institutions
	Foreign direct investors
	Importers and exporters

well as rapid growth in more highly leveraged investment vehicles typified by hedge funds. This development has contributed strongly to the growth in NZD volume over recent years. Some of the growth may be 'structural' in nature if these investors have genuinely longer investment time horizons.

Hedge funds are collective investment vehicles generally offered to high net worth individuals or institutional investors (although they are becoming more accessible to a more conventional investor base). Hedge funds typically take on a high degree of financial leverage and tend to establish large positions in markets they operate in. They offer a wide variety of trading technologies and approaches, and thus are more diversified than perhaps is commonly perceived or historically was the case. Nevertheless, hedge funds all attempt to take advantage of perceived market mis-pricing of assets, including currencies. They aim to be able to exit any given investment as quickly as they enter it.

Market global opening hours and trans-Tasman financial integration

Earlier this year the professional and industry bodies active in the foreign exchange market in New Zealand received a proposal from the Australian Foreign Exchange Committee to delay the opening of the New Zealand market by one hour, from 5 am to 6 am Sydney time.

Both the Reserve Bank and the New Zealand Financial Markets Association agreed that this proposal was unacceptable. The delayed commencement time implied that for certain periods of the year (when trans-Tasman 'daylight saving' hours differed), the New Zealand foreign exchange market would not be considered open until 9 am local time – which is after usual business opening hours. Such a move introduced unnecessary legal and operational risks for participants in the NZD market, as well as potentially constraining activity.

The New Zealand representatives were comfortable with shifting the official commencement time in New Zealand to 8 am New Zealand time (rather than 5 am Sydney time) as that would resolve all of the operational and time-difference issues the Australian Foreign Exchange Committee was concerned with. However, after much deliberation, the initial proposal was withdrawn and the opening hours remain 5 am Sydney time.

Partly because of this event, the New Zealand Financial Markets Association is now better organised and better able to represent New Zealand market issues globally. This is especially important when 'New Zealand market' interests differ from those of foreign, globally active banks, including parent banks. It also provides a useful example of why the Reserve Bank's local incorporation policy insists that the management and boards of New Zealand registered banks are required to act in the best interests of the New Zealand bank, (which are more likely to be aligned to the interests of the New Zealand market).

3.2 Interest rate markets

Since the May *Financial Stability Report* trading volumes in the fixed income, swaps and futures markets have remained high. Anecdotal evidence suggests the recent increase in domestic interest rate expectations resulted in large speculative positions held in swap and fixed-rate agreement markets being liquidated, leading to a larger volume of trade in these markets.

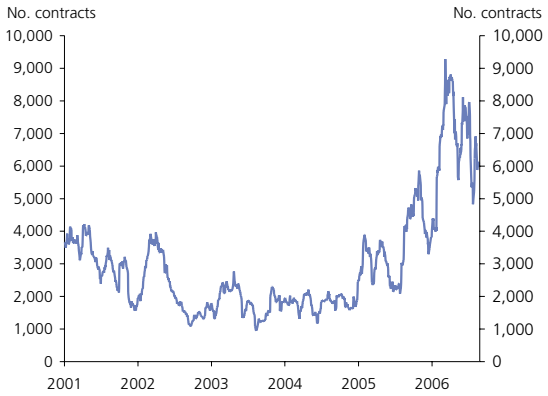
Anecdotal evidence of high-traded volumes was reinforced by the increase in turnover in the 90-day bank bill futures market (figure 3.5). These volumes have been much higher than normal, reflecting feedback that volumes in futures have been boosted by market participants using the futures market to clear interest rate risk. Hence there appears to have been a change in the market structure, with investors choosing to trade in futures rather than swaps.

Data collected by the Bank shows that, in spite of overall bond turnover generally rising since early 2005, estimated turnover in the domestic interbank market has fallen as a proportion of total turnover (figure 3.6). This highlights the increased importance of offshore market participants as a source of demand and trading for New Zealand bonds.

Figure 3.5

Turnover of first four 90-day futures contracts

(30-day moving average)



Source: RBNZ.

This change in relative importance has coincided with an increase in the level of government securities held offshore to historically high levels.

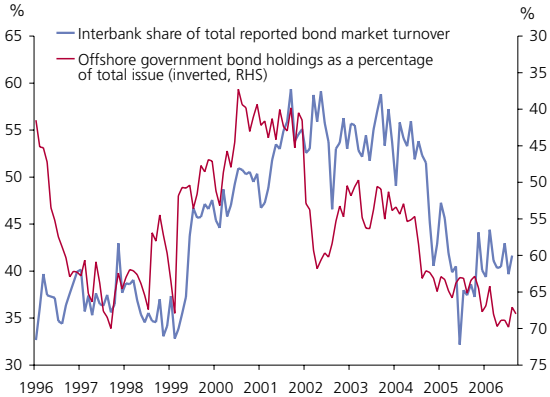
The fall in the relative importance of domestic bond market participants has motivated a change in the bond market broker system. Previously only domestic interbank price makers had been able to transact directly through the broker. Brokers now, however, accept orders from a wider range of counterparties (especially offshore). Anecdotal evidence suggests that this change has increased activity in the broker market and has ultimately helped widen participation. Partly in response to the change in broking arrangements, one of the domestic interbank participants chose to cease price making activities. Four domestic interbank price makers remain in the market.

The reduction in the number of domestic interbank participants creates a risk to liquidity should the current mix of domestic/offshore bond trading change, particularly if it were to do so abruptly. If foreigners were to sell their holdings of New Zealand government bonds *en masse*, the large amount of bonds would be difficult for the domestic market to absorb.

In July the Reserve Bank introduced changes to the bond lending facility that the Bank operates. The changes allow market participants to borrow New Zealand government bonds for periods up to a week. Previously, partly because of the high offshore holdings of government bonds, participants had difficulty sourcing bonds in the bond repurchase market to cover short positions. This led to high costs of borrowing and had a negative impact on liquidity, as traders often would not provide liquidity when the bond was not already physically held. The new bond lending facility has improved the ability of market participants to source securities, and has reduced the cost of borrowing those securities.

Figure 3.6

New Zealand interbank government bond turnover and offshore government bond holdings



Source: RBNZ.

Note: New Zealand interbank government bond turnover as a proportion of total reported bond turnover, and the proportion of government bonds registered as held by non-residents.

Box 3

Implementation of new Liquidity Management regime

As described in the previous *Report*, the Bank has been developing a new liquidity management (LM) regime over the past year. This led to the release of a consultation document on the proposed regime in March.[14] Subsequent to extensive consultation with participants, the Bank released the final form of the new regime on 30 June 2006 and has commenced implementation.[15]

The new regime was developed in response to pressures in the money market. As described in the previous *Report*, symptoms of these pressures included the rise in the implied overnight borrowing rate in the foreign exchange swaps market above 25 basis points over the Official Cash Rate (OCR) – the rate at which funds could be borrowed from the Bank on a secured basis – and the high spreads between Treasury and bank bill yields for a sustained period of time early this year.[16]

These symptoms reflected the shortage of government securities that could be used to borrow from the Bank. As a result the Settlement Cash Level (SCL) was increased (in two steps from NZD 20 million to NZD 2 billion) in late January and early February, prior to the introduction of the new regime. This helped to ease pressures in the money market and payments system, as the higher level of settlement cash meant that banks reduced their reliance on government collateral, given that they had less need to borrow cash secured from either the Bank or each other.

Implementation commenced in July and involved:

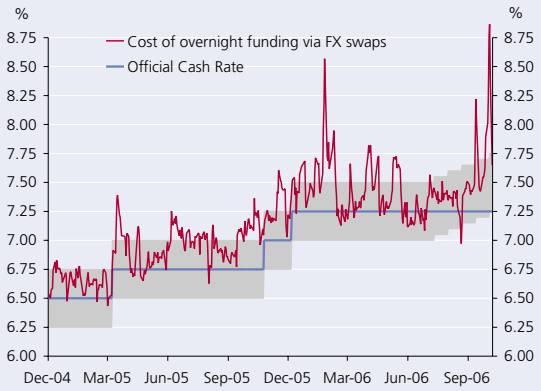
- removing existing intra-day liquidity facilities;
- increasing the SCL – it was expected that the SCL would be $5-7 billion with greater day-to-day variability in system wide settlement cash balances (+$500 million of the level of settlement cash); and
- increasing (by 5 basis point increments) the interest rate paid on deposits to the OCR.

The Bank continues to offer the Overnight Reverse Repurchase Facility (ORRF) as a cash facility to approved counterparties. This facility, introduced with the OCR in March 1999, allows market participants to raise cash (secured over New Zealand government debt) at 50 bp higher than the rate paid on overnight cash balances in the event cash is not otherwise available in the market.

Since the introduction of the new regime, conditions in the money market have improved, as evidenced by the cost of funding through the overnight foreign exchange swap market generally trading between the interest rate paid on deposits (the floor) and the interest rate charged for cash raised through the ORRF (the ceiling). The recent spike in this cost of funding reflected a brief mismatch of liquidity in the system (figure 3.7).

Figure 3.7

The official cash rate and the cost of funding through the overnight FX swap market



Source: RBNZ.

In addition, the spread between Treasury bill yields and bank bill yields fell from record highs following the initial increases in the SCL and the subsequent announcement of the new LM regime (figure 3.8). This reflected the reduced demand for Treasury bills, as the higher level of settlement cash meant less of these securities were required (since there was less need to borrow secured from either the Reserve Bank or other counterparties) and Treasury bills issued after 13 July 2006 were no longer eligible as security for intra-day liquidity ('autorepo').

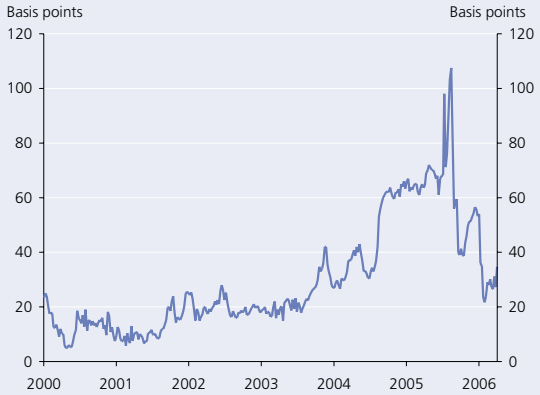
[14] For further detail see "Review of the Reserve Bank of New Zealand's Liquidity Management Operations – A consultation paper" March 2006

[15] For further detail, see "Reform of the Reserve Bank of New Zealand's Liquidity Management Operations" June 2006.

[16] For further detail, see *Financial Stability Report* May 2006.

Figure 3.8

Spread between 3-month t-bills and bank bills



Source: RBNZ.

Figure 3.9

Peak autorepos across all banks

(RBNZ maximum exposure to autorepos)

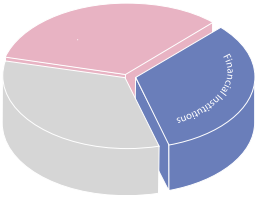
Source: RBNZ.

Also reflecting improved conditions in the money market is the reduced use of the 'autorepo' facility prior to the discontinuation of the facility ono 5 October 2006 (figure 3.9). With banks holding a higher level of cash on their balance sheets given the increased settlement cash in the system, there is now less need to borrow from the Bank during the day to fulfil their payment obligations.

In addition, the use of standing facilities such as the ORRF has been rare since the introduction of the new regime. This suggests that banks have successfully transitioned to the new environment and are cooperating to ensure that cash is being appropriately distributed throughout the system.

The implementation of the new LM regime has proceeded well. The interest rate and FX swap markets have exhibited volatility as expected during this process, but there is no indication that the settlement system lacks the flexibility to deal with fluctuations in activity in these markets.

4 New Zealand's financial institutions



Banks' balance sheets continue to grow, underpinned by strong capital positions and good profits. However, residential mortgage lending is at historic highs despite a slowing economy and very high household debt-gearing. This cocktail exposes banks to potential losses stemming from slower growth and higher risk new lending in this area.

Non-bank lending institutions are still experiencing rapid growth in assets, albeit at a slightly lower rate than over the last few years. Within the sector, further financial failures are quite possible among non-bank deposit takers, but the sector as a whole is not showing any signs of widespread loss or contagion.

4.1 The banking system

Banks' financials continue to be robust, with strong capital levels and healthy profits. However, despite softer economic conditions, banks appear still to be lending aggressively into the home mortgage market. Continued expansion at the current pace may come with much higher levels of risk, particularly if balance sheet growth is pushed on by unreasonable investment return expectations.

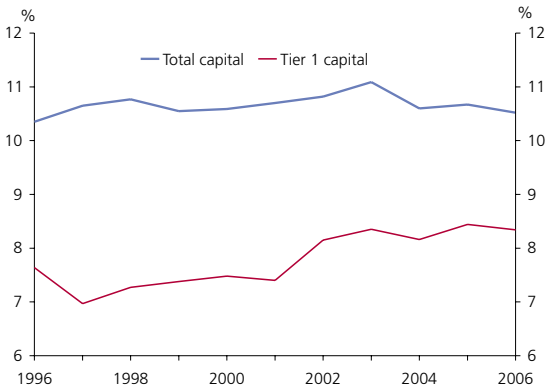
Bank margins have narrowed due to intense price competition in the fixed rate mortgage market. With a slowing economy, and re-pricing of housing debt at higher interest rates, banks need to be alert to the possibility that highly indebted households may find it difficult to service debt. Should economic conditions deteriorate, so will the quality of banks' mortgage portfolios.

As the economy slows, the quality of corporate lending portfolios may also decline. Banks will need to manage through an economic slowdown with record levels of household indebtedness. The concentration in residential loans will increase risks, and therefore adequate capital levels will be important to help absorb unexpected economic losses.

Banks continue to be well capitalised

Banks hold capital as a buffer for unexpected losses in order to satisfy their own risk management requirements and to achieve desired credit ratings (see box 4 for a description of credit ratings). These considerations lead banks to hold more capital than is required by regulation alone. Figure 4.1 shows that tier one capital and total capital to risk weighted assets are currently 8.3 percent and 10.5 percent against minimum requirements of 4 percent and 8 percent respectively. The

Figure 4.1
New Zealand banking system capital ratios



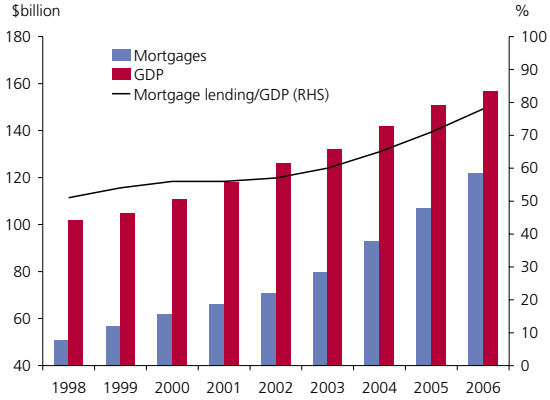
Source: Registered banks' general disclosure statements (GDS), as at 30 June.

Reserve Bank is implementing Basel II (see Chapter 6) to ensure banks maintain capital levels that provide adequate protection against most unexpected events.

Lending activity continues to increase exposure to households

Mortgage lending by banks continues to grow strongly, rising to a nominal high of $122 billion at the end of June. Figure 4.2 shows that since 2003 mortgage lending has been growing faster than nominal GDP. The strength of this growth is reflected in the ratio of bank mortgage lending to GDP, which has grown from 50 percent of annual GDP to around 78 percent in 2006 (figure 4.2).

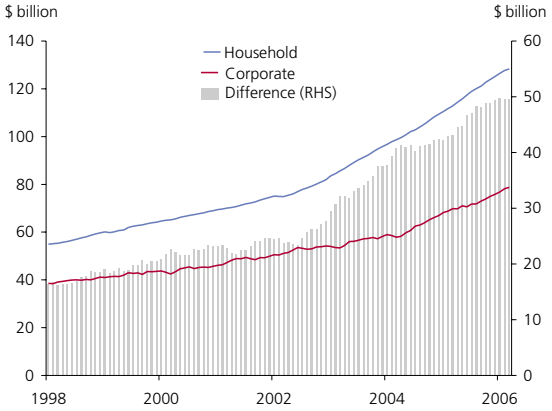
Figure 4.2
Mortgage rising relative to GDP



Source: Statistics New Zealand and RBNZ registered banks' standard statistical returns (SSR), as at 30 June for mortgage data. GDP to June 2006.
Note: Nominal values.

Bank residential mortgage lending has also exceeded non-financial corporate lending.[17] Figure 4.3 shows the difference between monthly increases in mortgage lending and resident non-financial corporate lending. Since 2002, the difference has increased from $8 billion to around $34 billion.

Figure 4.3
Mortgage lending has been increasing relative to corporate lending



Source: RBNZ – registered banks' SSR, as at 31 August.

Concentration in mortgage lending exposes the banking system to events that reduce the ability of borrowers to service debt, and to large and rapid depreciation in owner occupied and investment property values. This exposes banks to 'joint default' events as described in Chapter 2.

Exposure to agriculture is also increasing

Agricultural lending accounts for 36 percent of bank lending to the resident non-financial corporate sector. It is ahead of lending to property and business services (27 percent), and rivals lending to all other industrial sectors (37 percent) as the main recipient of non-household bank lending. As noted in Chapter 2, we see some parts of agriculture as relatively vulnerable due to rising debt leverage relative to farm profits.

Interest margins are tight

Lending competition continues to put downward pressure on already tight interest margins. The interest margin is the ratio of net interest income to average interest-earning assets. The margin will fall when lending is growing faster than net interest income. This outcome is unsurprising in an environment where banks are competing to grow balance

[17] Resident non-financial corporate lending excludes claims on finance, insurance, households and non-residents. It also excludes claims on the public sector, namely, government administration and defence, education, and health and community services.

sheets by sacrificing price for lending volume and market share.

Interest spreads for the large four banks are shown in Appendix 1. Spreads have contracted for some banks, while for others they have increased. Due to the effects of other International Financial Reporting Standards (IFRS) changes, it is difficult to draw firm inferences about margin pressure from spread data. However, the information provides some indication as to how aggressive price competition has been in the banking sector.

These competitive forces underscored Superbank's announcement on 4 August 2006 that it is ceasing operations. The bank cited mortgage price competition and margin pressure as reasons for disappointing financial performance and the decision to close. Additionally, the supermarket distribution model was not generating the retail market penetration the bank had hoped for. Superbank's mortgage book has been sold to GE Money. Kiwibank has offered new deposit accounts to Superbank's customers. Superbank has repaid depositors who did not take up Kiwibank's offer.

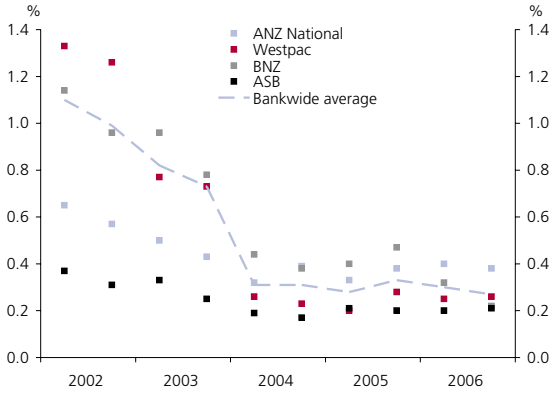
Changes to the International Financial Reporting Standards (see box 6) have made the effect of brokers' fees on interest spreads more transparent. High broker fee structures have led some banks to consider moving away from this distribution channel.

Asset quality is good but past-due assets have increased

Asset quality remains good, but it is important to keep a watching brief. Past-due assets are an indicator of asset quality deterioration, and have increased during the six months to June 2006. However, loan growth and a reduction in impaired assets have caused a decline in the ratio of past due and impaired assets to gross lending (figure 4.4). The current *level* of past due assets is the highest since March 2004. There is potential for asset quality to decline significantly as banks compete for lending growth by relaxing credit standards. Despite lending rate discounting, banks will find that marginal borrowers are adversely affected by a slowing economy.

Figure 4.4

Past due plus impaired assets to gross lending



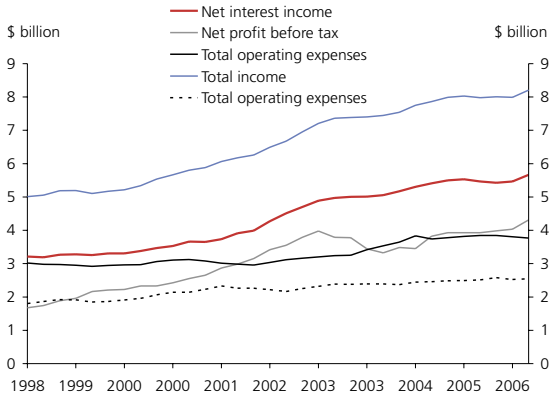
Source: Registered banks' GDS, to 30 June 2006.

Expense reduction is promoting pre-tax profit growth

Income levels across the banks appear to have plateaued despite a small rise during the June year (figure 4.5). The renewed fixed-rate mortgage price war has the potential to reverse the recent income rise. With bank balance sheets growing, the ratio of total income to average total assets is trending down (figure 4.6). This reflects similar trends in net interest income and other operating income.

Figure 4.5

Banking sector income levels

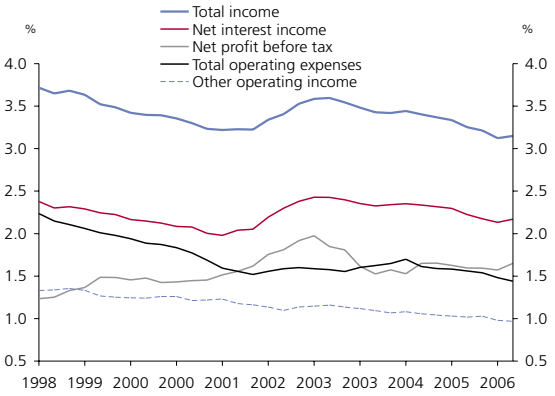


Source: Registered banks' GDS, to 30 June 2006.

Pre-tax profit levels appear largely to be maintained by a declining trend in other operating expenses. Further operating expense reductions may be achievable, for example, with the adoption of more efficient technologies. However, banks must be able to identify and manage higher levels of operational risks that may ensue from the cost reductions.

Figure 4.6

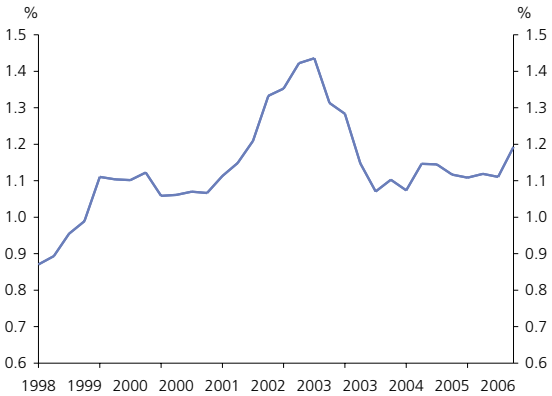
Banking sector income to average assets



Source: Registered banks' GDS, to 30 June 2006.

Figure 4.7

Banking sector after-tax return on assets



Source: Registered banks' GDS, to 30 June 2006.

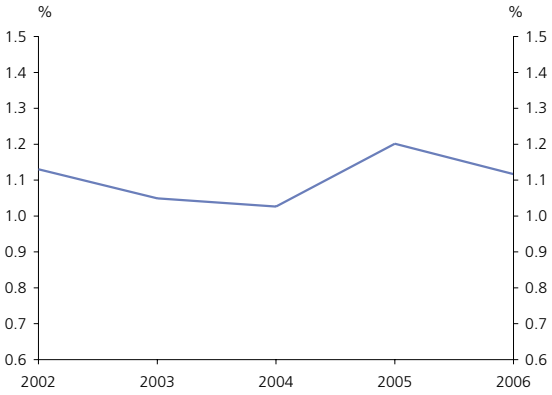
Increased return on assets and return on equity

The post-tax return on assets increased during the June 2006 quarter (figure 4.7), with the ratio remaining above 1 percent. Australian parent bank post-tax average return on assets is lower than the New Zealand bank average but also remains above 1 percent (figure 4.8). The reading for 2006 refers to annualised first-half performance, but most banks tend to have a stronger second-half year. IFRS changes are also likely to be affecting return measures.

Figure 4.9 plots average post-tax return on equity. The decline for New Zealand through 2003-2004 was largely attributable to the amalgamation of the ANZ and National banks. The average post-tax return on equity is currently below the parent bank average (figure 4.9), potentially reflecting strong pricing pressure in the domestic fixed-rate mortgage market. The Australian measure also reflects better income diversification benefits with non-interest income streams forming a higher proportion of total income.

Figure 4.8

Major four Australian banks' after-tax return on assets



Source: Financial reports.

Figure 4.9

Large four banks' after tax-return on equity

Source: Registered banks' GDS, as at 30 June for NZ series. Australian banks' financial report – 31 March for ANZ, National Australia Bank and Westpac; 30 June full year for CBA.

Australian parent banks

Australia's four largest banks also own New Zealand's major banks, which dominate the banking system (appendix table A3). Hence, the stability of the Australian parent banks has a direct bearing on the stability of New Zealand's financial system. Conversely, New Zealand operations comprise approximately 15 percent of total assets of Australian parent banks. And performance of the New Zealand operations is material to both the overall performance of these banks, and the stability of the Australian financial system. This point was reinforced recently by the International Monetary Fund in their Financial System Assessment programme for Australia.[18]

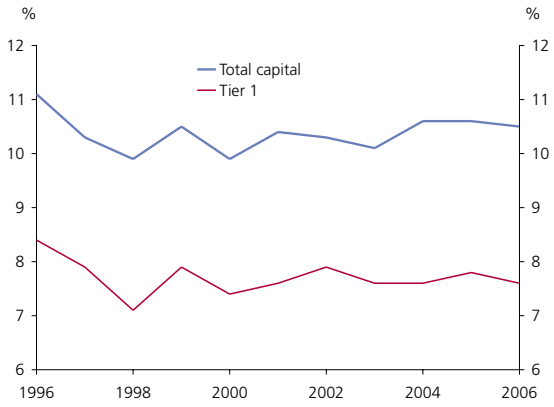
Australian banks have performed well, recording strong profits. The RBA reports that profitability has been supported by low levels of bad debts, and while arrears have increased recently this is not unexpected given the easing in credit standards that has taken place over the past decade. Capital ratios are comfortably above regulatory requirements (figure 4.10), although somewhat lower than is observed in New Zealand's banking system. As in New Zealand, competition in the sector is deemed to be strong; attempts to grow group profits through the subsidiaries could increase risks to New Zealand's financial system stability.

The Australian economy has been dominated by the strong performance of Western Australia (see Chapter 2 figure 2.6). However, the bulk of bank mortgage lending is in the eastern states, where opportunities for increased lending, and hence profit growth, may be more limited. One response to this situation could be for parent banks to look for increased returns offshore and hence take on more risk (eg, by lowering credit standards). Similarly, a higher risk strategy could be considered in order to boost their New Zealand subsidiaries return on equity to match that of the parent. Care needs to be taken to see that such strategies do not lead to excessive risk taking, which could threaten stability.

[18] See http://www.imf.org.

Figure 4.10

Australian banking system capital ratios



Source: Reserve Bank of Australia.

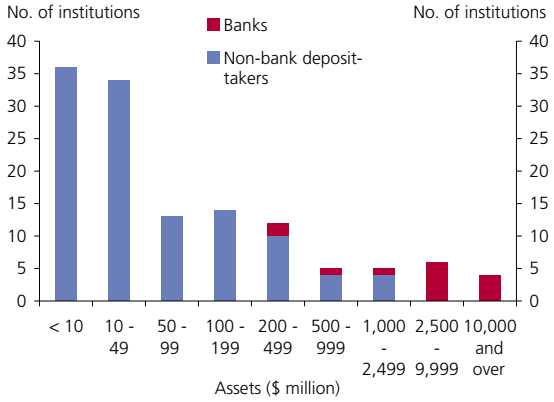
4.2 Non-bank lending institutions

There are a large number of non-bank lending institutions – more than 200 – but most of them are very small relative to the banks. The total assets of non-bank lending institutions are around $27 billion, which is only around 10 percent the size of the total assets of the registered banks (which was $274 billion as at end-June 2006). Only around 50 non-bank lending institutions have total assets over $100 million.[19]

Non-bank lending institutions are a diverse range of financial institutions, encompassing two main groups of institutions. Firstly, there are institutions that carry out bank-like business, in that they derive their funding from the New

Figure 4.11

Size distribution of non-bank deposit-takers and registered banks



Source: Registered banks' GDS, RBNZ NBFI SSR and annual non-bank lending institutions returns. Registrar of Friendly Societies and Credit Unions. As at December 2005.

[19] The 50 non-bank lending institutions we refer to include several finance companies operating within a single group.

Zealand public via deposit-taking. We use the term 'non-bank deposit takers' to refer to these institutions.[20] The non-bank deposit-takers are regulated differently to banks and are not authorised to use a banking name. Non-bank deposit takers are generally more specialised in their lending than banks.

The second group is 'non-deposit-takers' who obtain their funding from non-public sources, such as shareholders, related parties, or wholesale markets. The total assets of non-deposit-takers are around half those of the non-bank deposit takers. However some individual non-deposit takers are as large as the smaller banks, for example, GE Money. Most of the non-deposit taking sector is foreign-owned, and they are generally involved in lower-risk areas of lending. Non-deposit takers' funding from New Zealand banks is larger than that of the non-bank deposit-takers, but it is still relatively small.

Non-bank deposit takers

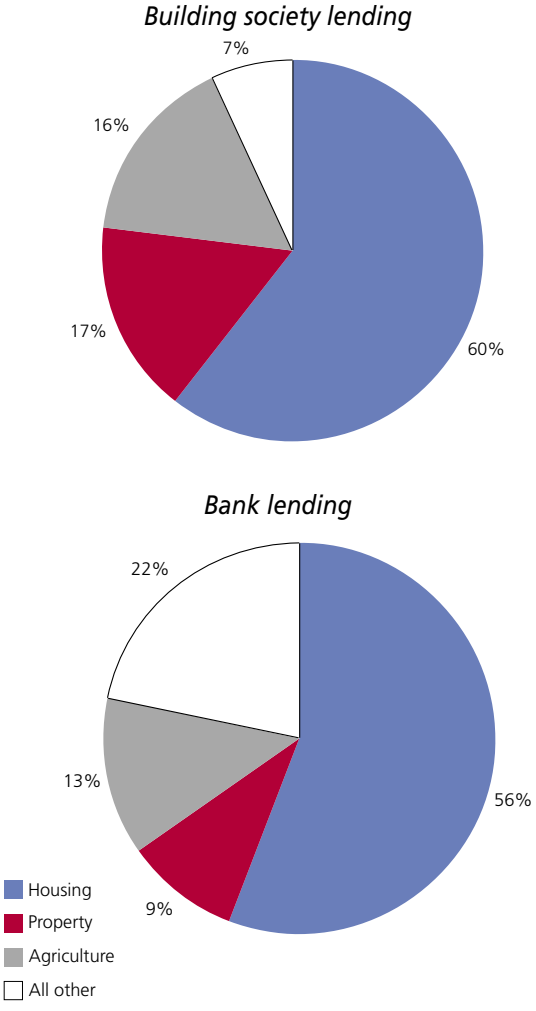
Under the proposals of the 'Review of Financial Products and Providers', non-bank deposit-takers that meet minimum prudential requirements could opt to become 'authorised deposit takers' and would be supervised by the Reserve Bank.[21] We expect that only the larger non-bank deposit-takers will become authorised deposit-takers, given the likely prudential requirements and business case.

Non-bank deposit-takers comprise around 70 finance companies and a group we refer to as 'savings institutions' (ie, 10 active building societies, around 50 credit unions, and the PSIS). New Zealand households currently have approximately $8 billion of deposits with finance companies and $4 billion with savings institutions. This represents around 7 percent of households' total financial assets, and compares with household deposits with banks of $65 billion at June.

Non-bank deposit-takers have a wide range of lending profiles. They positively contribute to the diversity of the New Zealand financial system, by assisting in allocating capital to those with the highest demands.

However, efficient capital allocation requires that financial risks are adequately priced and managed. Many non-bank deposit-takers, particularly among the finance companies, lend in higher risk parts of the economy such as consumer finance (including car loans) and property development. And while more than half of building societies' business is in safer residential mortgage lending, they are not restricted to this type of business. The aggregate lending profile of the societies includes little more household mortgage lending than that of the registered banks, while the rest of their lending is less diversified (figure 4.12).

Figure 4.12
Building society and bank lending to New Zealand residents



Source: Registered banks' SSR and NBFI SSR, as at June 2006.

[20] It is important to note that 'deposit-taking' is used here as a short-hand term to refer only to deposits from the public. In more general usage, the term 'deposits' can be applied to deposits that come from companies and other financial institutions.

[21] The 'Review of Financial Products and Providers' proposes changes to the regulation of non-bank financial institutions, see section 6.4. We use terminology from the Review of Financial Products and Providers and refer to institutions that carry out bank-like business as 'non-bank deposit-takers'.

Table 4.1

The ten largest non-bank deposit takers

Name	Total assets ($million)	Nature of lending
UDC Finance[22]	2449	Asset-based finance for plant, vehicles and equipment, in wide range of sectors
Southland Building Society	2058	Residential mortgages, rural lending, other
Hanover Group (issuer subsidiaries)	1487	Property development and investment, finance and insurance
South Canterbury Finance	1287	Business and commercial, property, plant and equipment, rural, consumer
Marac	1081	Consumer, property, asset-based finance
PSIS	987	Mostly residential mortgages, some consumer
Fisher & Paykel Finance Group	781	Consumer and retailer financing
Bridgecorp	576	Residential and commercial property development
Strategic Finance	499	Residential and commercial property
Southern Cross Building society	481	Residential, farming and commercial mortgage lending

Note: This table is based on the most recently available published prospectus or accounts, which are dated end-March or end-June 2006, with the exception of Bridgecorp, whose information is dated end-December 2005.

Table 4.1 shows the ten largest non-bank deposit-takers by asset size, and illustrates their diversity. The largest are of comparable size to the smaller banks (see Appendix table A5 and figure 4.1). At the other end of the scale, very few credit unions individually have assets over $50 million, with the total for all of them being around $750 million. Their business is mainly personal lending, with some home loans.

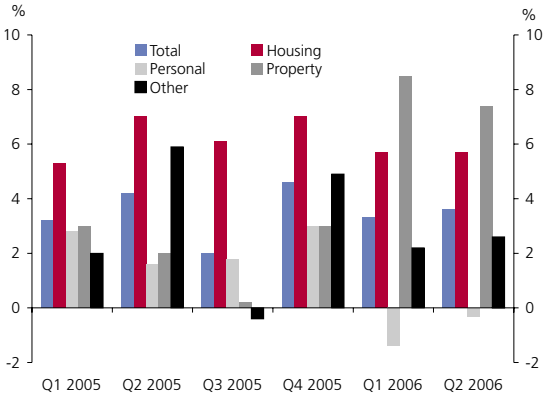
Recent developments

Three New Zealand based and owned non-bank lending finance companies failed this year – National Finance 2000, Provincial Finance and Western Bay Finance. All three specialised in lending secured on second-hand cars. This market has been hit early in the economic slowdown, with falling prices and over-supply. Although this market weakness contributed to the failures, there is little doubt that all three were principally caused by inadequate credit-risk management. The largest of the three companies had embarked on its current area of business only within the last few years, and all three had experienced rapid or extremely rapid lending growth over that period.

Loan defaults are likely to increase in other sectors of the slowing economy, including residential mortgages. Lending for property development is one significant area for some non-bank lenders and. As discussed in the last *Report*, the rapid growth of this lending, and the exposure of some companies to Australian property markets, remain potential sources of concern. Asset growth of the property specialists among the non-bank deposit-takers during 2006 has not slowed much below the 25 percent annual average growth rate seen over 2001-2005 (figure 4.13). Although there are only limited signs to date of increasing levels of problem loans in this sector, lending concentration is a particular risk – some of the property specialists would face solvency

Figure 4.13

Larger non-bank lenders' lending growth by sector



Source: RBNZ NBFI SSR.

Note: 'Other' includes all lending to non-residents. Data is adjusted for series breaks.

[22] UDC Finance is a wholly-owned subsidiary of ANZ National Bank. We include it in this table for completeness, but its business is reflected in the banking system statistics in section 4.1, as part of the ANZ National group, rather than in the non-bank lending institutions total figures in this section.

problems if there were a significant write-down of just one of their largest individual lending exposures.

It is possible that other non-bank lenders are similarly vulnerable to emerging sector weakness, particularly among those that have been growing their loan books rapidly and have no experience of preparing for, and managing, a slowdown.

Such failures do not in themselves pose a threat to financial stability. But it is important to consider the impact they may have on other financial firms, which could threaten financial stability through a contagion effect.

Aggregate direct lending exposure of registered banks to non-bank lenders accounts for only 1 percent of their total lending ($2.5 billion). The only non-bank lenders that banks are lending to in any size are either non-deposit-takers with strong overseas parents, or companies with an investment-grade credit rating (often both). Therefore we do not see any material threat of non-bank lender failures directly causing knock-on failures in the banking sector. Also, the vast majority of non-bank lenders have no direct lending exposure to other non-bank lenders (except within the same group).

A bigger contagion risk is the possibility of a non-bank deposit-taker failure undermining investor confidence in other similar financial firms. There is no clear evidence that this has happened in reaction to the three recent failures. However, there has been some comment that banks possibly have possibly received increased deposits as a result of a 'flight to quality'.

We think that wider-spread problems in the non-bank lending sector would be unlikely to undermine confidence in banks, because of the perceived and actual differentiation between the bank and non-bank sectors. In fact it is likely that the large banks would gain funds being withdrawn from non-bank lenders.

A non-bank lender should be able to survive a temporary loss of confidence provided that its underlying business is sound and its liquidity position is adequate to handle a period of reduced funding renewals. The majority of non-bank deposit-takers' lending is medium to long term. The most vulnerable appear to be the savings institutions, many of whom raise well over half of their funding at call or at notice periods of less than three months. They therefore need to assess how far rollover rates could fall under stress, and to estimate what other readily realisable sources of cash might be needed to fill any gap.

Another potential concern from further non-bank lender failures, distinct from financial stability, would be the loss of financing to particular sectors in which non-bank lenders play an important niche role. Examples include second-hand car finance and mezzanine finance for property development. But in our view other lenders would be willing to expand or move into such areas, which would most likely mean that only the most marginal business would be affected other than temporarily.

Looking further ahead, the Government's 'Review of Financial Products and Providers'[23] is proposing enhanced regulation for non-bank deposit-takers. These enhancements are aimed at improving the quality of information available to investors, and promoting more consistent supervision across the non-bank sector. Therefore these changes may contribute to reduced probabilities of failure amongst the authorised deposit-takers. However, the proposed legislative changes will not eliminate failures in the non-bank sector and do not purport to do so.

[23] See Chapter 6.

Box 4

Credit ratings

Credit ratings seek to inform market participants, investors, depositors, and regulators of the willingness and ability of the rated entity to meet its financial obligations. Put another way, they provide an independent opinion on the risk of the entity defaulting on its obligations (eg on its obligation to repay deposits or bonds).

To do this, rating agencies collapse the many dimensions of risk[24] that determine an entity's financial health into a single measure, or rating, which is comparable across rated entities and sectors. This helps market participants, investors, depositors and regulators to identify, price, allocate and manage their risk. It also provides a source of market discipline on entities seeking to obtain funds from investors, thereby assisting to promote stronger risk management within the entities.

Participants in international capital markets often require credit ratings from at least two international ratings agencies before they consider investing in an issuer's debt securities. Financial institutions may also require a credit rating before extending lines of credit to borrowers.

Credit ratings from different sources differ with respect to notation, analytical criteria, and performance, however. Consequently, the most useful credit ratings are:

- formulated using a well defined process and transparent analytical criteria;
- subject to regular monitoring of performance to ensure that they accurately reflect credit risks;
- clearly explained to investors; and
- comparable across and within sectors, both domestically and globally.

For banks, the Reserve Bank of New Zealand requires that the ratings come from reputable and internationally active rating agencies such as Fitch, Moody's, and Standard & Poor's. Ratings among these agencies are broadly comparable. For example, an 'AA' rating from Standard & Poor's and Fitch, and an 'Aa' rating from Moody's all imply a default probability of between 0.1 percent and 0.7 percent over a five-year time horizon.

Higher rated entities have lower probabilities of default, and are less likely to experience ratings downgrades. Figure 4.14 shows the implied probabilities of default, from historical default rates, for rating categories for Fitch, Moody's, and Standard & Poor's.

The probability of default increases non-linearly as the rating declines. According to Standard & Poor's, if an entity's credit rating falls from AAA to AA, the probability of default rises from 0.1 percent to 0.3 percent. However, a downwards move from B to CCC is associated with a much larger increase in the probability of default: in this case the probability of default rises from 24 percent to 48 percent.

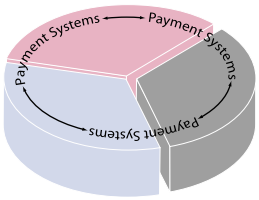
Figure 4.14

Cumulative average default rates over a 5 year horizon

Source: Fitch, Moody's, Standard & Poor's.

[24] These risks include commercial and operational risks, corporate and industry structure, regulatory arrangements and other public policy factors, overall strategy and quality of management, along with financial analysis of past performance, current position and outlook.

5 New Zealand's payment systems



The Reserve Bank takes an active interest in the payment system and in recent times has pursued several initiatives designed to reduce payment system related risk. These include the move to real-time gross settlement, delivery-versus-payment in securities settlement, the entry of the New Zealand dollar to the CLS system, and legislative changes to provide for more legal certainty in respect of these processes.

This chapter represents our reporting on the payment system and our assessment of soundness and efficiency issues in the payment system. In this report we focus on the two payments systems owned and operated by the Reserve Bank. Our overall assessment is that these systems have performed satisfactorily over the period since the previous *Financial Stability Report*.

The Reserve Bank owns and operates two large-value payment systems – the Exchange Settlement Account System (ESAS) and the Austraclear New Zealand system.[25] Both these systems are systemically important, high-value payment systems (the average transaction size for each system exceeds $5 million). They have been the focus of a number of important initiatives by the Reserve Bank in recent years to improve the soundness and efficiency of New Zealand's payment and settlement systems.

ESAS rule changes

Over the period since the previous *Report* (the review period), the Reserve Bank has made two amendments to the rules of ESAS, both relating to the settlement mechanism. These amendments are expected to increase the efficiency of the system.[26]

The first amendment makes the use of the auto-offset facility in ESAS mandatory. The auto-offset mechanism searches the ESAS payment queue for offsetting transactions between two participants and settles them simultaneously when found. Previously, participants could choose whether or not to enable auto-offset for their transactions. Auto-offset speeds up the settlement of pending transactions by economising on the liquidity needed for settlement, and its effectiveness is enhanced by making it mandatory.

The second amendment provides the Reserve Bank, as system operator, greater flexibility to alter technical parameters impacting on the settlement process (in effect 'tuning' the system to promote settlement efficiency) – subject to the Reserve Bank advising participants of such changes before they take effect. One such technical parameter is the maximum number of transactions that will be tested to determine if offsetting transactions between two parties can be settled simultaneously using the auto-offset algorithm.

[25] The May 2005 *Financial Stability Report* contains a description of ESAS and Austraclear on page 36. Readers should note that over the review period there have been changes to how the RBNZ provides liquidity to ESAS participants (reported in Chapter 3 of this *Report*).

[26] The amendments are contained in a new Settlement Submission Mechanism Notice given under clause 4.1 of the ESAS Terms and Conditions. The Notice and the Terms and Conditions are available on the RBNZ website at http://www.rbnz.govt.nz/payment/esas/.

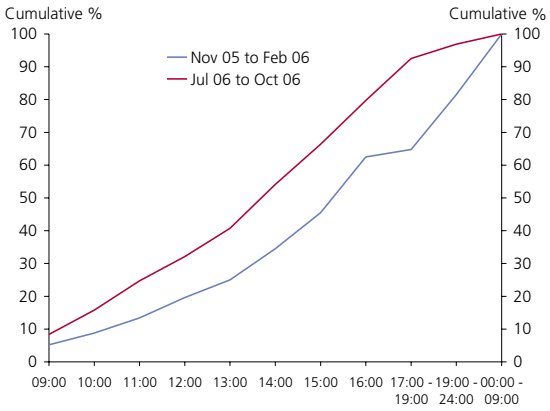
New liquidity management regime

The implementation of the Reserve Bank's new liquidity regime is described in Chapter 3 of this *Report* (see Box 3).

Figure 5.1 below illustrates the performance of ESAS before and after the implementation of the new liquidity management regime, in terms of the timeliness of settlement during the day.[27] All else equal, earlier settlement during the day of that day's obligations is better, as it allows more time to remedy any liquidity problems that might emerge during the day. The vertical axis shows the cumulative proportion of daily transactions settled (measured by value), while the horizontal axis represents points in time during an ESAS day.[28] It is apparent from figure 5.1 that since the implementation of the new liquidity management regime a greater proportion of each day's transactions (as measured by value) has generally been settled at any given point in the day. This is likely to be because fewer intra-day liquidity pressures are occurring under the new regime.

This is a positive development in terms of the soundness and efficiency of the financial system. In particular, to the extent that the new regime is resulting in faster settlement per payment, any risks of failed settlements or costs associated with delayed settlement (such as a need to raise liquidity under pressure) are reduced.

Figure 5.1
Cumulative proportion of daily transactions settled (by value), by hour of the day



Source: RBNZ.

[27] The graph shows two periods, November 2005 to February 2006, and July 2006 to October 2006. The period from March 2006 to June 2006 is not shown because during this time the RBNZ supplied more cash to the system than previously, but significantly less than the level provided from July 2006 (ie, it was in effect a transition period).

[28] Points on the graph in figure 5.1 relate to payments made during that hour or before. For example, during the period November 2005 to February 2006, on average, about 20 percent of total daily payments (measured by value) were made during the hour commencing 12:00, or earlier in the day.

Settlement pressures as a result of large payment obligations related to foreign exchange transactions

Over the period in review, a small number of CLS payment obligations arising from foreign exchange market activity have been very large both compared to usual payment sizes and also in comparison to the size of the economy. These large payment obligations have resulted in CLS participant banks experiencing liquidity pressures. In view of these issues, the Reserve Bank has written to ESAS participants reminding them of their responsibility to manage their liquidity carefully, to ensure that they are always able to meet their payment obligations in a timely manner. In addition, in order to reduce the likelihood of failures to settle in accordance with the CLS schedule, the Reserve Bank has provided CLS participants with guidelines relating to very large foreign exchange transactions and their associated payment obligations. The guidelines recommend steps to improve communication both within participant banks and between the participant and the Reserve Bank.

Outages

Consistent with their core role in the payment and settlement system, the availability of ESAS and Austraclear is very high, and is broadly comparable with that reported in respect of large-value payment and settlement systems in other jurisdictions.

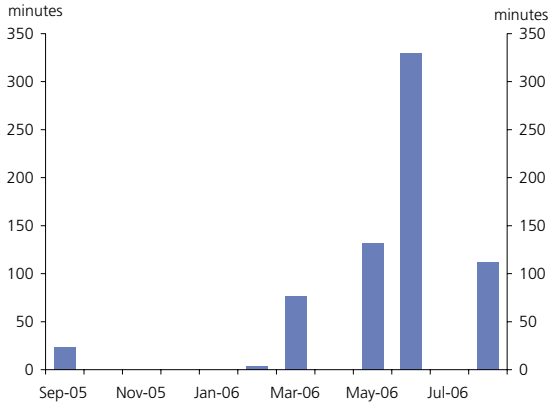
Figure 5.2 summarises the monthly outages occurring with respect to ESAS and Austraclear systems processing over the year to August 2006. In this context, 'outages' refers to the elapsed time that one or more participants was unable to use ESAS or Austraclear during core hours, either because the systems themselves had a fault, or because there was a fault in the telecommunications networks

[29] Core hours are 7 am till 30 minutes after the last CLS window (which ends at 10.30 pm in summer, 8.30 pm in winter). Under the ESAS Terms and Conditions, the operators of the system are required to provide minimum average availability during this period.

that prevented one or more participants from accessing the systems.[29] It also includes unavailability of the back-up facilities for the systems. It does not include loss of access due to a participant's own systems for connecting to ESAS or Austraclear.

During the year to August 2006, virtually all outages were due to connectivity problems, rather than faults within the ESAS and Austraclear systems themselves. The ESAS and Austraclear systems were unavailable to users for a total of 12 minutes, and connectivity problems resulted in outages totalling 666 minutes to a minority of users. The outages occurring in March, May and June were all telecommunication supplier faults affecting dial-up network access, and impacted only a minority of users. During August 2006, there was one outage that affected all users, but most of the outage time resulted from loss of connectivity to a primary server. Processing was switched to the back-up facility for this server with minimal interruption to service.

Figure 5.2
ESAS and Austraclear systems outages
September 2005 to August 2006



Source: RBNZ.

Box 5

Payment system oversight

As with most central banks, the Reserve Bank of New Zealand has several roles in the payment system. These include the role of owner and operator of some payment system facilities, and the role of payment system oversight.

The payment system oversight role of central banks has developed in recent years due to the large increase in the value of transactions passing through the systems, the reliance on a small number of key systems, the technological complexity of these systems, and a concern that taken together these factors could increase the risks associated with the payment system if the system is not designed and managed well.

The recognised set of international standards for payment systems is the *Core Principles for Systemically Important Payment Systems* developed by the Committee on Payment and Settlement Systems (CPSS).[30] The CPSS Core Principles comprise ten principles for systemically important payment systems and set out four responsibilities for central banks in applying these principles. More recently, the CPSS has published five *General Oversight Principles* for central bank oversight of payment and settlement systems.[31]

The Reserve Bank conducts payment system oversight for the purposes of promoting the maintenance of a sound and efficient financial system. Our approach to oversight is informed by the CPSS standards and principles, and is set out in detail in the Reserve Bank document *Statement of principles: payment system oversight*.[32] The Reserve Bank's payment system oversight powers allow us to require payment system operators or participants to supply payment system related information and data, and allow us to disclose or publish that information and data, subject to certain conditions.

The Reserve Bank exercises its payment system oversight powers to ensure that we remain well informed

30 The Core Principles are set out and extensively discussed in CPSS "Core principles for systemically important payment systems", CPSS Publications No. 43 (January 2001), available on the website of the Bank for International Settlements at www.bis.org/publ/cpss43.htm.

31 The *General Oversight Principles* are set out and discussed in *Central bank oversight of payment and settlement systems*, CPSS Publications No. 68 (May 2005), available on the website of the Bank for International Settlements at www.bis.org/publ/cpss68.htm.

32 The *Statement of principles: payment system oversight* is available on the RBNZ website at http://www.rbnz.govt.nz/finstab/payment/1911038.html.

about the payments system. In keeping with this style of oversight, the *Financial Stability Report* provides a forum for the Reserve Bank to discuss developments in the payments system, and to make known its views on these developments, from a soundness and efficiency point of view. By this means, and also because of the Reserve Bank's banking supervision powers (given that most payment system participants are registered banks), the Reserve Bank is able to influence developments in the payment system.

The Reserve Bank is also responsible for designating payment systems.[33] Designation promotes financial stability by providing statutory backing for finality of settlement and netting through a designated payment system.

There are currently two payment systems that have been designated under the Reserve Bank of New Zealand Act 1989. These are ESAS and the CLS system.[34]

Some other central banks have relatively extensive powers of intervention in respect of payment system matters. For example, the Reserve Bank of Australia's powers include the ability to: designate a particular payment system as being subject to its regulation; determine rules of participation in that system; set standards for safety and efficiency of that system; and direct participants to comply with a standard or access regime. It can also arbitrate on disputes over matters relating to access, financial safety, competitiveness and systemic risk, if the parties concerned wish. At the other end of the spectrum, the Bank of England does not have any formal oversight powers and must rely on dialogue with system operators to pursue its objectives.

There is also some variety in the objectives and roles of central banks in relation to payment system oversight. While central banks are generally concerned with soundness and efficiency and with controlling systemic risk, these roles are articulated in different ways and broader objectives may also be set (for instance, the Reserve Bank of Australia's statutory role also encompasses the promotion of competition in the market for payment services, consistent with the overall stability of the financial system).

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[33] For more information on the designation of payment systems see DeSourdy, L (2004), "Designation of payment systems – new Part VC of the Reserve Bank of New Zealand Act 1989", Reserve Bank of New Zealand *Bulletin*, Vol. 67, No.1, pp 21-26; and "Application for Designation as a Designated Payment System: Information for applicants for designation under Part VC of the Reserve Bank of New Zealand Act 1989" on the RBNZ website at http://www.rbnz.govt.nz/finstab/payment/.

[34] The CLS system is described in the May 2005 *Financial Stability Report* on page 37 and in the October 2004 *Financial Stability Report* on page 36.

6 Recent developments in financial regulation

This chapter takes stock of some of the regulatory initiatives that are under way to take advantage of the benefits, and manage the risks that can come with close trans-Tasman financial integration. We also touch on other developments in New Zealand's financial regulation.

6.1 Trans-Tasman Council on Banking Supervision

In 2005, as part of the Single Economic Market work, New Zealand's Minister of Finance and Australia's Treasurer established a Trans-Tasman Council on Banking Supervision (the Council). The Council is chaired jointly by the Secretaries to the Treasuries of each country, and comprises senior officials from the Australian Prudential Regulation Authority and the Reserve Banks of each country.[35] The Council is required to:

- enhance cooperation and information sharing in the supervision of trans-Tasman banks;
- promote and regularly review trans-Tasman crisis preparedness; and
- guide the development of policy advice to both governments, accounting for the principles of policy harmonisation, mutual recognition and trans-Tasman coordination.

The Council was initially required to report on legislative changes that might be needed to ensure that the Reserve Bank of New Zealand and the Australian Prudential Regulation Authority could support each other in performing their current regulatory duties at least regulatory cost. The Council made a number of recommendations to promote coordination both in normal times and in the event of financial distress, and the two governments have agreed to implement the recommendations. In relation to banking supervision in each country, the changes would require the Reserve Bank of New Zealand and the ASustralia Prudential Regulation Authority to:

- support each other in fulfilling their statutory objectives for financial stability and prudential regulation;
- where reasonably practicable, to avoid actions likely to be detrimental to financial stability in the other country;
- to consult each other if an action by one were likely to be detrimental to financial stability in the other's country, to the extent they cinsider it reasonably practical in the circumstances; and
- ensure that a statutory manager in one country obtains the regulator in that country's consent before acting in a way that would be likely to harm the other country's financial-system stability, unless that statutory manager were satisfied that doing so would not be reasonably practicable in the circumstances.

Legislation putting these changes into effect has been enacted in New Zealand and will come into force at around the time legislation currently before the Australian parliament is enacted. The legislative changes represent a pioneering step in cross-border banking supervisory cooperation in that they formalise by legislative means a requirement on regulators from different jurisdictions to work together on shared issues and to be alert to each others' interests in times of stress. The legislative changes draw a realistic balance between the desirability of trans-Tasman cooperation and the necessary independence of each prudential regulator within its national boundaries.

[35] For more details see the Reserve Bank website: http://www.rbnz.govt.nz/finstab/banking/supervision/2420258.html

6.2 New Zealand banking supervision

The benefits of, and risk from, closer trans-Tasman financial integration have long influenced the Reserve Bank's approach to banking supervision, just as those benefits and risks have also influenced the regulatory initiatives of other New Zealand financial regulators.

Capital adequacy – Basel II

The Basel Committee on Banking Supervision has substantially revised its 1988 Basel Capital Accord, which had been the prevailing international standard on bank capital adequacy. The revised Accord, known as 'Basel II', provides a framework for measuring banks' risks and, in doing so, determining how much capital banks should hold to meet regulatory requirements.

The key difference with Basel II is that it allows banks to calculate their required capital holdings either by using standardised generic rules, which are similar to current arrangements, or using their own internal risk measurement models. If a bank wants to use its own internal models the bank's supervisors must accredit the bank's models as meeting some minimum requirements.

The Reserve Bank and the Australian Prudential Regulation Authority are working closely together towards implementing Basel II in their respective countries, and have agreed to Terms of Engagement to promote communication and cooperation in Basel II implementation.[36]

Local incorporation policy

For some time the Reserve Bank has had a policy requiring large banks operating in New Zealand to be incorporated here. Local incorporation promotes strong local governance and accountability for performance. It also provides for a clear separation between the legal personality of the bank's New Zealand operations and the operations of the rest of the group to which it belongs. This gives greater clarity regarding which assets, liabilities and capital and which operations belong respectively to the local bank and to its foreign parent. A clear separation can help ensure that, should the foreign parent bank get into difficulties, the New Zealand bank and authorities can more easily take actions to ensure the impact on the New Zealand financial system is minimised.

Westpac had continued until recently to operate a large bank in New Zealand as a branch of Westpac Banking Corporation Limited, a company incorporated in Australia, while it discussed its situation with the Reserve Bank. These discussions culminated in Westpac agreeing to incorporate in New Zealand. Westpac New Zealand Limited became a New Zealand registered bank on 31 October 2006.

Outsourcing policy

The Reserve Bank promotes large banks' independent strength through an outsourcing policy. Prominent among large New Zealand banks' outsourcing arrangements has been outsourcing to parent banks in Australia, or to third parties through joint arrangements with parent banks in Australia, which makes the policy important from the perspective of trans-Tasman regulatory coordination.

Outsourcing can provide efficiency benefits and can provide access for banks to additional expertise for providing certain functions. At the same time, problems can arise under outsourcing arrangements if there is inadequate service provision because of difficulties or failure of the service provider, or because of failure of the bank itself that is outsourcing particular functions.

The Reserve Bank's outsourcing policy requires a large bank to ensure that it will always be capable of performing certain core functions, even if the bank or its service provider were to fail or experience distress. Those core functions include making and receiving payments and the functions that are essential to the flow of liquidity through the financial system. The policy helps protect New Zealand's banking system from possible spillovers from operational problems caused by the distress of third-party service providers. It also promotes effective trans-Tasman cooperation by ensuring that regulators' responses to distress in their own banking system are not constrained by dependence on outsourcing arrangements that are susceptible to stress. This would

[36] The Terms of Engagement are available at http://www.rbnz.govt.nz/finstab/banking/regulation/1497871.html For further details on Basel II see http://www.rbnz.govt.nz/research/bulletin/2002_2006/2005sep68_3yehtwaddlefrith.pdf

promote effective responses by regulators to distress at a bank that is active in both New Zealand and Australia, by reducing the complexity of the distress-management problem.

The trans-Tasman legislative changes discussed above provide greater legal certainty to banks regarding their outsourcing arrangements to Australia, and hence greater flexibility over those arrangements. Progress is now being made towards implementing the policy. Our discussions with the affected banks about their proposed paths to compliance are at an advanced stage.

6.3 Other New Zealand financial regulation

Other financial regulators in New Zealand have also been developing their frameworks to deal best with trans-Tasman financial system issues, both in normal times and in distress situations.

- In August 2005, the Securities Commission signed a Memorandum of Understanding with the Australian Securities and Investments Commission, addressing cooperation and information exchange, with a particular focus on enforcement matters.
- In February 2006, New Zealand's Minister of Commerce and Australia's Treasurer signed a revised Memorandum of Understanding on Business Law Coordination. The Memorandum of Understanding provides the framework under which trans-Tasman business law coordination work is carried out.
  - In the financial sector, the Memorandum of Understanding underlies a work programme that includes coordinating securities disclosure and information sharing amongst regulators.
  - The Memorandum of Understanding contemplates further coordination on regulation of financial intermediaries and on anti-money laundering supervision.
  - The Memorandum of Understanding had identified a work-stream to look at a trans-Tasman regime for mutual recognition of securities offers and the related documents. A treaty agreeing to the regime was signed in February 2006. Australia has consulted with the public on draft legislation to implement the regime, and New Zealand on draft regulations. It is anticipated that the regime will come into effect in 2007.
- In a discussion paper released in late August, as part of the Review of Financial Products and Providers, proposals were made to encourage New Zealand's supervisor of insurers to share information and communicate with foreign regulators of insurers operating internationally, in light of the large degree of foreign ownership in parts of the insurance industry. This is to encourage good relationships between home and host country regulators.
- Work continues under the auspices of the Trans-Tasman Accounting and Auditing Standards Advisory Group on strategies to establish a single set of trans-Tasman accounting standards within the context of the two countries' adoption of international accounting standards.[37]

6.4 Other policy developments

Review of Financial Products and Providers

The Ministry of Economic Development has been leading a review of the regulation of non-bank financial institutions and financial products with input from the Reserve Bank, the Treasury, the Ministry of Consumer Affairs, and the Securities Commission. The review's objective is to ensure that regulation in this area promotes confidence and participation in financial markets by investors and institutions and results in a sound and efficient financial sector. At an earlier stage in the review the Government concluded that although regulation of the non-bank financial sector is not fundamentally flawed, there were areas in which regulation could be improved.

In August 2006, a series of nine consultation papers outlining proposals for reform were released.[38] The proposals cover:

[37] This work embodies principles contained in the Memorandum of Understanding on Business Law Coordination, notably that entities operating in both countries should face just one set of rules recognised in both countries.

[38] The consultation period is scheduled to last until 1 December 2006. The consultation papers are available on MED's website http://www.med.govt.nz/templates/ContentTopicSummary____479.aspx

- registration of financial institutions;
- insurance;
- securities offerings;
- supervision of securities issuers;
- non-bank deposit takers;
- collective investment schemes;
- governance of financial institutions with mutual ownership structures;
- consumer dispute resolution and redress; and
- platforms and portfolio management services.

One area where greater prudential regulation is proposed is for non-bank deposit takers (the other is for insurance). Proposals for non-bank deposit-takers would involve a two-tiered structure of 'authorised deposit-takers' and other deposit-takers. Deposit-takers could apply to the Reserve Bank to become authorised deposit-takers (and in some instances the Reserve Bank could require a deposit -taker to be an authorised deposit-taker) and would be supervised by the Reserve Bank using a framework similar to that of registered banks. Credit unions and building societies would also be supervised by the Reserve Bank on similar terms to authorised deposit-takers. Other deposit-takers would be supervised by trustees under strengthened trustee arrangements.

The proposals for non-bank deposit-takers should help clarify regulatory responsibilities for the sector. The proposals are intended to help the public make better assessments of the relative risk of different institutions, and encourage better risk management both by the public and by deposit -takers.

Anti-money laundering and combating the financing of terrorism

The Ministry of Justice has been leading cross-agency work on designing an anti-money laundering framework consistent with international standards and New Zealand's circumstances. Since the last *Report*, the Ministry of Justice has issued three discussion papers for consultation. The papers' proposals include giving financial regulators the task of anti-money laundering supervision in their supervised sectors (eg the Reserve Bank undertaking anti-money laundering supervision for registered banks).[39] It is intended that legislation to effect the changes will be introduced in 2007.

International Financial Reporting Standards

The Reserve Bank recently issued a consultation paper addressing the introduction of New Zealand equivalents of international financial reporting standards and international accounting standards.[40] Among other things, the paper proposes the following:

- Minor and mostly technical changes to banks' disclosure requirements to reflect a new stage in the introduction of the international standards.[41]
- Some further changes to the capital adequacy standards for locally incorporated banks, to take account of the international standards.

The proposals are not intended to change the substance of existing policies, but to adapt them to the new accounting environment.

[39] The consultation period is scheduled to finish in December 2006. Further information can be found on the Ministry of Justice's website http://www.justice.govt.nz/fatf/

[40] http://www.rbnz.govt.nz/finstab/banking/regulation/2831496.html.

[41] Existing disclosure requirements were amended in 2005 to handle the 'early adoption' option (see Box 6), but now need further amendment to remain effective for reporting dates starting from 31 March 2007.

Box 6
Introduction of International Financial Reporting Standards (IFRS)

Adoption of the New Zealand International Financial Reporting Standards (NZ IFRS) has been optional since 1 January 2005, and will become obligatory for financial years beginning on or after 1 January 2007. Many banks have already adopted NZ IFRS, largely because they are subsidiaries or branches of overseas incorporated banks, whose home jurisdictions have obliged them to adopt IFRS earlier than has New Zealand.

The four major banks all adopted NZ IFRS by 1 October 2005. Some other banks continue to use existing New Zealand Generally Accepted Accounting Practices (NZ GAAP), and parallel running of these two different accounting frameworks will continue until 1 July 2007, by which time all New Zealand banks will have converted to NZ IFRS.

The adoption of NZ IFRS has involved important changes to financial reporting practices:

- all derivatives are now required to be accounted for at fair value, and recognised on the balance sheet;
- new hedge accounting rules have been introduced, and more flexibility is permitted in the use of fair value accounting practices;
- correspondingly, less accounting policy flexibility is permitted in some areas than before. For example, under existing NZ GAAP, accounting for loan origination fees was a matter of accounting policy choice, whereas NZ IFRS now requires all such fees to be incorporated into lending yields;
- when estimating potential credit risk losses on loan portfolios, there is now a focus on the impact of current, known events, rather than on expected future events. More specifically, an 'incurred loss' concept now applies to allowances for collective loan impairment, as against the previous 'expected loss' concept; and
- a number of other miscellaneous changes have been introduced, relating to issues such as the definition of equity, and the accounting for goodwill on acquisitions, securitisations, share-based remuneration, and post-employment benefits.

The first change has not affected banks' financial statements to any significant extent, one key reason being that foreign exchange derivatives had already been recognised on banks' balance sheets.[42] Generally the impact has been to increase balance sheet totals by no more than 3 percent of existing NZ GAAP amounts.

Similarly, in most cases the introduction of the new hedge accounting rules has not had a material impact on the nature of banks' financial statements. From the Reserve Bank's perspective, a key outcome is that the rules do not appear to have influenced the primary objective of banks' hedging practices, which is to manage the risks in the underlying economics of their business.

The change to standardised accounting for loan origination fees will increase the comparability and transparency of the interest rate spreads generated on banks' loan portfolios. In the residential mortgage lending sector this is important, as mortgage broker fees are material, up to 0.65 per cent of the loan balance. Under existing NZ GAAP, mortgage broker fees are usually accounted for as an operating expense in the year they are incurred, rather than being incorporated into the mortgage yield.

The use of 'incurred losses' in determining allowances for collective loan impairment has reduced those allowances materially, as banks can no longer take into account the impact of expected future changes in economic conditions. However, as a percentage of capital, the reduction in allowances is relatively minor, and other things equal, an offsetting increase in tier one capital arises from the impact of the reduced allowances on retained earnings. Individual bank capital ratios have remained robust since the introduction of this change.

[42] Where these derivatives were used as hedging instruments, this ensured the derivative valuation offset the underlying position of the financial instruments the derivatives were hedging.

The other miscellaneous changes have been bank-specific in their impact.

More NZ IFRS changes are planned from 2007 in relation to the disclosure of information on financial instruments and financial institutions. The Bank continues to monitor the impact that NZ IFRS is having on its prudential risk measures and on its disclosure framework for registered banks, and will make any necessary changes in order to maintain the meaningfulness and integrity of those frameworks.

Graphical appendix[1,2]

International

Figure A1a

Real GDP growth

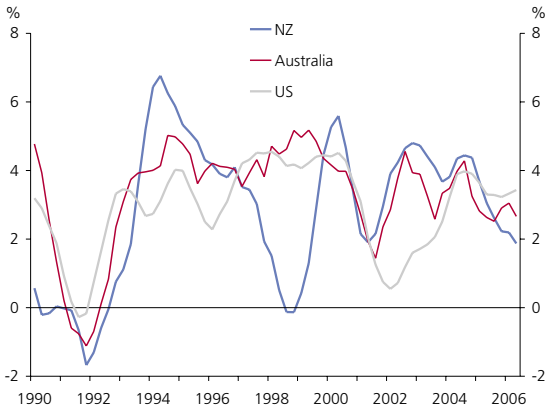


Figure A1b

Real GDP growth

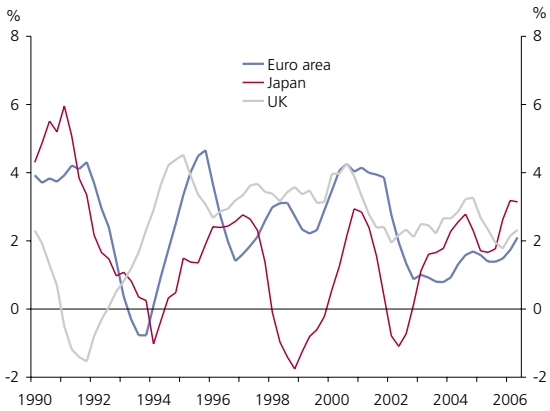


Figure A2a

Current account balance

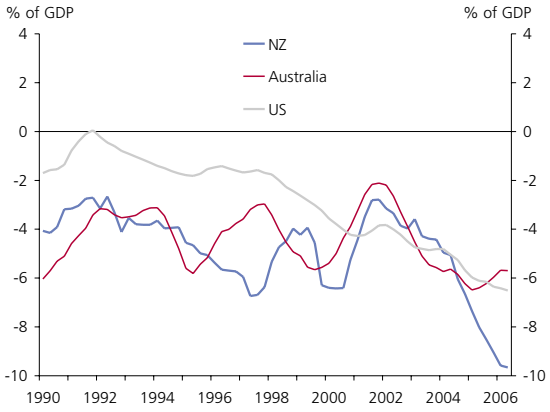


Figure A2b

Current account balance

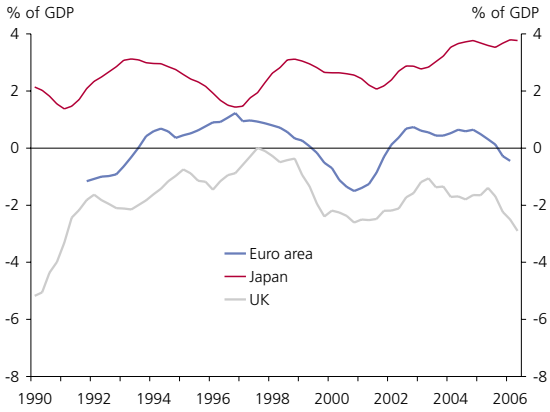


Figure A3

Trade-weighted exchange rate indices

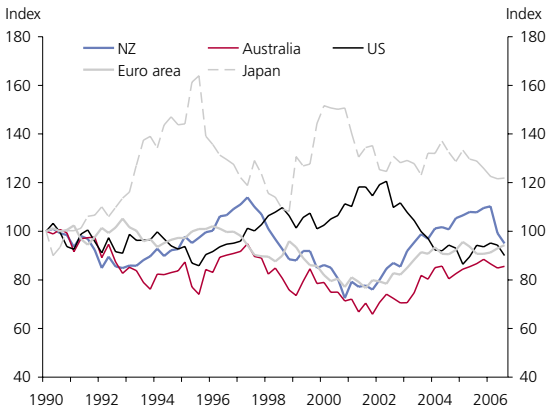
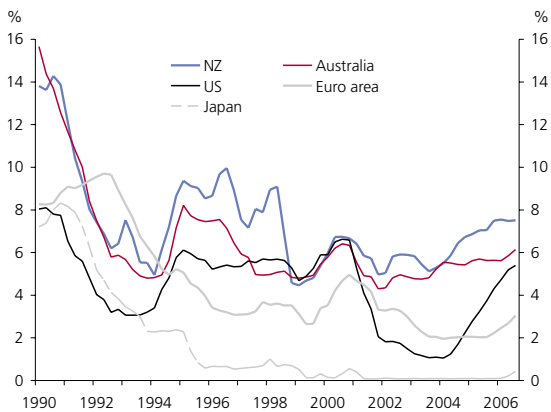


Figure A4

Short-term interest rates



1 The data contained in this Appendix were finalised on 20 October 2006.

2 Definitions and sources are listed on pages 53-54.

Asset prices

Figure A5

Equity market indices

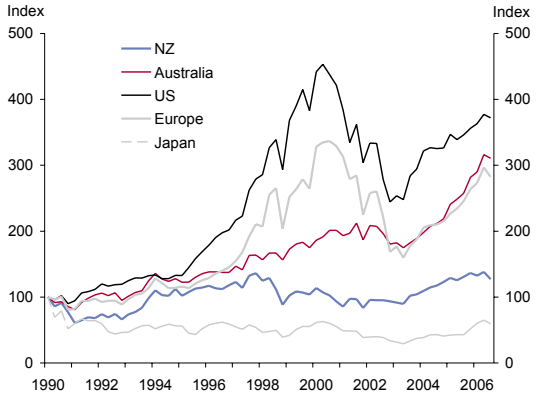
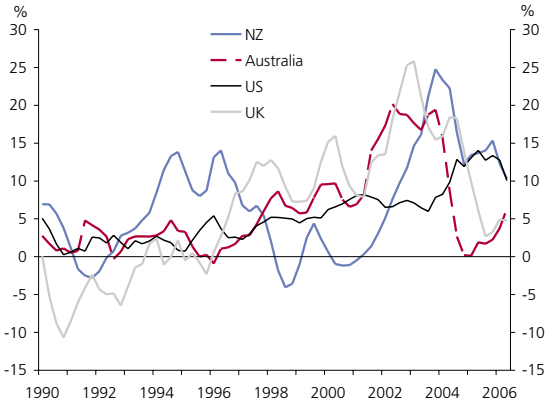


Figure A6

House price inflation



New Zealand

Figure A7

Household debt and servicing costs

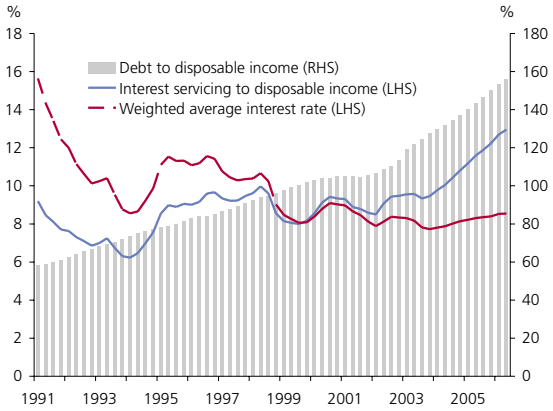


Figure A8

Household assets and liabilities

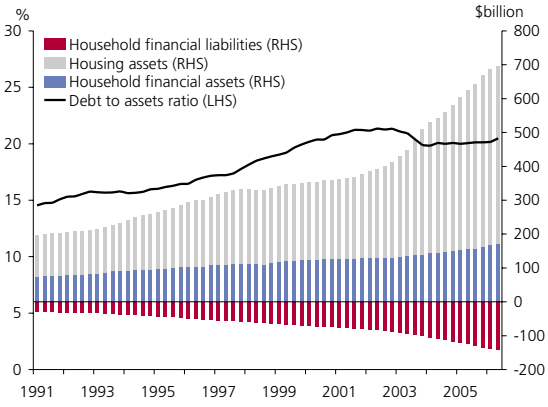


Figure A9

Property price inflation

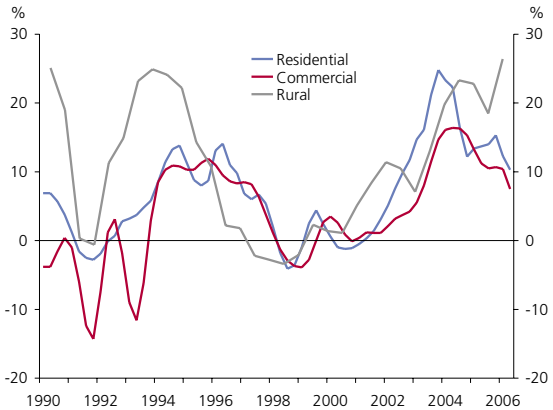
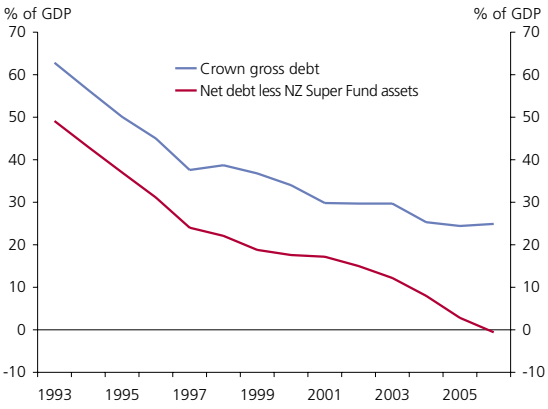


Figure A10

Government debt



New Zealand financial markets

Figure A11

Government bonds on issue and turnover

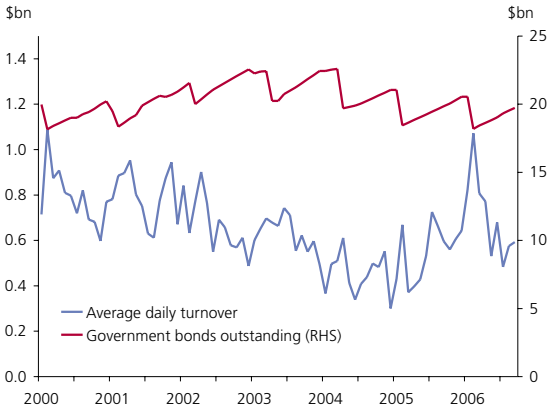


Figure A12

Ten-year government bond spreads

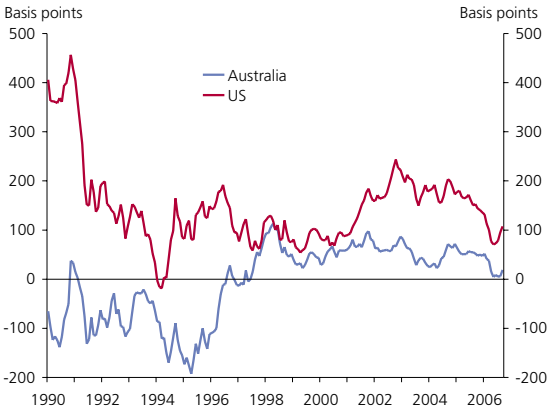


Figure A13

NZD/USD turnover in domestic markets

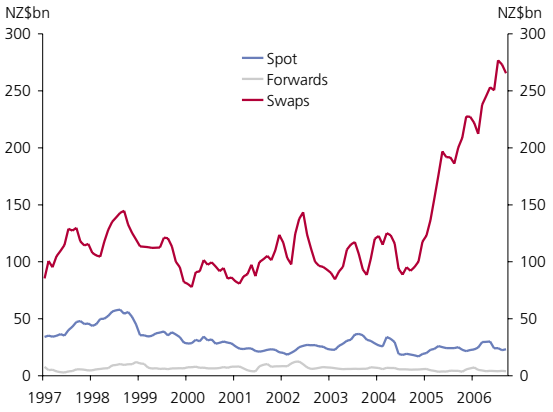


Figure A14

NZD/USD and implied volatility

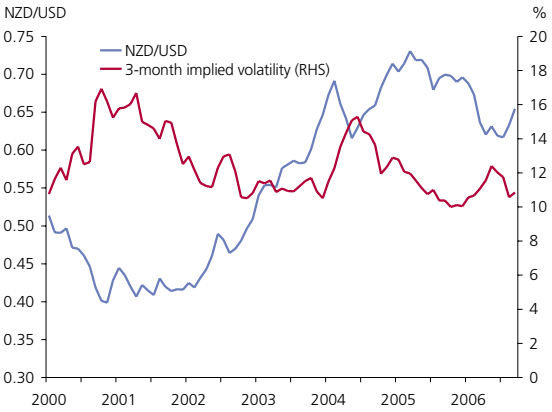


Figure A15

Equity market capitalisation to GDP

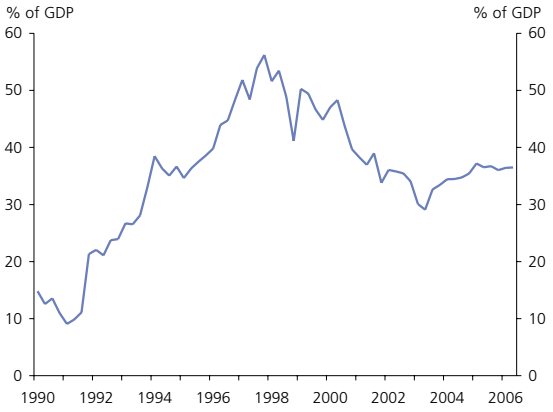
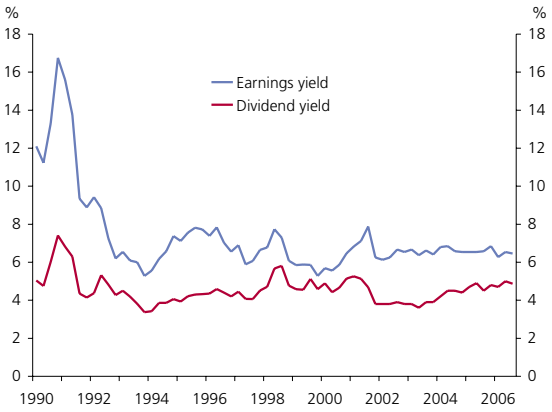


Figure A16

Earnings and dividend yields



Banking sector indicators

Figure A17

Capital adequacy ratios

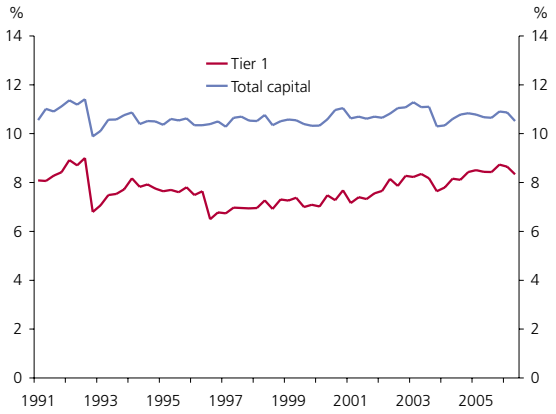


Figure A18

Asset quality

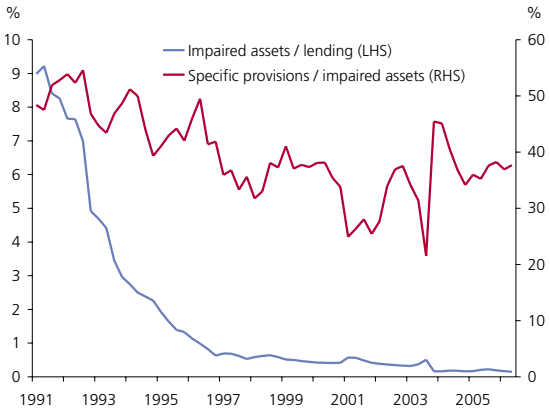


Figure A19

Return on assets

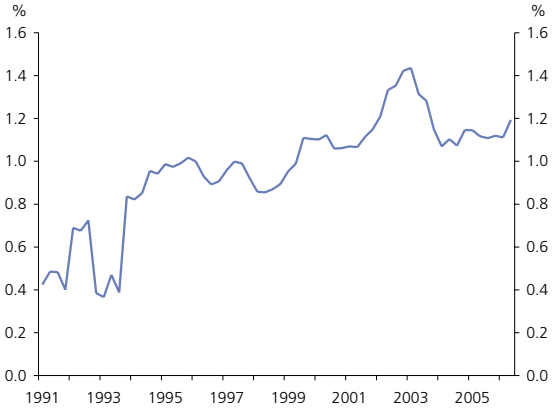


Figure A20

Operating costs to income

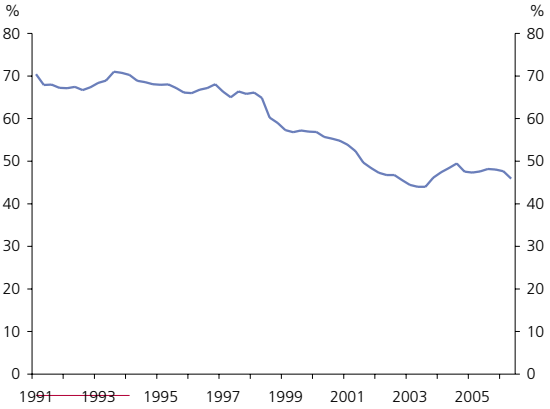


Figure A21

Aggregate lending margins

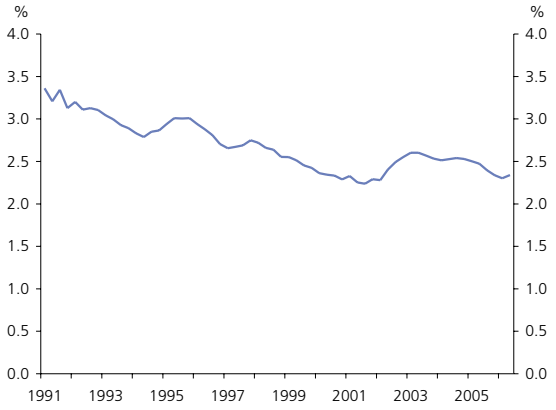


Figure A22

S&P credit ratings for registered banks

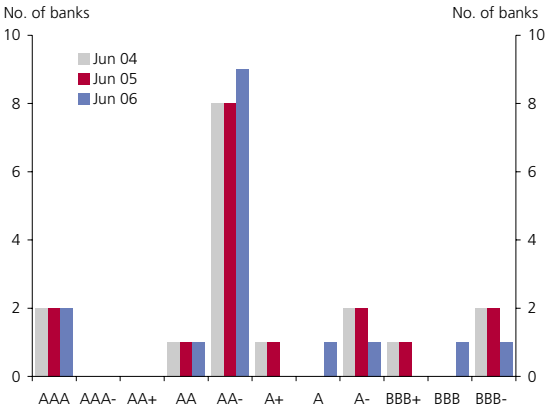


Figure A23

Bank asset composition

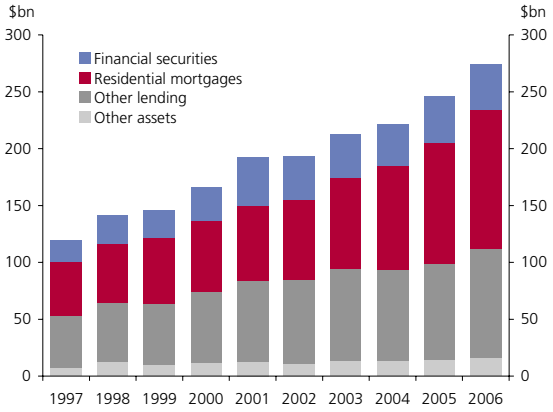


Figure A24

Bank funding composition

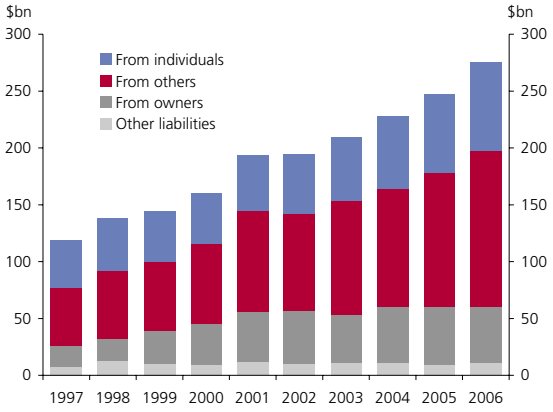


Figure A25

Bank asset growth

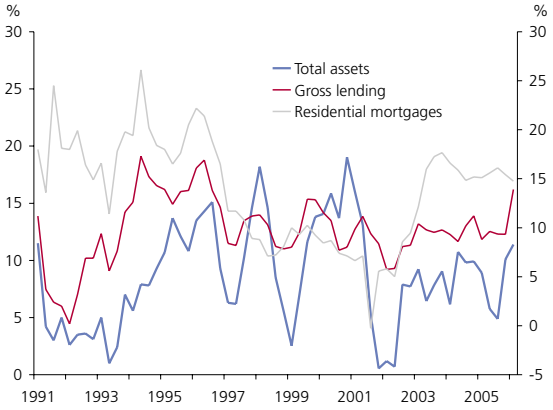


Figure A26

Bank market share

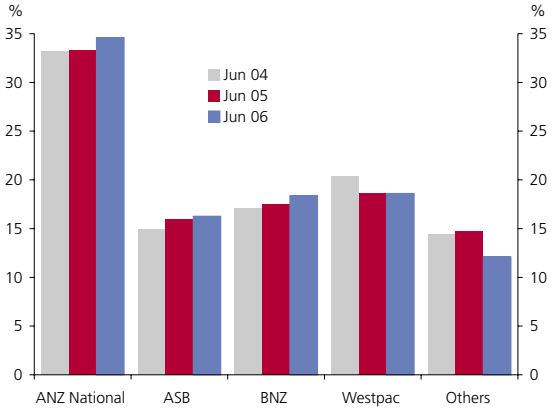


Figure A27

Bank-wide capital adequacy ratios

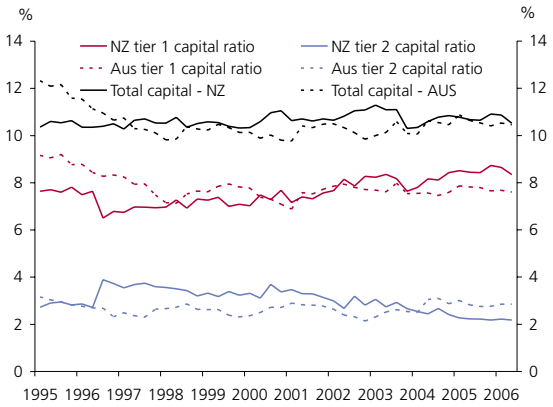


Figure A28

Large bank operating expenses to average assets

Non-bank financial institutions

Figure A29

NBFI asset composition

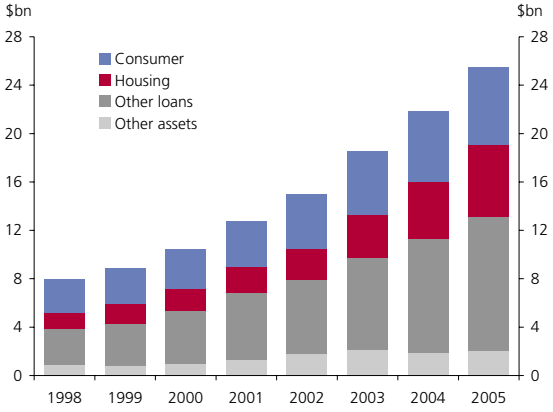
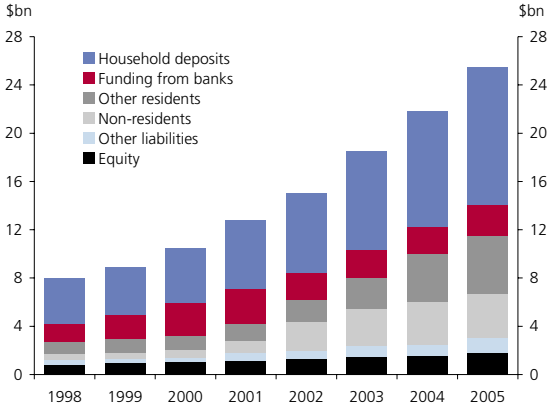


Figure A30

NBFI funding composition



New Zealand financial system assets and liabilities

Table A1

Financial system liabilities

$billion	1990	1995	2000	2001	2002	2003	2004	2005
Banks								
Households	28	37	41	45	49	52	56	61
Other residents	25	30	55	59	63	72	74	84
Non-residents	11	22	56	64	64	64	77	85
Other liabilities	14	14	28	22	29	34	35	24
Total	78	103	180	190	205	221	242	254
Other deposit-taking institutions								
Households	2	3	5	6	7	8	10	12
Other residents	3	2	3	4	4	5	6	7
Other funding and liabilities	1	1	2	3	4	6	6	7
Total	6	6	10	12	15	19	22	26
Funds under management								
Household assets	25	41	56	56	50	52	53	56
Other sector assets	2	1	4	4	5	6	7	8
Total	27	42	60	60	55	58	60	64
Total financial system liabilities	111	151	250	262	275	298	324	344

Table A2

Financial system assets

$billion	1990	1995	2000	2001	2002	2003	2004	2005
Banks								
Households	20	42	66	71	77	89	103	119
Other residents	36	45	72	77	78	79	90	102
General government	8	6	7	6	8	8	6	6
Non-residents	2	2	17	24	29	27	27	12
Other assets	12	8	18	12	13	18	16	15
Total	78	103	180	190	205	221	242	254
Other deposit-taking institutions								
Households	2	3	5	5	7	9	11	12
Other residents	3	2	4	5	6	8	9	11
Other assets	1	1	1	1	2	2	2	3
Total	6	6	10	12	15	19	22	26
Funds under management								
Domestic fixed interest	na	na	27	26	25	24	24	25
Domestic equities	na	na	7	7	6	8	8	8
Domestic other	na	na	4	4	4	4	5	6
Overseas investments	na	na	22	23	20	22	23	25
Total	27	42	60	60	55	58	60	64
Total financial system assets	111	151	250	262	275	298	324	344

Source: RBNZ surveys and registered bank's GDS.
Notes apply to both tables. As at 31 December.
Note: Figures for other deposit-taking institutions incorporate the value of related off balance sheet assets (securitised assets). Counterpart funding is included in 'other residents'. For these institutions, securitised assets represent over 15 percent of total assets in 2004 and 2005. For registered banks, securitised assets represent less than 2 percent of total assets and figures remain those reported in GDS under current accounting standards. General insurance liabilities and assets are not included.

Table A3

New Zealand registered banks as at 30 June 2006

Registered bank's name	Market share[1]	Credit ratings			Ultimate parent	Country of parent
		S&P	Moody's	Fitch		
ABN AMRO Bank NV	0.4	AA-	Aa3	AA-	branch[2]	Netherlands
ANZ National Bank Limited	34.6	AA-	Aa3	-	ANZ Banking Group Limited	Australia
Commonwealth Bank of Australia	1.4	AA-	Aa3	AA	branch[2]	Australia
ASB Bank Limited	16.3	AA-	Aa3	-	Commonwealth Bank of Australia	Australia
Bank of New Zealand	18.4	AA-	Aa3	-	National Australia Bank	Australia
Citibank N A	1.1	AA	Aaa	AA+	Citigroup Inc.	USA
Deutsche Bank A G	2.0	AA-	Aa3	AA-	branch[2]	Germany
Kiwibank Limited	1.1	AA-	-	-	New Zealand Post	New Zealand
Kookmin Bank	0.2	A-	A3	-	branch[2]	South Korea
St. George Bank New Zealand Limited[3]	0.2	BBB	-	-	St George Bank Limited	Australia / New Zealand
Rabobank Nederland	0.4	AAA	Aaa	AA+	branch[2]	Netherlands
Rabobank New Zealand Limited	1.7	AAA	-	-	Rabobank Nederland	Netherlands
The Bank of Tokyo-Mitsubishi UFJ, Ltd	0.1	A	A1	-	branch[2]	Japan
The Hongkong and Shanghai Banking Corporation Limited	2.5	AA-	Aa2	AA	HSBC Holdings	UK
TSB Bank Limited	1.0	BBB-	-	-	Taranaki Community Trust	New Zealand
Westpac Banking Corporation	18.6	AA-	Aa3	AA-	branch[2]	Australia

Source: Registered banks' GDS.

Note:

1 Registered banks' assets as a proportion of the total assets of the banking system, as at 30 June 2006.

2 The New Zealand registration is for a branch of the ultimate parent.

3 A joint venture with Foodstuffs NZ Ltd, but controlled by St George Bank Ltd.

Table A4

New Zealand registered banks' interest spreads

		Mar-05 %	Sep-05 %	Mar-06 %
ANZ National Bank Limited	Post-IFRS	2.13	2.00	2.24
	Pre-IFRS	2.13	2.00	--
ASB Bank Limited	Post-IFRS	--	2.04	1.96
	Pre-IFRS	2.50	--	--
Bank of New Zealand	Post-IFRS	2.69	2.40	2.37
	Pre-IFRS	2.68	2.41	--
Westpac Banking Corporation	Post-IFRS	2.83	2.51	2.73
	Pre-IFRS	2.85	2.56	--

Source: Registered banks' GDS.
Note: ASB Bank GDS data are for June (in March columns) and December (in September columns).

Table A5

Selected non-bank lending institutions (NBLI) assets and liabilities

	Overseas-owned NBLIs			Domestically-owned NBLIs			Building societies and PSIS			Total NBLIs		
	$m	$m	Growth[1]	$m	$m	Growth[1]	$m	$m	Growth[1]	$m	$m	Growth[1]
	Jun-05	Jun-06	% pa	Jun-05	Jun-06	% pa	Jun-05	Jun-06	% pa	Jun-05	Jun-06	% pa
NZD funding												
NZ resident households	597	803	*34*	5185	6363	*23*	3193	3563	*12*	8975	10728	*20*
Other funding[2]	3310	3200	*-3*	2274	2427	*7*	318	411	*29*	5902	6038	*2*
Non-residents	3722	5062	*36*	69	176	*153*	80	95	*19*	3872	5332	*38*
Total	7630	9065	*19*	7529	8965	*19*	3591	4068	*13*	18749	22098	*18*
Foreign currency funding	239	217	*-9*	87	155	*80*	0	0	*0*	325	372	*14*
Other liabilities	180	706	*292*	218	271	*24*	62	70	*14*	460	1047	*128*
Capital and reserves	53	132	*151*	953	961	*1*	285	321	*12*	1290	1414	*10*
Total liabilities	**8101**	**10120**	**25**	**8786**	**10353**	**18**	**3938**	**4459**	**13**	**20825**	**24931**	**20**
NZD loans to residents												
Farm lending	10	113	*990*	395	575	*46*	464	510	*10*	869	1199	*38*
Business lending	2276	2269	*0*	4083	5153	*26*	618	677	*10*	6977	8099	*16*
Housing lending	2276	3199	*41*	241	546	*127*	2301	2673	*16*	4818	6418	*33*
Consumer lending	2396	3019	*26*	2478	2175	*-12*	184	191	*4*	5058	5386	*6*
Total	6960	8601	*24*	7197	8449	*17*	3566	4051	*14*	17723	21102	*19*
Foreign currency loans	177	337	*90*	82	85	*4*	0	0	*0*	260	423	*63*
All other loans and assets[3]	964	1182	*23*	1507	1818	*21*	372	407	*10*	2843	3407	*20*
Total assets	**8101**	**10120**	**25**	**8786**	**10353**	**18**	**3938**	**4459**	**13**	**20825**	**24931**	**20**
Memo item: lending to non- residents	246	395	*61*	229	403	*76*	0	0	*0*	474	797	*68*

Note

1 Percentage growth calculations are affected by entry of new respondents to the NBFI survey and recategorisation of assets and liabilities among NBFI groups.

2 Counterpart funding to securitised loans is included here.

3 Includes, *inter alia*, claims on banks and NZD non-resident lending.

Source: RBNZ –NBFI SSR. Includes NBFIs with total assets (including securitised lending) exceeding $100 million at relevant dates. Totals may not add due to rounding.

Notes to the graphical appendix

The appendix contains a suite of charts that 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	Current account balance	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.
5	Equity market indices	Morgan Stanley Capital Indices, 31 March 1990 = 100. *Datastream*.
6	House price inflation	Year-on-year change in national house price indices. *Datastream*, Quotable Value New Zealand Ltd.
7	Household debt and servicing costs	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* 2006 and 2007 forecasts. The weighted average interest rate is published in *RBNZ* residential mortgage rate data with an estimate for consumer loan interest rates.
8	Household assets and liabilities	Housing assets are aggregate private sector residential dwelling value. Data are from Quotable Value New Zealand Ltd from 1995, with RBNZ estimates based on the HPI for prior years. 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 price inflation	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	Government bonds issued and turnover	*RBNZ*: total government securities on issue (D1) and New Zealand government bond turnover survey (D9).
12	Ten-year government bond spreads	Yield on ten-year benchmark New Zealand government bond, less yield on US and Australian equivalents. *RBNZ*.
13	NZD/USD turnover in domestic markets	*RBNZ* survey. Three-month moving average.
14	NZD/USD and implied volatility	Standard deviation used to price three-month NZD/USD options. *UBS*, *RBNZ*.
15	Equity market capitalisation to GDP	Total market capitalisation of firms listed on New Zealand Stock Exchange, as a percentage of annual nominal GDP. *Datastream*.
16	Earnings and dividend yields	Earnings and dividends as a percentage of total market capitalisation. *First New Zealand Capital*.
17	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*).
18	Asset quality	Impaired assets as a percentage of total lending; specific provisions as a percentage of impaired assets; for all registered banks. *GDS*.

19	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*.
20	Operating costs to income	Operating expenses as a percentage of total income, four-quarter average, for all registered banks. *GDS*.
21	Aggregate lending margins	Net interest income as a percentage of average interest earning assets, four-quarter average, for all registered banks. *GDS*.
22	S & P credit ratings for registered banks	Standard & Poor's credit ratings on New Zealand dollar long-term senior unsecured obligations in New Zealand. *GDS*.
23	Bank asset composition	As at 30 June. *GDS*.
24	Bank funding composition	As at either 31 March or 30 June. *GDS*.
25	Bank asset growth	Year-on-year change in total assets of all registered banks. Gross lending is before provisions. *GDS*.
26	Bank market share	Bank assets as a percentage of total assets of registered banks. June share for ANZ National Bank is the combined shares of ANZ Bank and National Bank. *GDS*.
27	Bank-wide capital adequacy ratios	Capital is a percentage of risk-weighted assets for all locally incorporated banks. As at 30 June. *GDS.*
28	Large bank operating expenses to average assets	Source: Excluding interest costs. For the period ended 30 September for ANZ, BNZ / National Australia Bank and Westpac except 2006 annual data to 30 March 2006. For the period ended 30 June ASB / CBA. GDS.
29	NBFI asset composition	*RBNZ Annual Statistical Return* and *NBFI SSR* as at 31 December.
30	NBFI funding composition	*RBNZ Annual Statistical Return* and *NBFI SSR* as at 31 December.