

Financial Stability Report

November 2014

Contents

1.	Overview	3
2.	Systemic risk and policy assessment	4
3.	The international environment and financial markets	14
4.	Financial risks to the New Zealand economy	24
5.	Financial institutions and infrastructure	38
6.	Key developments in financial sector regulation	50

Appendices

1.	Summary of regulatory initiatives	56
2.	Reserve Bank enforcement	57
3.	New Zealand financial system assets and liabilities	58
4.	New Zealand registered banks	59

Boxes

A.	Stress tests of the New Zealand banking system	9
B.	The role of capital markets in the New Zealand financial system	21
C.	The New Zealand commercial property sector and financial stability	33
D.	New statistics on the financial performance of banks	43

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Objectives of the *Financial Stability Report*

The Reserve Bank of New Zealand Act 1989 requires the Reserve Bank to produce a *Financial Stability Report* twice a year. This document must report on the soundness and efficiency of the financial system and the measures undertaken by the Reserve Bank to achieve its statutory prudential purpose set out in that Act. The *Report* must also contain the information necessary to allow an assessment of those activities.

In May 2013 a Memorandum of Understanding (MOU) was entered into by the Governor of the Reserve Bank and the Minister of Finance regarding macro-prudential policy and its operating guidelines. The MOU specifies that the Reserve Bank's *Financial Stability Report* must report the reasons for, and impact of, any use by the Reserve Bank of macro-prudential policy instruments. The *Report* will also provide an assessment of the appropriateness and effectiveness of macro-prudential policy decisions.

1 Overview

The New Zealand financial system remains sound and continues to operate effectively. The banking system is well capitalised, funding and liquidity buffers are above required minima, and non-performing loans continue to decline. Stress tests of all the major banks' portfolios undertaken over the past six months demonstrate that each bank has the capacity to manage a range of significant negative events.

The financial system faces four key risks: imbalances in the housing market; high levels of indebtedness in the dairy sector; the potential effects of a slowdown in the Chinese economy; and the banking system's reliance on offshore funding. These are the same key risks that the financial system faced at the time of the *May Report*, although the balance of these risks has shifted in the past six months.

Housing market pressures have eased since the introduction of the loan-to-value ratio (LVR) 'speed limit' in October 2013 and subsequent increases in the Official Cash Rate. However, risks in the dairy sector have increased. The forecast dairy payout for the 2014–15 season has been reduced significantly, and could result in rising loan defaults should the lower payout level persist.

Lower global dairy prices are in large part due to reduced demand from China, highlighting New Zealand's vulnerability to a slowdown in the Chinese economy. Risks arise from both New Zealand's increased trade linkages, and also from potential spillover effects from a Chinese economic slowdown to global financial markets. Although the banking system's reliance on offshore funding has reduced in recent years, banks remain susceptible to volatility in international markets.

The LVR speed limit is a temporary policy measure. The Reserve Bank intends to ease or remove the restriction when a sustained moderation in house price inflation is achieved, and when there is little risk of a resurgence in housing market activity. The reduction in house price inflation and housing credit growth are welcome developments, along with indications of increased residential building. However, there is a risk of a resurgence in house price inflation, particularly in light of strong immigration flows. Consequently, it is not appropriate to ease the LVR speed limit at this time. The Reserve Bank will continue to closely monitor the housing market.

The Reserve Bank periodically evaluates its prudential policies to ensure that they effectively support the soundness and efficiency of the financial system. The Reserve Bank is currently undertaking a stocktake of the regulatory framework to ensure it meets its objectives efficiently, clearly and consistently. Several initiatives are in progress to better measure and define bank capital adequacy, including a benchmarking exercise for the large banks' internal capital models, and the development of a comprehensive stress testing framework. A review of the outsourcing policy for banks is also being conducted, to give confidence that banks are able to maintain full control over their core functions, even in times of market stress.

Graeme Wheeler



Governor

2 Systemic risk and policy assessment

The New Zealand financial system remains sound by a range of measures. It continues to operate effectively, and stress tests demonstrate the banking sector has the capacity to manage a significant deterioration in economic and financial conditions.

Four key areas continue to shape the risks facing the system: imbalances in the housing market; high levels of indebtedness in the dairy sector; the potential effects of an abrupt slowdown in the Chinese economy; and the banking system's exposure to offshore capital markets.

The balance of these risks has shifted since the last *Report*. House price inflation has eased following the introduction of macro-prudential policy in October 2013, and a tightening in monetary policy from early 2014. However, significant declines in global dairy prices during 2014 highlight the risks associated with the high levels of debt in the dairy sector, and the potential sensitivity of farm incomes to a slowdown in Chinese demand. Global financial conditions have been relatively benign as a result of stimulatory central bank policies. But, more recently, growing concerns about European growth prospects have contributed to an increase in volatility and risk aversion.

Risk assessment

The balance of financial system risks has changed...

The balance of risks facing the financial system has changed over the past six months. Pressures in the housing market have moderated, partly in response to the implementation of macro-prudential policy in late 2013 and the tightening of monetary policy in early 2014. However, risks to the dairy sector have intensified. The significant decline in the forecast dairy payout for 2014–15 could cause highly indebted farms to face financial stress, particularly if the payout remains low for an extended period. This could lead to a rise in loan defaults. The decline in dairy prices has, in part, been driven by reduced Chinese demand, highlighting the risks to New Zealand from a broader slowdown in the Chinese economy. New Zealand's external liabilities are also high by international standards, making the economy vulnerable to volatility in international financial markets.

...but the system remains sound and is operating effectively.

The financial system is performing its primary intermediation and payments functions effectively. There have been new entrants to the banking sector in 2014 and banks continue to innovate in the provision of services to customers. Measures of bank balance sheet strength have remained stable over the past six months, and banks continue to exceed minimum regulatory requirements on key prudential indicators by a significant margin (table 2.1). Stress tests of the major banks' financial position undertaken in 2014 demonstrate their capacity to absorb a sharp downturn in business conditions (box A).

Lending growth has been moderate for a number of years, resulting in a reduction in the level of private sector credit relative to nominal GDP (figure 2.1). After tightening substantially in the wake of the global financial crisis (GFC), borrower access to finance has increased alongside improving bank profitability and funding

Table 2.1
Key bank prudential indicators

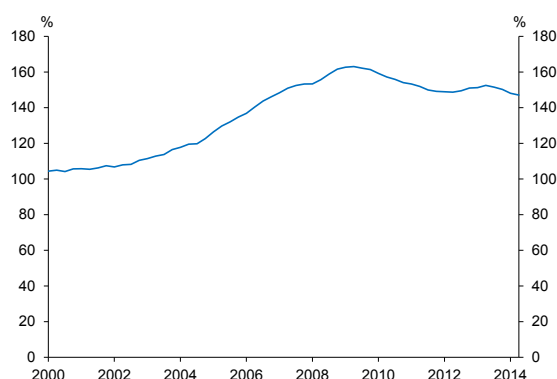
Key Indicator	2007 (average)	2013 (average)	2014 (latest)	Current regulatory minimum
Tier 1 capital ratio (% of risk-weighted assets)	7.8	11.3	11.5 (June)	6 (8.5)
Total capital ratio (% of risk-weighted assets)	10.6	12.5	12.6 (June)	8 (10.5)
Core funding ratio (% of loans and advances)	<i>n.a.</i>	85.0	85.5 (September)	75
Liquid assets (1-month mismatch ratio, %)	<i>n.a.</i>	6.4	7.0 (September)	0
Non-resident funding (share of total funding)	38.3	31.1	30.1 (September)	<i>n.a.</i>
Return on assets (%)	1.1	1.0	1.1 (June)	<i>n.a.</i>

Source: Registered banks' *Disclosure Statements*, RBNZ *Liquidity Survey*, RBNZ *Standard Statistical Return (SSR)*.

Note: The regulatory capital ratios in brackets include the capital conservation buffer of 2.5 percent that is made up of common equity Tier 1 (CET1) capital. Banks may operate within the buffer but are subject to constraints on capital distributions.

conditions. Creditworthy borrowers appear to have access to finance at reasonable terms. Higher risk lending to the housing sector has moderated, partly as a result of the loan-to-value ratio (LVR) restrictions implemented in late 2013.

Figure 2.1
Private sector credit to nominal GDP



Source: Statistics New Zealand, RBNZ SSR.

Bank profitability increased in 2014. New Zealand bank profitability is relatively high by advanced country standards, but this mainly reflects New Zealand's stronger economic performance in recent years. Non-performing loans and cost ratios are lower than in many other countries. Competition for core services is strong, and this has been particularly evident for residential mortgage

lending. Two new banks have been registered in the past 12 months, which is likely to enhance competition in specialised business lines. The total number of registered banks is now 24 – the highest level in 25 years.

In the wake of the 2010–11 Canterbury earthquakes the price and supply of property insurance tightened. More recently, the ready availability of liquidity in global financial markets has resulted in the price of reinsurance declining, although reinsurance costs remain above the level that prevailed prior to 2010. The reinsurance market is cyclical and a reversal in prices could occur when global liquidity tightens.

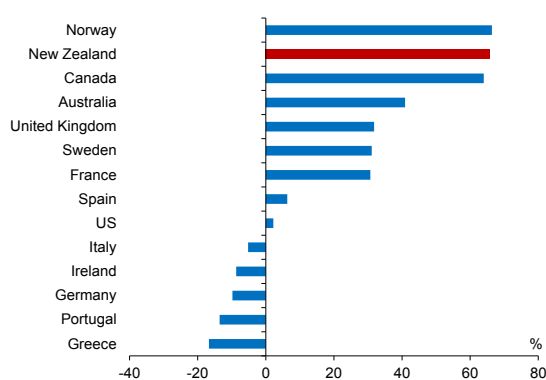
Pressures in the housing market have abated...

New Zealand's house prices, on a nationwide basis, are elevated when compared to incomes or rents, notwithstanding a modest decline in these metrics following the GFC. House prices also appear high when compared to similar measures in other countries (figure 2.2). In addition, New Zealand's household debt increased rapidly in the 2000s relative to incomes, which makes the household sector more vulnerable to an abrupt change in house prices, interest rates, or general employment conditions.

In October 2013, the Reserve Bank introduced conditions of registration for banks limiting their mortgage lending at high LVRs (above 80 percent) to no more than 10 percent of new mortgage lending. The move was in response to rapid increases in house prices, particularly in Auckland and Canterbury, and indications that nearly a third of all new housing loan commitments were being undertaken at high LVRs. House prices were becoming increasingly stretched on most metrics at a time when household debt was already elevated.

Housing market conditions have eased significantly since the introduction of LVR restrictions, resulting in a moderation in risks associated with a sharp correction in house prices. A tightening in monetary policy since March 2014 has also helped slow the housing market. New building consents are rising, which will in time increase the supply of housing, while the Auckland Council is pursuing a range of initiatives to alleviate construction constraints in the Auckland region. Nonetheless, a significant gap between the projected requirement for new housing and the available supply of housing is expected to persist for some time. Further, with net immigration at high levels and mortgage rates still historically low, there remains a risk of resurgence in housing market pressures.

Figure 2.2
International house price-to-income ratios
(deviation from historical average, 2013)

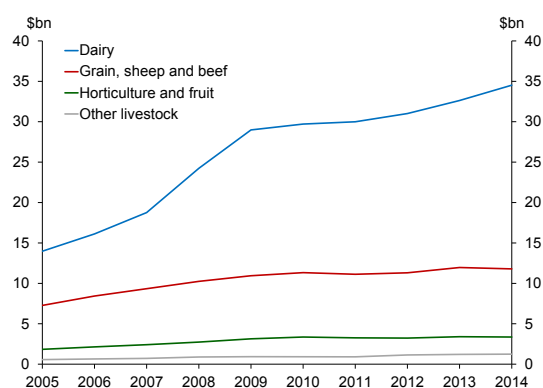


Source: IMF.

...but risks in the dairy sector have increased.

Lending to agriculture grew rapidly in the years prior to the GFC, with two thirds of the outstanding debt concentrated in the dairy sector (figure 2.3). With high levels of debt concentrated in a small number of farms, parts of the dairy sector are vulnerable to a sustained decline in global milk prices.

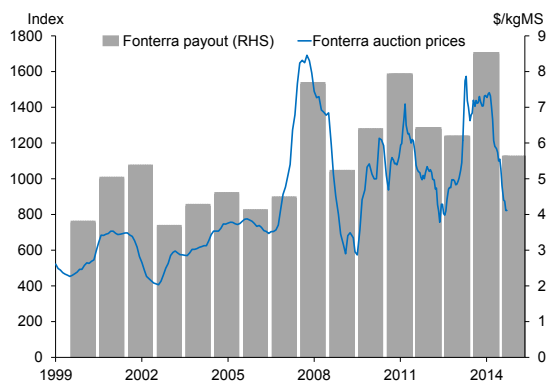
Figure 2.3
Agricultural lending by sector
(as at June)



Source: RBNZ Annual Agricultural Survey.

The forecast dairy payout announced by Fonterra for the 2014–15 season of \$5.30 per kilogram of milksolids (excluding dividends) is well below the payout for the previous season of \$8.40. If realised, it would be the lowest payout in six years (figure 2.4). Based on the recent outcomes of international dairy auctions, the payout could be lower than currently forecast. However, with the lower payout being signalled well in advance, most farmers will have the opportunity to manage down working expenses. The sector as a whole also appears to have acted prudently and not used last season's record payout to significantly increase spending and debt levels. Nevertheless, some highly indebted farmers are expected to experience negative cash flow at the reduced milk payout.

Figure 2.4
Dairy sector payout and international auction prices



Source: Fonterra, GlobalDairyTrade.
Note: Payout figures in chart include dividends.

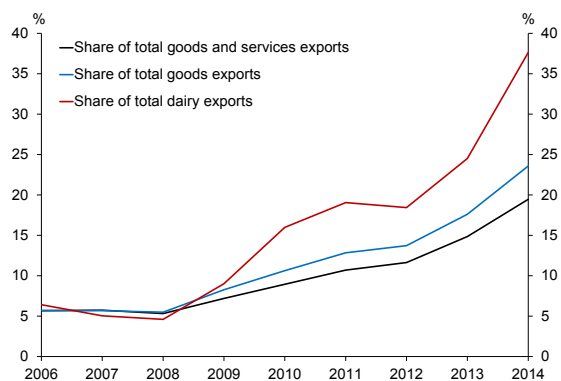
Falling milk prices have been driven by a combination of longer term and transitory factors. European and North American producers are increasing global supply and this can be expected to be a lasting influence. However, the reduction in Chinese demand over the first half of 2014 appears to be due to a substantial accumulation of dairy inventories in 2013 and some recovery in Chinese demand is expected. Dairy prices are now below their medium-term trend, but a sustained period of weakness could increase financial stress among indebted dairy farmers. The experience of the GFC – and broader historical experience – shows that declining farm incomes can result in a sharp drop in rural land prices, reducing the collateral of the banking system at the same time as loan defaults are rising.

The New Zealand financial sector remains vulnerable to a slowing Chinese economy.

The world economy has become increasingly exposed to Chinese economic conditions. China is now the first or second largest trading partner for almost 50 countries. China is New Zealand's second largest trading partner, behind Australia, accounting for about 19 percent of exports and 14 percent of imports in the year to June 2014. Dairy products are New Zealand's largest export to China, but China is also an important destination for a wide range of other exports (figure 2.5). As a consequence, an

abrupt slowdown in the Chinese economy would affect the volume and price of New Zealand's primary exports, with negative flow-on effects for farmers and those industries closely tied to the agricultural sector. A sharp slow-down in the Chinese economy could also negatively impact global financial markets. This would affect the price and availability of New Zealand bank funding and potentially the confidence of offshore investors towards holding New Zealand dollar denominated assets.

Figure 2.5
New Zealand's export trade with China (percent of exports, June years)



Source: Statistics New Zealand.

The Chinese economy has experienced rapid growth for more than a decade, but financial vulnerabilities have increased as a result of credit-fuelled property development, and a rapidly expanding shadow banking sector. In 2014, Chinese economic growth has slowed, and property prices have declined. The Chinese authorities have some scope to counter weaker demand, and the Chinese banking system has the capacity to absorb an increase in non-performing loans.

Offshore funding conditions have been favourable, but remain a vulnerability.

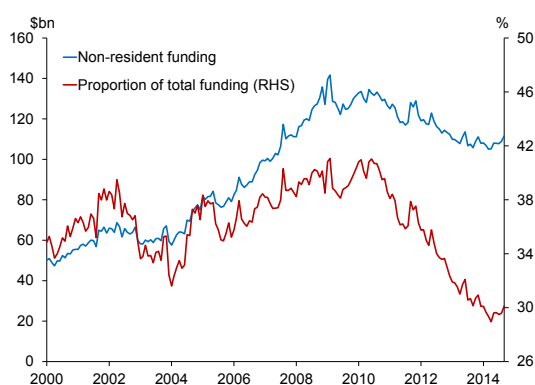
New Zealand's external liabilities remain high by international standards, exposing the economy to changes in the cost and availability of offshore funding. Over much of 2014, sentiment in global financial markets has been buoyant and there have been signs of increased risk-taking in some markets. Due to expansionary monetary

policies in most major economies, international interest rates have been at historically low levels, volatility has been subdued and credit spreads have been compressed.

The eventual withdrawal of excess global liquidity could result in a disorderly unwinding of the global search for yield, with implications for New Zealand's exchange rate, long-term interest rates, and the cost of offshore funding. At the very least, bouts of increased volatility can be expected, as evidenced during October 2014 when a series of soft global economic data releases was associated with an abrupt decline in equity markets and an increase in risk aversion.

New Zealand banks' demand for offshore funding has declined steadily over the last three years (figure 2.6), due to moderate credit growth and a strong inflow of local funding reflecting improved domestic savings. When banks and large New Zealand corporates have issued in offshore markets during 2014, global yield seeking behaviour has generally meant favourable conditions. There has also been a significant increase in offshore investment into the New Zealand commercial property sector (see box C).

Figure 2.6
Bank non-resident funding



Source: RBNZ SSR.

The banking system is well placed to withstand a disruption to global financial markets, due in part to the introduction of the core funding ratio requirement. With almost all New Zealand's external debt effectively denominated in New Zealand dollars, the adverse effect of a drop in the New Zealand dollar would be minimal.

Policy assessment

Changes to the baseline prudential regulatory framework have increased the resilience of the financial system since the GFC. In the banking system, regulatory capital ratios have increased and the core funding ratio has reduced the reliance on short-term wholesale funding markets. Bank profitability, which dipped following the GFC, has also recovered. As discussed in box A, recent stress tests highlight the resilience of the banking system to a major economic shock.

Criteria for LVR removal.

LVR restrictions were introduced to reduce the risk to the financial system and broader economy from a major correction in house prices at a time when house prices were considered to be overvalued, household debt levels were high, and banks were competing aggressively to provide mortgage lending to borrowers with low deposits. It was always intended that such measures would be temporary and removed when pressures in the housing market abated.

In identifying criteria that should guide the removal of LVR restrictions, three considerations are particularly important. These are:

- whether house price inflation and housing credit growth have returned to more sustainable levels;
- the risk of a resurgence in housing market pressures after the removal of the restrictions; and,
- whether the policy is creating significant market distortions.

The removal of LVR restrictions also needs to be assessed in relation to broader financial conditions, including monetary policy settings.

Table 2.2 shows some of the key indicators illustrating the impact of the LVR restrictions.

Box A

Stress tests of the New Zealand banking system

Stress testing is a tool to assess the resilience of financial institutions to a hypothetical adverse event, usually a severe but plausible economic downturn. Introducing a comprehensive stress testing framework for the New Zealand banking system is a strategic priority for the Reserve Bank, and this is discussed in more detail in chapter 6.

During this year, the Reserve Bank and the Australian Prudential Regulation Authority (APRA) collaborated on stress tests that included the four subsidiaries of the major Australian banks. The Reserve Bank also conducted a smaller exercise with the five domestically owned banks.¹

The major bank stress testing exercise featured two adverse economic scenarios over a five year time period. In scenario A, a sharp slowdown in economic growth in China triggers a severe double-dip recession. Real GDP declines by around 4 percent, and unemployment peaks at just over 13 percent. House prices decline by 40 percent nationally, with a more marked fall in Auckland. The agricultural sector is also impacted by a combination of a 40 percent fall in land prices and a 33 percent fall in commodity prices. The decline in commodity prices results in Fonterra payouts of just over \$5 per kilogram of milksolids (kg/MS) throughout the scenario.

Scenario B features a significant increase in interest rates. Initially this is due to a stronger-than-expected economic recovery. However, from the second year of the scenario there is a material slowing in global economic growth accompanying a severe disruption to global oil production. The consequent inflation pressures delay monetary policy easing, despite a domestic recession, a 30 percent fall in house prices and unemployment of just under 12 percent. Rising global bank funding costs increase lending rates by a further 200 basis points, accentuating tight monetary policy and

resulting in floating mortgage rates peaking at 11-12 percent. Fonterra payouts fall to around \$6 kg/MS from the second year.

These scenarios were intended to be severe but plausible, and in the case of scenario A, broadly matched the experience of some of the more severely affected economies in the GFC.

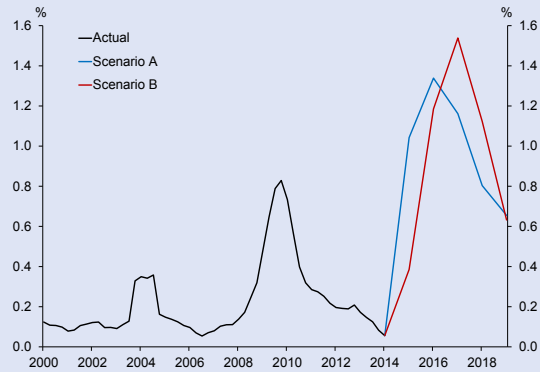
The stress test was conducted over two phases. In phase one, banks were asked to provide estimates of credit losses, based off their own internal stress testing models. Results in this stage were subject to a high degree of variability due to differences in modelling approaches between banks. In the second phase, banks were supplied with common credit loss estimates, which were estimated on the basis of Reserve Bank and APRA stress testing models, international experience during similar scenarios, and bank responses from phase one. In both of these phases, banks were initially asked to model the effects of these scenarios on balance sheets and profitability without assuming any management actions to mitigate their impact.

The most significant effect of the scenarios was to generate a large increase in loan losses, with impaired asset expenses peaking at 1.3 and 1.5 percent of assets, respectively, in the two scenarios in phase two (figure A1). Higher credit losses, combined with a decline in net interest income due to increased costs for bank funding, resulted in a significant decline in bank profitability. However, reflecting strong underlying earnings in the New Zealand banking system, these factors were only sufficient to cause negative profitability in a single year in each scenario (figure A2).

While positive average profitability meant that banks were able to conserve capital levels, deteriorating asset quality resulted in an increase in the average risk weight of exposures, causing a decline in regulatory capital ratios. Common equity Tier 1 (CET1) capital ratios declined by around 3 percentage points to a trough of just under 8 percent in each scenario, but remained well above the regulatory minimum of 4.5 percent (figure A3). Banks are also required to maintain a 2.5 percent

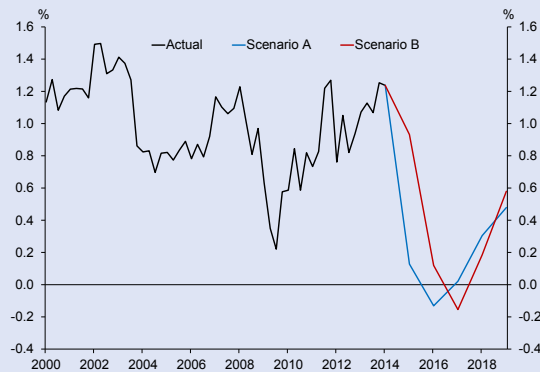
¹ The domestically owned banks are: Co-operative, Heartland, Kiwibank, SBS, and TSB.

Figure A1
Impaired asset expenses
(percent of gross loans)



Source: RBNZ.

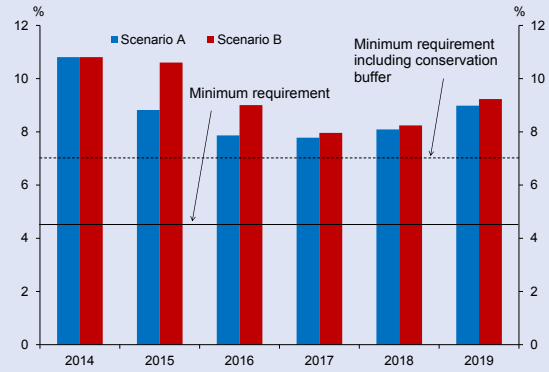
Figure A2
Return on assets



Source: RBNZ.

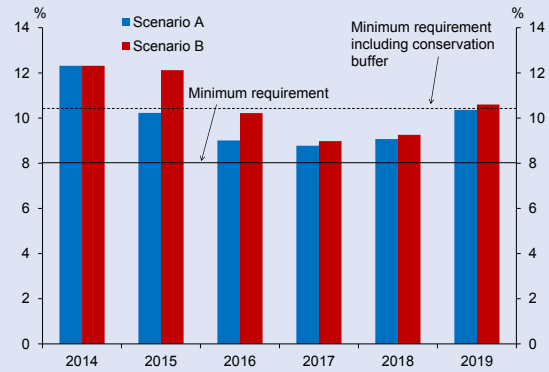
conservation buffer above all minimum regulatory capital requirements, or else face restrictions on dividends. On average the banking system fell within this buffer ratio in both scenarios, due to total capital ratios falling close to minimum requirements (figure A4). Average buffer ratios reached a low of 1 percent in both scenarios. As a result, some banks would have been faced with restrictions on their ability to issue dividends. The intention of the buffer ratio is to provide a layer of capital that can readily absorb losses during a period of severe stress without undermining the ongoing viability of the bank. Given the severity of the scenarios, capital falling within buffer ratios was an expected outcome.

Figure A3
CET1 capital ratios
(percent of risk-weighted assets)



Source: RBNZ.

Figure A4
Total capital ratios
(percent of risk-weighted assets)



Source: RBNZ.

Faced with a scenario of this magnitude, banks' management would be expected to undertake a number of actions to restore capital buffers. A second part of phase two involved banks outlining these management responses and to model their effects. For most banks, the key response was to significantly reduce new lending to reduce risk weighted assets and increase regulatory capital ratios. Some deleveraging is to be expected in a severe recession, especially on corporate exposures where defaulted assets will generally not be replaced. However, continued supply of new lending is essential to prevent markets from becoming disorderly and to allow banks to resolve defaults by selling foreclosed

assets to new owners. The proposed average reduction in exposures of around 10 percent in each scenario was large, and may have resulted in significantly worse macroeconomic and credit loss outcomes.

Most banks also report that they would reduce costs by cutting bonuses, reducing staff numbers and lowering discretionary expenditure. Some banks also reported measures to re-price credit to recoup margins, while one bank reported a capital injection from their parent.

The result of these mitigating actions is to return the banking system to profitability in all years of the scenarios, and to boost CET1 capital ratios to 9.5 percent at the low point of each scenario. International experience suggests that it can often be difficult to implement significant mitigating actions in the midst of a severe crisis. Therefore, in interpreting results, the Reserve Bank's emphasis tends to be on ensuring that banks have sufficient capital to absorb credit losses before mitigating actions are taken into account. The

results of this stress test are reassuring, as they suggest that New Zealand banks would remain resilient, even in the face of a very severe macroeconomic downturn.

The Reserve Bank also engaged the five domestically owned banks in a basic credit stress test in April this year. This test assessed the balance sheet resilience of these banks to a large increase in credit losses due to a severe domestic recession and large falls in asset prices. All participating banks appear to be resilient to a major downturn of this nature, with no bank breaching minimum capital requirements. This test was designed as an introduction to stress testing and is part of a multi-stage process to enhance stress testing capacity at these banks.

The Reserve Bank views stress testing as an important component of sound risk management within banks. The banks are expected to continue to develop their stress testing frameworks, and to use the results to inform their capital management and risk appetite setting processes.

Table 2.2
Key LVR effectiveness indicators

Indicator	September 2013	September 2014
House price inflation – national (annual 3-month moving average)	9.4	5.0
House price inflation – Auckland (annual 3-month moving average)	16.4	8.6
Housing credit growth (annual growth)	5.8	4.7
LVR>80%, of new commitments	24.4	7.3
LVR>80%, of mortgage loans outstanding	20.5	16.5 (June)

Source: Registered banks' Disclosure Statements, REINZ, RBNZ New Residential Mortgage Commitments Survey, RBNZ SSR.

House price inflation and housing credit growth are returning to more sustainable levels.

The housing market has cooled since the introduction of the LVR restrictions in October 2013. The volume of house sales is about 12 percent lower than when the policy was introduced. Although many factors influence housing market conditions, the LVR restrictions are judged to have had a substantial impact on housing demand.

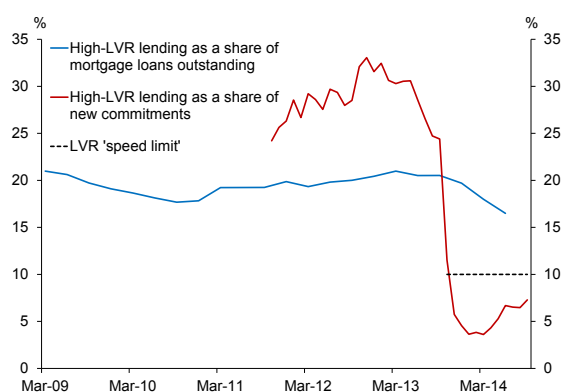
The decline in house sales has contributed to a moderation in annual house price inflation, from over 9 percent in September 2013 (on a three-month moving average basis) to 5 percent in September 2014 (table 2.2). Importantly, house price inflation in the Auckland region, which reached 17 percent in August 2013, slowed to below 9 percent in September 2014. The slowing in house sales and house price inflation has also resulted in annual housing credit growth falling by just over one percentage point between September 2013 and September 2014.

The level of risk in banks' housing loan portfolios, as measured by the proportion of high-LVR lending, has substantially reduced since the introduction of the LVR restrictions. The aggregate share of high-LVR lending relative to new housing loan commitments was 7.3 percent at the end of September (and 6.8 percent on a three-month moving average basis) – comfortably within the 10 percent 'speed limit' (figure 2.7). The total proportion of high-LVR mortgages in overall bank mortgage loan portfolios has

fallen from over 20 percent in late 2013 to just over 16 percent in June 2014.

A reasonable expectation for the long term growth in house prices and credit is the financial capacity of households, which is related to the total growth in household incomes. Over the past five years household incomes have grown by around 4 percent per annum. Nationwide house price inflation and credit growth have moved towards that level during 2014.

Figure 2.7
High-LVR lending shares



Source: Registered banks' Disclosure Statements, RBNZ New Residential Mortgage Commitments Survey.

Note: LVR greater than 80 percent as percent of total mortgage loans is for nine banks only (see datasheet for further details). LVR greater than 80 percent as a percent of new commitments excludes exemptions.

There remains a risk of resurgence in housing market pressures.

Although the volume of house sales has declined, and house price inflation and housing credit growth have slowed, the housing market is still subject to pressures that warrant caution. Net permanent and long term immigration continues to be strong and is currently running at an annual rate of 45,400 as at September. Its strength has surprised most observers, including the Reserve Bank, and there is no sign as yet of this abating. The current surge in immigration does not appear to have placed major pressure on the housing market to date, but migration has been closely related with house price inflation in past cycles.

An increase in interest rates in 2014 has provided some support for the LVR policy in moderating housing pressures: the Official Cash Rate (OCR) was increased by one percentage point between March and July 2014. Nonetheless, and as discussed in the September 2014 *Monetary Policy Statement*, interest rates remain at levels that continue to support demand growth. Furthermore, the effect on mortgage rates has been muted. While the interest rate on floating rate mortgages was 0.85 percentage points higher at the end of September 2014 than at the end of March, fixed rates have increased by a smaller amount.

An important contributor to the surge in house prices in 2012–13, particularly in Auckland and Christchurch, was the shortage of housing. Nationwide, building has been increasing. The number of new residential building permits issued in the year to September 2014 was 42 percent higher than over 2012. In Auckland, progress has been made in easing building constraints, with consents issued over the past year around 60 percent higher than in 2012 – the highest annual total since 2006. However, housing supply is expected to lag housing demand in the region for some time yet.

The policy is not creating significant market distortions.

There is no evidence that the LVR restrictions are creating significant distortions in the housing market that outweigh the effectiveness of the policy. The Reserve Bank received feedback from the building industry in late 2013 that the restrictions could impede new housing construction, which would compromise the effectiveness of the policy. In December 2013 the policy was amended to exempt high-LVR lending for new home construction. Residential building permits have increased steadily during 2014.

The LVR policy may create distortions by affecting some types of buyers to a greater extent than others. The proportion of first-home buyers dropped immediately after LVR restrictions were introduced, though this partly reflects an unwinding of a surge in first-home buyer sales in 2013. The proportion of first-home buyer sales has settled at a level in 2014 (about 17 percent) that is a little lower than the average since 2005 (see figure 4.5, chapter 4).

There is no evidence of significant avoidance activity. Banks have complied with the 'spirit' of the policy. Consumer lending has increased steadily from late 2013, and while some of this may have been associated with housing lending there has also been a general increase in consumer durable purchases. Non-bank mortgage lending, a potential source of 'regulatory leakage', has not increased materially since the LVR policy was introduced (see chapter 5).

3 The international environment and financial markets

The global economic recovery has continued, although risks still remain. Growth is firming in the US, prompting the gradual removal of monetary policy stimulus, but accommodative policies are set to remain in Europe and Japan on the back of weaker growth outlooks. Meanwhile, a slowing housing market and tighter credit conditions have driven a moderation in Chinese growth. Recent declines in global milk prices highlight the impact that a sharp slowdown in Chinese demand could have on farm incomes in New Zealand.

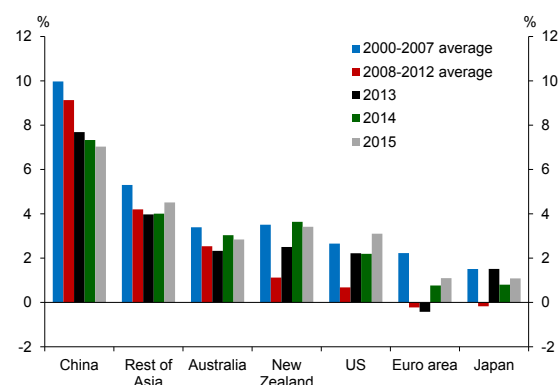
Stimulatory monetary policy in major advanced economies continues to support global financial market conditions. This support has been reflected in low asset market volatility and compressed spreads on higher-risk assets. A disorderly unwinding of these benign conditions could disrupt global financial markets, with implications for long-term interest rates, the New Zealand dollar (NZD), and access to offshore funding for New Zealand corporates. Potential triggers for such an unwinding include surprises associated with monetary policy normalisation in the US, a heightening of geopolitical tensions, or further setbacks in Europe.

An uneven global recovery continues.

The global economic recovery has continued since the May *Report* (figure 3.1), despite setbacks in some advanced and emerging market economies. Across major advanced economies, the recovery is strongest in the US, prompting the gradual removal of monetary policy stimulus. In contrast, the recovery in Europe remains fragile. Economic activity in the euro area stalled in the second quarter with weakness in core economies such as France and Germany and increased geopolitical tensions. Concerns about the very low level of inflation and the medium-term growth outlook have led the ECB to step up its unconventional monetary policy stimulus.

After a relatively strong recovery in the wake of the GFC, growth in emerging market economies has moderated. Of particular importance to New Zealand, the Chinese economy has slowed in recent years alongside China's cooling housing market. Growth slowed sharply in the first quarter of 2014, prompting the Government to

Figure 3.1
GDP forecasts for key trading partners
(annual average percent change)



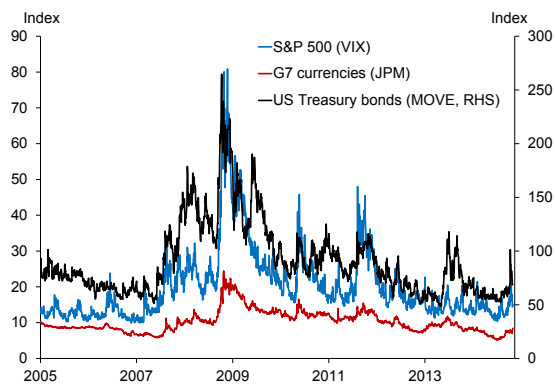
Source: RBNZ.

reintroduce accommodative policies aimed at supporting growth. Weakness in the Chinese property market and vulnerabilities associated with several years of strong credit growth pose risks to the Chinese economy.

Global financial market conditions remain benign...

Sentiment in global financial markets has remained relatively buoyant over the past six months, aided by easy monetary policy from a number of major central banks. This benign financial market environment has supported a continued increase in global equity prices and the prices of traditionally risky assets such as lower-grade corporate debt. Financial market volatility also remains at low levels across a range of asset classes, including bonds, equities, and exchange rates (figure 3.2). Movements in both prices and volatility have also been highly synchronised across asset classes in recent years. More recently, renewed concerns about global growth, and the outlook for Europe in particular, have seen financial market volatility increase from post-GFC lows.

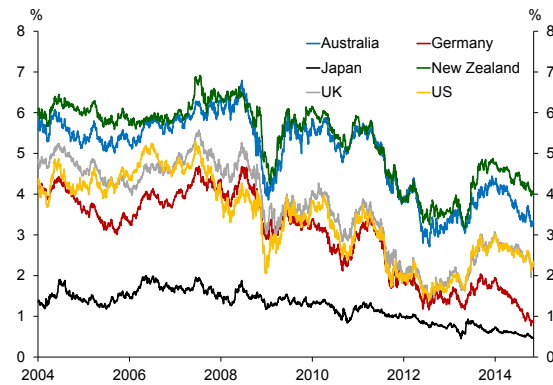
Figure 3.2
Global asset market volatility



Source: Bloomberg.

Government bond yields in a number of countries have remained at historically low levels (figure 3.3), in response to a subdued growth outlook, lower inflation expectations, and, in the case of the euro area, further policy easing by the ECB. New Zealand government bond yields have followed suit, declining by around 25 basis points since May, with the flattening yield curve adding to downward pressure on longer-term bank lending rates.

Figure 3.3
10-year government bond yields

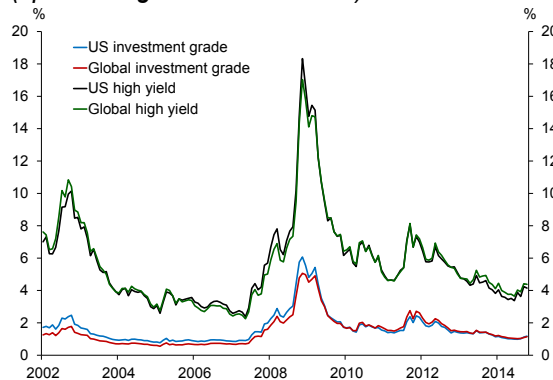


Source: Reuters.

...which is encouraging a search for yield.

Low returns offered on government bonds, in conjunction with subdued asset market volatility, have been encouraging investors to allocate more of their portfolios to higher-risk assets. This 'search for yield' is reflected in declining spreads on the sovereign debt of Portugal, Spain, and other peripheral European economies (refer to figure 3.8). In other fixed income markets, spreads on both investment grade and high-yield corporate bonds remain near pre-crisis lows (figure 3.4). Equity prices are also high relative to earnings in the US, but there is limited evidence to suggest that risks are under-priced in other major equity markets. Low returns in advanced economies have encouraged capital flows to emerging markets in the years following the GFC, although these flows have slowed more recently.

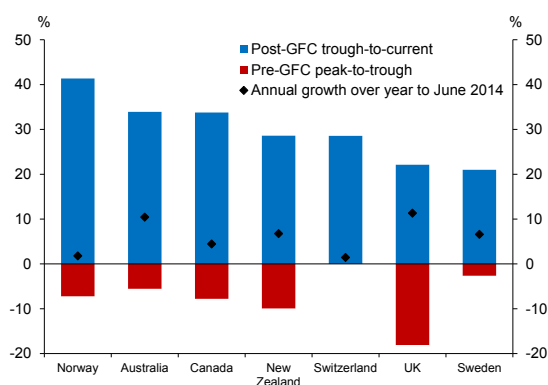
Figure 3.4
Global and US corporate bond yields (spread to government bonds)



Source: Barclays Capital.

Low global interest rates are also supporting demand for physical assets, such as residential and commercial property. House prices have continued to grow strongly in some advanced economies, from already elevated levels (figure 3.5). For many countries, this has occurred alongside weak economic growth and low domestic inflation, limiting the ability of policymakers to respond directly with conventional monetary policy tools. As a result, macro-prudential tools have been increasingly applied in recent years to address financial stability risks associated with rapid house price inflation.

Figure 3.5
House prices in selected advanced economies
(percent change)



Source: CoreLogic NZ, Haver, Teranet.

Monetary policy normalisation poses challenges.

As US growth prospects have improved over the past six months the Federal Reserve has continued the withdrawal of extraordinary monetary policy stimulus. The Federal Reserve ended its asset purchase programme in October 2014 and policy rates are expected to increase in the latter half of 2015. By contrast, the ECB and the Bank of Japan are expected to maintain low interest rates and use unconventional monetary policy for some time. The disruption to global financial markets that accompanied the announcement of tapered asset purchases by the Federal Reserve in mid-2013 highlighted the risk that surprises about the normalisation of monetary policy can trigger an abrupt correction in financial markets.

If monetary policy normalisation proceeds smoothly, financial market spillovers could be relatively limited. However, against the backdrop of compressed risk spreads and low asset market volatility, financial markets could be vulnerable to an unexpected tightening of monetary policy or an aggressive move by bond markets to pre-empt monetary policy tightening. A disorderly unwinding of the search for yield could affect global capital flows and the prices of different assets. Moves by investors to exit risky asset holdings could affect New Zealand in the short term through an outflow of capital, a depreciation in the exchange rate, and an increase in bank funding costs. Depending on the medium-term impact on global growth prospects, the New Zealand economy could also be adversely affected through trade linkages.

The NZD remains elevated.

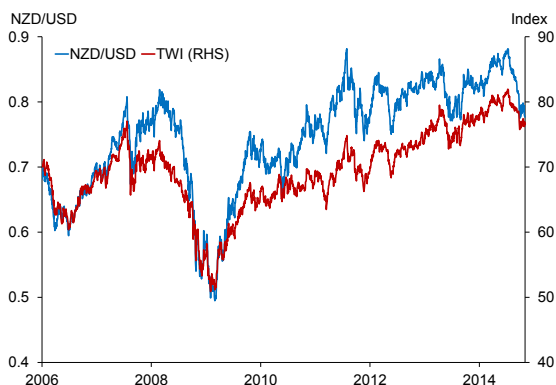
In recent months, a generalised increase in expected policy tightening in the US has led to the strengthening of the US dollar against a range of currencies, including the New Zealand dollar (NZD). The NZD has depreciated by around 10 percent against the US dollar (figure 3.6), while the adjustment has been somewhat less relative to a trade-weighted average of major trading partner currencies (around 5 percent). The currency's depreciation has been less than the fall in New Zealand's export prices over the past year (see chapter 4). The Reserve Bank's analysis indicates that the real exchange rate is above its sustainable level and also above levels justified by business cycle factors.¹ Relatively high interest rates in New Zealand, the global search for yield and the associated demand for NZD-denominated assets are key reasons for the elevated exchange rate.

The NZD could decline further if a stronger outlook for the US economy triggered greater investor flows into the US dollar on the expectation that the Federal Reserve would begin to tighten sooner than currently expected. In addition, further declines in New Zealand's export prices, or a sharp slowing in Chinese growth, would also

¹ Wheeler, G (2014) 'New Zealand's exchange rate: why the Reserve Bank believes its level is unjustified and unsustainable', statement by the Reserve Bank of New Zealand Governor, 25 September.

place downward pressure on the exchange rate. More generally, a significant deterioration in global financial market conditions could reverse the current appetite for NZD-denominated assets.

Figure 3.6
The New Zealand exchange rate



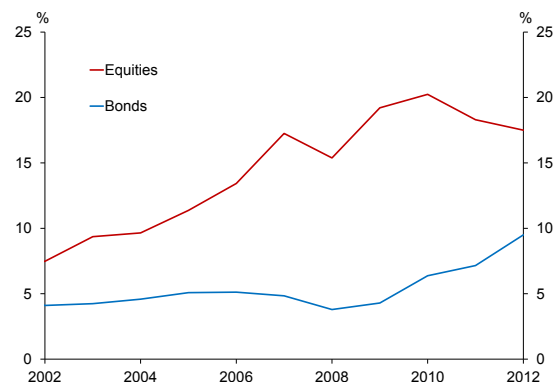
Source: RBNZ.

Emerging markets are vulnerable to disruptions in advanced economies.

The benign global financial market environment has encouraged increased capital flows to emerging markets in the years since the GFC. Strong capital flows have been correlated with continued strong private sector credit growth for many emerging markets and, in some cases, rising property prices. If global financial conditions tighten, as occurred in mid-2013 following the announcement that the Federal Reserve would begin to taper its asset purchases, some countries may face a higher cost and potentially greater difficulty refinancing debt obligations, if capital inflows slow significantly.

Emerging markets have accounted for a rising share of advanced economy portfolio (equity and debt) investment over the past decade (figure 3.7). Although this has provided emerging markets with cheaper funding, stronger financial linkages have increased the speed at which developments in advanced economies may transmit to emerging markets.

Figure 3.7
Advanced economy portfolio allocation to emerging markets (percent of total)



Source: IMF *Global Financial Stability Report*, October 2014.
Note: Shares are as a percentage of advanced economy equity and bond portfolios, respectively. Portfolio stocks include revaluation effects.

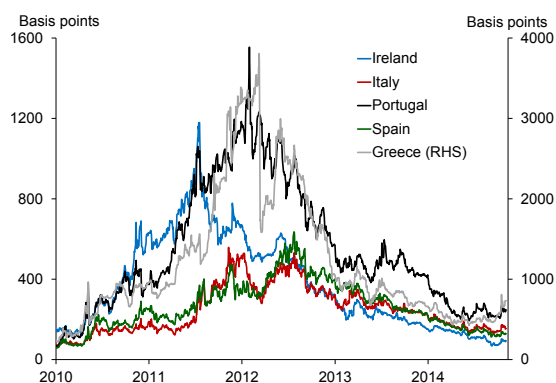
The growth outlook for Europe remains weak.

Economic activity in the euro area has been subdued during 2014, primarily due to renewed weakness in France and Germany, and geopolitical tensions related to developments in Russia and the Ukraine. A prolonged period of low interest rates has not yet generated sustained economic momentum, prompting concerns about the euro area's growth potential. Inflation has fallen to very low levels, increasing the risk that a period of deflation could further undermine growth prospects by worsening the servicing burden of debt. Nonetheless, policy support by the ECB has helped to reduce the spread between government bond yields for peripheral European economies and Germany over the past six months (figure 3.8).

Weak banking system profitability and elevated non-performing loans continue to weigh on the recovery in Europe. European banks are trading at a discount to book value (figure 3.9), making it costly for them to raise new capital to meet minimum capital requirements. The ECB recently released the results of a comprehensive risk assessment of large European banks in preparation for assuming responsibilities as part of the single supervisory mechanism. The assessment, which involved a review of asset quality and stress tests, was designed to increase

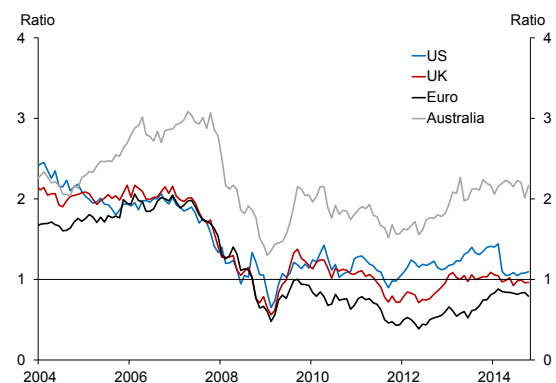
transparency and build confidence in the banking system. The results identified a capital shortfall of €24.6 billion across 24 of the 123 banks that were assessed.

Figure 3.8
10-year government bond spreads – selected European economies



Source: Reuters.
Note: Spreads are to German 10-year government bonds.

Figure 3.9
Price-to-book value ratios in selected banking systems



Source: Bloomberg.
Note: Price-to-book value ratio is market capitalisation divided by balance sheet equity.

There is a risk of a sharp slowdown in China...

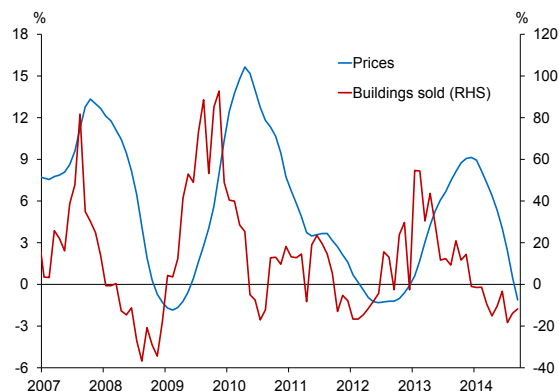
China has become increasingly important as a source of global growth and as a destination for New Zealand's exports. However, in recent years, China's economic growth has been fuelled by rapid credit expansion, much of which has been intermediated by

the shadow banking sector – financial intermediaries and funding markets operating outside the traditional banking system. This has led to the build-up of financial vulnerabilities associated with a potential under-pricing of risk, and a concentration of exposures in the real estate and property development sectors.

Chinese authorities have taken steps to limit the build-up of further vulnerabilities, particularly in the shadow banking sector, by imposing tougher regulation in some areas. This appears to have been relatively successful to date, with total credit growth falling below 15 percent, its lowest level in eight years. Shadow financing growth has also dropped rapidly. Chinese banks continue to benefit from strong profitability, providing some capacity to absorb an increase in corporate defaults.

Partly as a result of tighter credit supply, activity in the Chinese real estate market has declined significantly over the past year (figure 3.10). The unwinding of imbalances in the property sector could lead to a protracted decline and a broad-based slowdown in the Chinese economy through household wealth effects, reduced demand for construction materials, and an erosion of confidence. Chinese authorities have already acted to support the softening in economic growth over 2014 and have eased measures previously introduced to slow the housing market.

Figure 3.10
Chinese residential property market indicators (annual percent change)



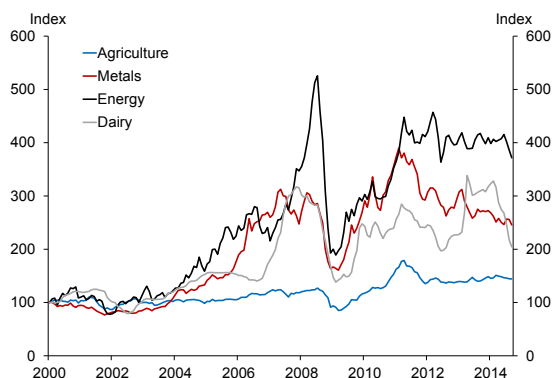
Source: Haver.

...which could spill over to Australasia.

Throughout the 2000s, strong Chinese growth provided a significant boost to both the Australian and New Zealand economies, helping to drive the terms of trade (the ratio of export to import prices) to record levels. For Australia, investment in the mining sector increased significantly, reflecting increased demand for iron ore, LNG and coal, while the rise in per capita incomes in China has led to the rapid increase in the consumption of meat and dairy products, benefitting the New Zealand export sector. China accounts for almost one third of Australia's exports and 19 percent of New Zealand's exports.

The slowing in Chinese growth over the past year has been accompanied by a decline in the prices of both 'hard' commodities like iron ore and coal, and 'soft' commodities such as dairy and other agricultural products (figure 3.11). Supply factors have also been at work in explaining movements in individual commodity prices. The recent decline in commodity prices illustrates the vulnerability of the New Zealand economy to developments in the world's second largest economy. If the Chinese economy slowed sharply, for example, New Zealand would be directly affected through the price of New Zealand's exports to China and indirectly via the integration of the New Zealand economy with Australia.

Figure 3.11
Global commodity prices
(rebased, January 2000 = 100)



Source ANZ, IMF.

Note: See datasheet for the composition of the IMF indices. The IMF agricultural index does not capture the basket of New Zealand's key agricultural exports – see figure 4.8.

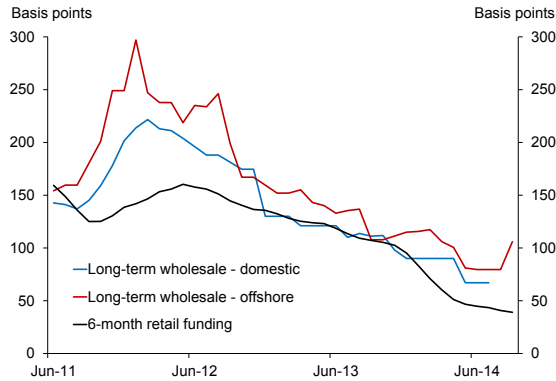
At present the Australian economy is moving away from mining-led investment growth to other sources of domestic demand. Activity in the housing market has increased, fuelled by low interest rates, with rapid house price appreciation in a number of the major cities. Risks are particularly pronounced in the investor segment of the housing market with speculative activity threatening to amplify the property cycle. Authorities are working to ensure financial institutions have sound lending and risk management practices, particularly for lending to investors. The parents of Australian banks operating in New Zealand hold strong capital buffers and are well placed to withstand a significant rise in loan losses.

Bank funding costs have continued to decline...

Benign global financial market conditions have contributed to a significant fall in bank funding costs since 2011 (figure 3.12). Conditions have been favourable when banks have issued debt both domestically and offshore, with spreads near post-crisis lows. At the same time, the growth in domestic retail deposits has reduced retail funding costs, further reducing overall bank funding costs. Both wholesale and retail funding costs have stabilised in recent months. Funding costs could fall further if risk appetite in global financial markets remains buoyant. However, as noted earlier, a disorderly unwinding of the search for yield could increase the cost of offshore funding, and prompt banks to compete more aggressively for retail deposits as an alternative source of funding.

Moderate credit growth and strong retail funding growth have reduced the need for banks to access wholesale funding markets in recent years. As a result, issuance in both offshore and domestic markets has been relatively weak. As discussed in chapter 5, the recent slowing of growth in retail deposits could eventually require banks to increase bond issuance. The New Zealand domestic bond market is relatively small (and only able to absorb a relatively small amount of issuance in a short timeframe) so a decline in retail deposit growth, or an increase in credit growth, would likely result in an increase in offshore funding.

Figure 3.12
Bank funding costs
(3-month average, spread to benchmark rates)



Source: RBNZ *Liquidity Survey*, RBNZ *Standard Statistical Return*.
Note: Benchmark interest rates are the relevant swap rate or bank bill rate depending on the term. Long-term wholesale includes new debt issues with a term of between four and seven years.

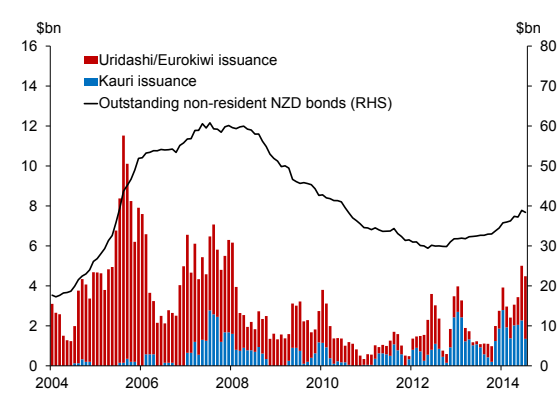
Box B discusses the relationship between size and breadth of New Zealand's capital markets and financial system efficiency.

...but hedging costs have increased.

Issuance in the Kauri, Eurokiwi, and Uridashi markets has continued to grow since the *May Report*, and is at its highest level since 2008 (figure 3.13). New issuance is more than compensating for maturing debt in these markets, with the outstanding stock continuing to rise. The non-resident issuance of NZD-denominated bonds plays an important role in the process of New Zealand banks swapping foreign currency funding into NZD. A greater supply of Kauri, Eurokiwi and Uridashi bonds helps to lower the price (basis swap spreads) at which New Zealand banks can hedge their exchange rate risk.

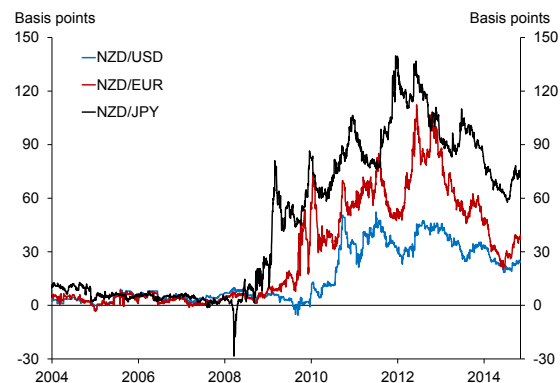
Although the non-resident issuance of NZD bonds has placed downward pressure on the NZD/USD basis swap spread, the implied cost of hedging funding issued in euro and yen has ticked up since May (figure 3.14).

Figure 3.13
Non-resident NZD bonds issuance
(3-monthly total)



Source: Reuters, RBNZ *Liquidity Survey*.

Figure 3.14
Hedging cost for 5-year debt
(basis swap spreads)



Source: Bloomberg.
Note: NZD/EUR and NZD/JPY basis swaps are indicative levels derived from the NZD/USD, EUR/USD, and USD/JPY basis swap spreads, and do not account for transaction costs.

Box B

The role of capital markets in the New Zealand financial system

Capital markets are financial markets that facilitate the buying and selling of long-term debt and equity instruments. By channelling the wealth of savers to those that are seeking to raise long-term capital, these markets complement the intermediation role played by banks and other financial institutions.² Well-developed capital markets also enhance the capacity of economic agents to manage and price risk.

In the New Zealand context, there has been a long-standing concern that financial system development, and broader economic welfare, has been inhibited by the relatively underdeveloped nature of New Zealand's corporate bond and equity markets. In 2009, the Capital Markets Taskforce argued that New Zealand's capital markets were failing as an 'engine of growth' for the economy, with too few companies growing large enough to compete on the world's stage.³ Key deficiencies highlighted were an over-reliance on bank funding by SMEs, a stock exchange that is small by global standards, and a corporate debt market that offers a limited range of quality services.

The cross-country literature has found a positive relationship between the level of financial system development and long-run economic growth.⁴ Underdeveloped banking and capital markets can hamper economic growth by preventing the financial system from effectively performing its vital functions,

² Debt and equity securities can be issued on both public and private markets. The NZX is an example of a public market where new stock is issued and sold to investors (who become shareholders). Public markets also involve the trading of existing securities on 'secondary markets'. Private markets involve the non-public offering of debt and equity, typically to a small number of investors. Large firms may privately place large debt issues, while firms in the early stages of development might raise funds through private equity, and venture and angel capital markets. This box largely focuses on developments in New Zealand's public markets.

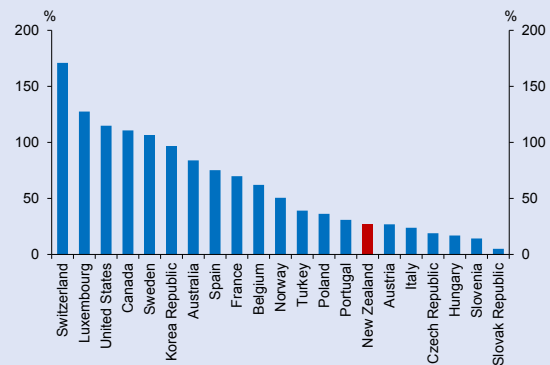
³ CMD Taskforce (2009) *Capital markets matter: report of the Capital Markets Taskforce*, December.

⁴ See, for example, Demirguc-Kunt, A and R Levine (2008) 'Finance, financial sector policies and long-run growth', *World Bank Policy Research Working Paper 4469*, January. Note, economic growth can also influence financial market development – in this sense causation can run both ways between deep and liquid capital markets and long-run economic growth.

such as allocating resources across time and space, and managing and pricing risk. In the New Zealand context, further capital market development may enhance financial system efficiency by increasing the avenues for financing and broader risk mitigation by New Zealand firms.

In terms of total market capitalisation, the New Zealand stock market is small by international standards (figure B1). In addition to differences in production and ownership structures, the relatively small size of the equity market partly reflects the size of New Zealand firms, with the turnover of most firms being too low to justify listing on the stock market, due to prohibitive issuance costs and high compliance standards. To partly address this issue, the NZX has proposed a new 'stepping stone' market – called 'NXT' – offering cheaper access to funding and lower compliance costs for SMEs worth between \$10 million and \$100 million. The NXT was approved by the Financial Markets Authority (FMA) in September, and is expected to launch later this year. With the new market, the NZX is hoping to attract high-growth companies through features such as streamlined regulation and the presence of market-making and research to aid liquidity. To the extent that it succeeds in doing so, this should enhance financial system efficiency by broadening the sources of financing available to SMEs.

Figure B1
Stock market capitalisation – OECD
(percent of GDP)



Source: World Bank, RBNZ.

The number of new domestic retail investors participating directly in the New Zealand stock market appears to be increasing over time, helping to enhance market liquidity and international interest. If this trend is sustained, more firms may be encouraged to publicly list as an alternative to bank funding or private equity. The growth in KiwiSaver funds may also support the development of the domestic equity market.

In July the FMA issued its first equity crowd funding licences under the Financial Markets Conduct Act 2013. Crowd funding is a new way for small firms to raise capital. A service provider acts as an intermediary between companies in the early stage of development, and investors. Firms issuing securities through crowd funding require less disclosure than companies listed on the registered exchange, NZX.

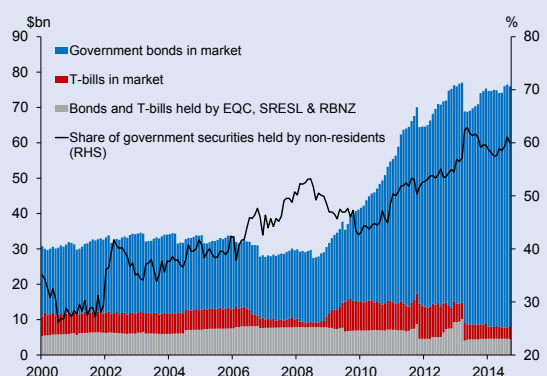
Crowd funding is one example of wide ranging regulatory reform over the past several years aimed at reducing capital-raising costs for both listed and unlisted firms. This regulatory reform is also intended to increase the overall level of investor confidence in New Zealand financial markets.

With respect to debt markets, the breadth and liquidity of the government bond market can influence corporate debt market development. A well-developed and liquid government yield curve, for example, can assist in the pricing of corporate securities, and therefore more accurately determine the cost of capital for firms. Historically, the lack of long-term New Zealand government bonds to act as benchmark securities may have limited the ability of corporates to issue long-term debt and contributed to the corporate bond market remaining small and illiquid.

Since 2008 there has been increased issuance in the New Zealand government bond market to fund fiscal deficits stemming from the recession and the rebuild of Canterbury (figure B2). Throughout this period, the New Zealand Government has faced relatively low borrowing costs (by historical standards), while a lack of national savings and strong international demand led to a rise in the proportion of non-residents holding New Zealand government debt. The development of

the Local Government Funding Authority, which helps local authorities throughout New Zealand raise funds for capital expenditure more efficiently, has also encouraged a significant increase in local government debt issuance since 2012.

Figure B2
Government securities outstanding



Source: RBNZ.
Note: SRESL refers to the Southern Response Earthquake Services Limited.

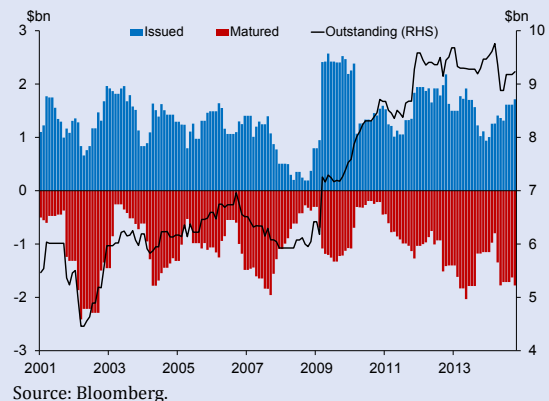
The long-term debt of New Zealand banks, when issued domestically, can also help facilitate capital market deepening. In recent years, the issuance of bonds by New Zealand banks has been reasonably subdued, reflecting the role of domestic retail deposits in largely meeting bank funding requirements (see chapter 5). Issuance has picked up somewhat over 2014, as banks have rolled over their debt to maintain their presence in the market.

In terms of New Zealand non-financial corporates, widening bank funding spreads and tighter bank lending conditions during the crisis precipitated an increase in activity in the local corporate bond market, as large (and highly-rated) firms sought to obtain cheaper, more diversified sources of funding (figure B3). Issuance subsequently declined, partly due to increased competition for corporate lending from the banking system.⁵ More recently, corporate bond issuance has

⁵ Domestic non-financial corporate bonds outstanding is close to 5 percent of GDP, and bonds issued in offshore markets by New Zealand firms account for another 3 percent. By contrast, funding for the business and agricultural sectors provided by banks and non-bank lending institutions amounts to around 55 percent of GDP.

picked up, both domestically and for New Zealand firms issuing in offshore markets, reflecting favourable funding conditions and investor willingness to hold NZD assets. Over time, continued growth in corporate bond issuance should help to build market liquidity and broaden the investor base for corporate debt in New Zealand. However, the limited number of New Zealand non-financial corporates in rating categories which meet the majority of institutional investor mandates (typically single-A and above) may impede new issuance over the longer term.

Figure B3
Non-financial corporate bond domestic issuance
(*annual totals*)



4 Financial risks to the New Zealand economy

New Zealand's net external liability position remains high by international standards, but has declined since 2009. A lower level of debt borrowed via the banking system accounts for most of this decline, while prudential policy changes have helped to moderate the exposure of the banking system to adverse conditions in global funding markets. Offshore bank borrowing is likely to increase somewhat in coming years to fund further increases in private sector investment.

Despite moderate growth in household lending, a sharp rise in house prices and an increase in the share of high loan-to-value ratio (LVR) loans over 2012–13 increased the risk associated with a sharp correction in house prices. This risk has moderated over the past year as the housing market has slowed, partly due to the introduction of a 'speed limit' on high-LVR lending.

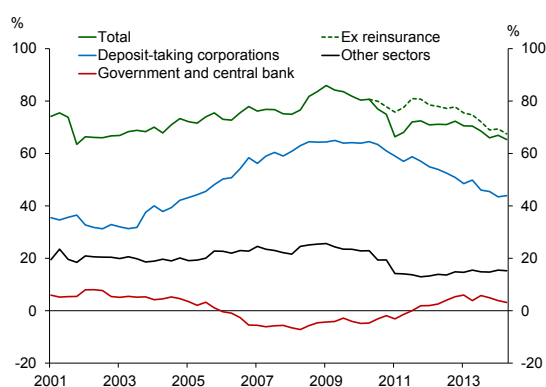
The near-term outlook for incomes in the dairy sector has declined sharply since the last *Report*, and some heavily indebted farms could struggle to meet interest and working expense payments. Financial stress in the sector could increase markedly if the dairy payout does not recover in the 2015–16 season.

External

Net external liabilities remain high...

At 65 percent of GDP, New Zealand's net external liabilities (a combination of net external debt and New Zealand's net equity position with the rest of the world) remain high by international standards. Large net debt obligations to international investors increase the economy's exposure to potentially volatile conditions in offshore financial markets and investors' willingness to hold New Zealand assets. However, after excluding the effect of earthquake reinsurance payments, net external liabilities have gradually declined from a peak of 86 percent in early 2009, and are now at their lowest level since 2001 (figure 4.1).

Figure 4.1
Sectoral composition of net external liabilities
(percent of annual GDP)



Source: Statistics New Zealand.

...but have moderated in recent years...

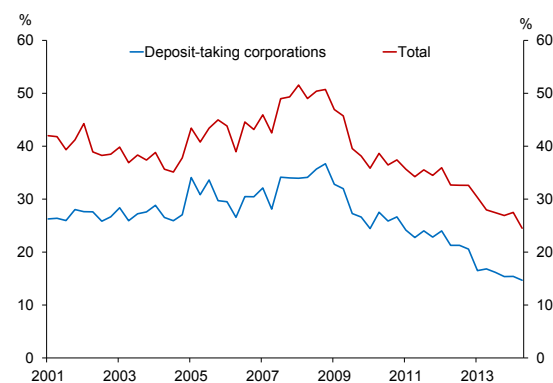
Elevated external liabilities reflect a persistent imbalance between private sector saving and desired investment. Prior to the GFC, this imbalance increased significantly with most of the funding gap financed through increased offshore borrowing by the banking sector. Capital flows have declined in recent years, in an environment of improved private sector saving and low investment. With borrowing demand weak and a relatively strong inflow of funds from residents, the external debt of the banking sector has declined from a peak of 65 percent of GDP to 44 percent currently.

An increase in government debt held by non-residents has provided some offset to this decline in the external debt position of the banking system. Increased offshore government borrowing has been related to the increase in fiscal deficits associated with the slowdown in the economy over 2009 and the rebuild of the Canterbury region following the 2010–11 earthquakes. However, the Treasury projects a return to operating surplus in the coming year, and for net core Crown debt to stabilise at around 25 percent of GDP.

...and 'rollover' risk has declined.

The average maturity of external debt has lengthened significantly in recent years, reducing the 'rollover' risks associated with a high level of external debt. The amount of offshore debt that needs to be raised every quarter has almost halved, declining from a peak of over 50 percent of GDP at the end of 2008 to 25 percent currently (figure 4.2). Reinforcing this trend has been the introduction of the Reserve Bank's core funding ratio (CFR) in 2010, which required banks to progressively reduce the amount of funding sourced from short-term wholesale markets. Currency risk associated with elevated external debt is mitigated by the hedging activities of banks, which effectively means that debt is denominated in New Zealand dollars. As a result, the debt position does not automatically worsen if the currency falls (see the chapter 3 discussion of how New Zealand banks swap foreign currency funding into NZD).

Figure 4.2
Offshore debt maturing in less than 90 days
(percent of annual GDP)



Source: Statistics New Zealand.

Private sector external borrowing is likely to increase.

Rising private sector investment, a sharp drop in farm incomes, and increased imports to fund the Canterbury rebuild are expected to contribute to an increase in the current account deficit over the next 18 months. The September *Monetary Policy Statement* projections show the current account deficit increasing from 2 percent to 6 percent of GDP. With the Government moving towards surplus, increased current account deficits will likely be reflected in rising offshore borrowing by the banking sector to fund credit growth. The CFR requirement means that much of this increase will be funded using longer-term borrowing, helping to mitigate rollover risks associated with higher offshore debt.

Households

House prices have become increasingly stretched...

House prices increased rapidly between 2012 and early 2013, particularly in Auckland and Christchurch. The rise in house prices reflected both supply and demand factors. Housing demand picked up in response to low mortgage interest rates, an easing in credit terms, and rising net migration. Meanwhile, the growth in housing supply has been particularly limited since the onset of the GFC.

Table 4.1

Estimated indebtedness of different cohorts of mortgage borrowers

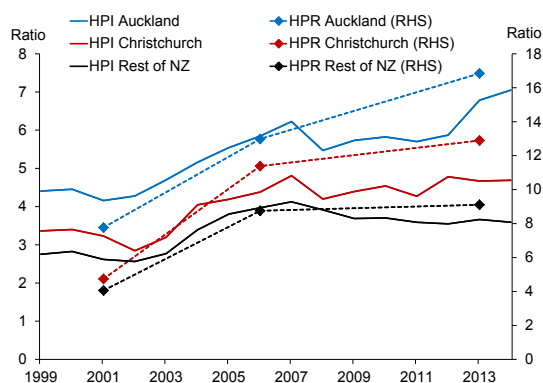
	2005–07	2008–10	2011–13
Age	37	38	38
Income (000s)	64	76	85
Debt-to-income (DTI)	3.1	2.9	3.3
Debt servicing ratio	31	26	25
LVR at origination	65	64	78
Memo:			
% lending to Auckland	35	46	52
Sample size	510	483	261

Source: Statistics New Zealand *Household Economic Survey* (HES).

Note: This table uses disposable income after tax. 'Cohort of mortgage borrowers' is defined as buyers that used mortgage debt to purchase a house within the relevant period, and no more than two years prior to taking the survey. Numbers in the table refer to median values except memo items. The HES does not capture information on investment properties. Data for 2013 is up to June.

Recent increases in house prices come after a very strong increase in the decade prior to 2007. The aggregate ratio of house prices to fundamental metrics such as incomes and rents remains elevated, although somewhat lower than the peak in 2007 for New Zealand as a whole. However, both house price-to-income (HPI) and house price-to-rent (HPR) ratios have increased rapidly in Auckland in recent years (figure 4.3). Both ratios have also increased somewhat in Christchurch. By contrast, the ratios have been more stable across the rest of New Zealand.

Figure 4.3
House prices relative to income and rents across regions



Source: CoreLogic NZ, REINZ, Statistics New Zealand.

Note: HPR is calculated using an estimate of the lower quartile house price in each region. See data sheet for more details.

...leading to an increase in debt for recent borrowers.

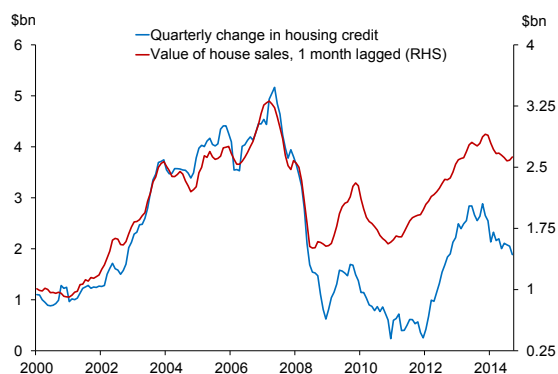
Evidence from the *Household Economic Survey* suggests that indebtedness among house buyers increased in recent years (table 4.1). Rising house prices and easing lending standards led to a significant increase in LVRs among the most recent cohort of owner-occupier mortgage borrowers.¹ Reflecting the strong rise in house prices in Auckland in recent years, Auckland buyers are estimated to have accounted for more than half of lending to the 2011–13 cohort, compared to only 35 percent prior to the GFC. The median debt-to-income (DTI) ratio has also increased, despite borrower incomes that are more than 30 percent higher than the pre-GFC cohort. The increase in indebtedness could make the 2011–13 cohort more vulnerable to a large rise in mortgage interest rates or a sharp fall in house prices.

At the aggregate level, household debt measured against incomes is elevated, but has stabilised in recent years. Given that the indebtedness of the most recent cohort of borrowers has increased significantly, this suggests that many existing homeowners have taken

¹ Table 4.1 was created using updated data from Statistics New Zealand's *Household Economic Survey*, covering annual surveys between 2007 and 2013. A detailed analysis of this data will be published by the Reserve Bank early next year. Access to the data was provided under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. The results presented here are the work of the Reserve Bank, not Statistics New Zealand.

the opportunity provided by low mortgage rates to repay debt at an accelerated rate. Another indicator of increased debt repayment is that net household credit growth has remained well below its historical relationship with the value of house sales (figure 4.4).

Figure 4.4
House sales and housing credit
(3-month totals)



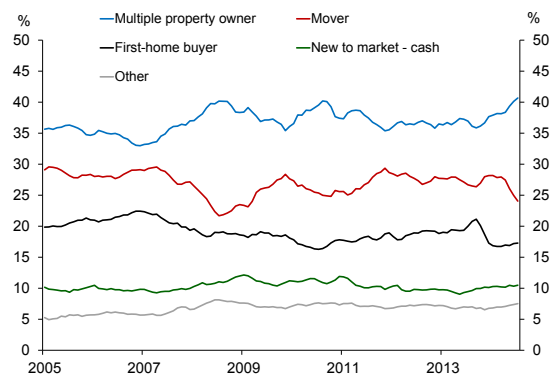
Source: REINZ, RBNZ *Standard Statistical Return (SSR)*.

LVR 'speed limit' has played a role in slowing house sales...

The housing market has slowed significantly since late last year. As discussed in chapter 2, the introduction of a 'speed limit' on high-LVR mortgage lending has contributed to this moderation in housing activity. The increases in mortgage rates from their trough in early 2013, and declining affordability in Auckland and Christchurch, are also likely to have played a role. House sales declined by almost 20 percent between September 2013 and April 2014 and, despite some increase in sales in recent months, remain at low levels.

The decline in sales has been more pronounced among first-home buyers and, more recently, movers (figure 4.5). The first-home buyer share of sales has declined to 17 percent from a peak of 21 percent in September 2013. However, the share increased materially in the period prior to the introduction of the speed limit, and is currently sitting just below its average since 2005. Sales activity among investors has remained broadly constant since September which, in the context of the decline in overall sales, has led to a small rise in the investor share.

Figure 4.5
House sales by buyer type
(3-month moving average, share of total sales)

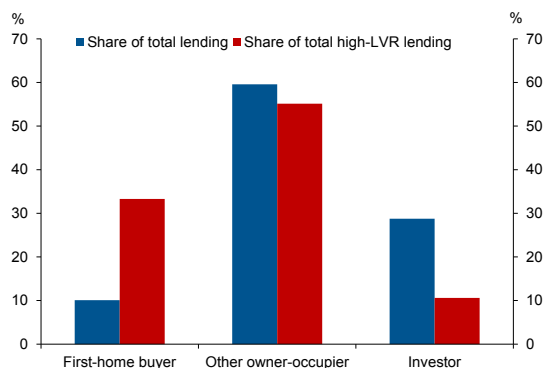


Source: CoreLogic NZ.

Note: 'Other' includes buyers that have re-entered the market after an extended period where they did not own a home, and buyers that cannot be classified.

The Reserve Bank has recently published data on mortgage commitments by buyer type (figure 4.6).² As of September 2014, around 10 percent of commitments are to first-home buyers, 60 percent to other owner-occupiers, and 30 percent to investors. Of the 8.4 percent of lending undertaken at high-LVRs (before exemptions), around 35 percent is to first-home buyers and 55 percent is to other owner-occupiers.

Figure 4.6
Mortgage commitments by buyer type
(as at September 2014)



Source: RBNZ *New Residential Mortgage Commitments Survey*.

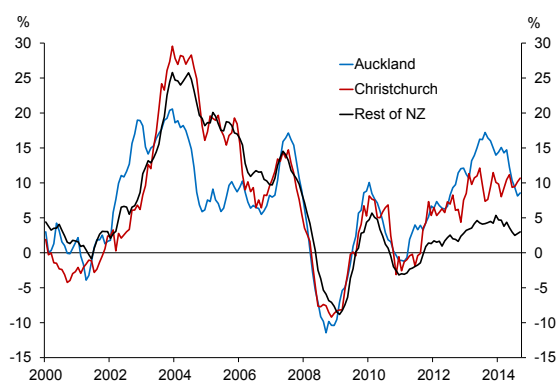
Note: Total commitments also include mortgage lending for business purposes (1.5 percent of total).

² A commitment is a finalised offer to a customer to provide a mortgage loan. It includes the refinancing and top-ups of existing loans. These commitments by buyer type are not directly comparable to the sales data by buyer type in figure 4.5.

...resulting in a moderation in house prices and credit growth.

The decline in house sales has resulted in a moderation in house price inflation and housing credit growth over the past year. In annual terms, house price inflation has declined from around 9 percent to 5 percent, while housing credit growth has declined by around 1 percentage point. There has been a particularly pronounced decline in house price inflation in Auckland (figure 4.7). With house price growth falling to be more in line with the rate of household income growth, the risk of a sharp correction in house prices has moderated.

Figure 4.7
House price growth by region
(annual 3-month moving average)



Source: REINZ.

There is a risk of a resurgence in the housing market.

As discussed in chapter 2, the Reserve Bank is monitoring the housing market to assess whether it is appropriate to relax or remove the speed limit on high-LVR mortgage lending. A key condition for removal is a sustained moderation in house price inflation to about the rate of growth in household incomes. Although house price growth has moderated in recent months, there remains a risk of a resurgence in housing demand. The extent of any further moderation in the growth of house prices will depend on a number of factors, including: whether the direct impact of the speed limit on housing market activity declines over time; the impact of monetary policy

tightening on housing demand in the context of strong mortgage competition (chapter 5) and downward pressure on long-term interest rates (chapter 3); and whether high levels of net immigration continue to have a limited impact in stoking housing demand.³

Housing supply is expected to increase further.

As discussed above, a shortage of housing has contributed to rising house prices in Auckland and Christchurch. New supply in Auckland has persistently been below that required to meet population growth, while in Christchurch the shortage was the direct result of earthquake damage. Housing consents are picking up in both regions, although this will take some time to translate to actual supply. The Auckland Housing Accord sets a target of freeing up enough land over the next three years to build 39,000 new homes. Recent consent issuance suggests progress is being made towards meeting the targets but further increases will be required. Although residential building in Canterbury has increased substantially over the past couple of years, consent issuance for new dwellings has flattened in recent months indicating that the pace of growth in building may slow, from here.

A sharp rise in mortgage rates could stress highly indebted borrowers.

The Reserve Bank increased the OCR by 100 basis points between March and July 2014, and further increases in short-term interest rates may be required in coming years. Longer-term mortgage rates could also increase in response to developments in global financial markets (see chapter 3). Growth in household incomes, voluntary repayments of principal to date, and the increasing shift to fixing mortgages for longer terms, are all expected to provide some buffer for households against a sharp rise in mortgage rates. The speed limit on high-LVR lending has also helped to contain DTI ratios among house buyers over the past year.

³ See the September 2014 *Monetary Policy Statement* for more detail on the impact of migration on the housing market.

However, median DTI ratios have increased across borrower cohorts since 2010, potentially signalling a reduction in loan servicing resilience (see table 4.1). After tightening lending standards significantly in the wake of the GFC, banks became more willing to offer mortgages at elevated DTI multiples from 2012, as confidence returned and amid expectations in financial markets that low interest rates would be sustained for an extended period. Mortgage calculators suggest that banks are currently willing to lend up to a multiple of more than seven times annual gross income, at least for borrowers that have relatively high incomes. With mortgage rates remaining at low levels and intense price competition for mortgages, it is important that banks' origination practices ensure that borrowers can continue to service their loans if interest rates rise sharply.

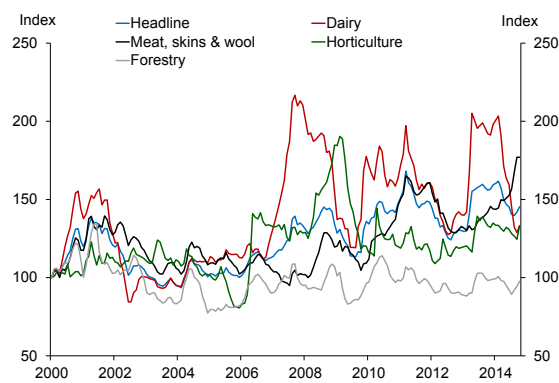
Agriculture

Milk export prices have declined significantly...

Falling dairy prices have driven a significant decline in New Zealand's aggregate export commodity prices since the last *Report* (figure 4.8). Global dairy prices have declined by nearly 50 percent since early 2014 due to increased global supply, disruptions associated with sanctions on Russian imports, and the release this year of inventories built up by Chinese importers in response to drought conditions in New Zealand in early 2013. Outside the dairy sector, commodity prices have been relatively stable or increased. Most notably, prices received by the sheep and beef sector have been on an upward trend since mid-2013.

With the New Zealand dollar remaining at elevated levels, falling milk prices are likely to result in a significant reduction in incomes in the dairy sector. Fonterra has forecast a milk payout for the coming season of \$5.30, following the record payout of \$8.40 in the previous season. This forecast assumes some recovery in milk prices over the rest of the 2014–15 season, although private sector forecasters are predicting a payout below \$5. Global dairy prices, and the resulting Fonterra payout, have been very volatile since 2007.

Figure 4.8
Agricultural commodity prices
(NZD, rebased January 2000=100)



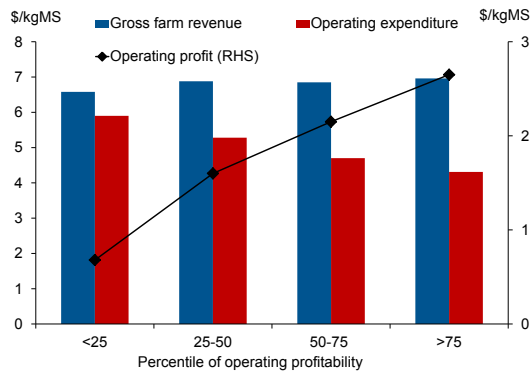
Source: ANZ.

...creating financial pressure for some farmers.

Unless production falls significantly this season, financial conditions for most dairy farms are likely to remain manageable. With the lower payout being signalled well in advance, farmers should be able to manage down working expenses by using less supplementary feed and fertiliser, and reducing spending on repairs and maintenance. Nevertheless, DairyNZ estimates that around one quarter of farmers could struggle to meet interest payments and working expenses at the \$5.30 payout.⁴ High debt servicing costs contribute to the weak profitability among these high break-even payout farmers. Even without accounting for debt servicing costs, there is significant variation in operating profitability with high working expenses evident among some farmers (figure 4.9).

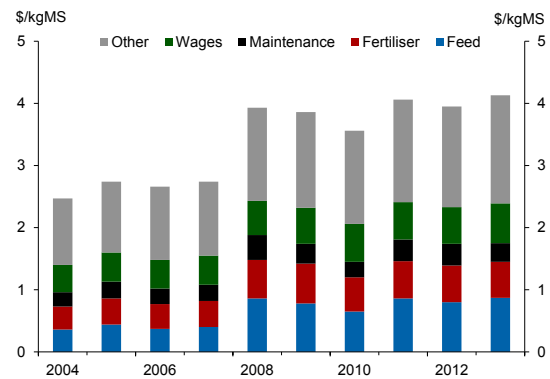
⁴ See <http://www.dairynz.co.nz/news/latest-news/take-a-long-hard-look-at-your-farming-systems/>

Figure 4.9
Working expenses and dairy revenue by operating profitability
(2012–13 season, per kilogram of milksolids)



Source: DairyNZ Economic Survey.
Note: Working expenses and operating profitability exclude debt servicing obligations.

Figure 4.10
Dairy farm working expenses
(per kilogram of milksolids)



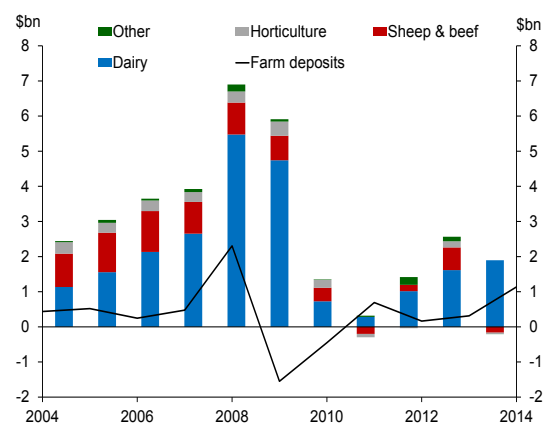
Source: DairyNZ Economic Survey.
Note: 'Other' includes several categories of working expenses, such as vehicles and fuel, insurance, rates, animal health, and electricity.

Increases in feed, fertiliser, maintenance and running costs have resulted in working expenses averaging around \$1 higher per kilogram of milksolids since the 2006–07 season (figure 4.10). The use of input intensive production systems has also increased in recent years. According to DairyNZ, the share of dairy cows in farms relying on more than 20 percent imported feed increased to 30 percent in the 2012–13 season, from around 20 percent in 2007–08. In some cases, farms using intensive farming methods are producing on more marginal land and are less able to substitute to feed produced by their own farm. These farms could be particularly vulnerable to a sharp drop in the payout, because they have limited scope to manage down working expenses by reducing reliance on imported feed.

There are signs that many dairy farmers used strong incomes over the past year to reduce or contain debt and increase cash buffers. Across the agricultural sector, deposits have increased by around \$1.4 billion over the past year. Lending growth to dairy farmers picked up only slightly over the same period, despite a rising value of dairy farm sales and an increase in investment. Farm lending has been even weaker outside the dairy sector (figure 4.11). Fonterra has yet to make deferred

payments from the 2013–14 season, which could see further increases in farm deposits and debt repayment in coming months.

Figure 4.11
Farm debt outstanding by sector and farm deposits
(annual change, June years)



Source: RBNZ Annual Agricultural Survey, RBNZ SSR.

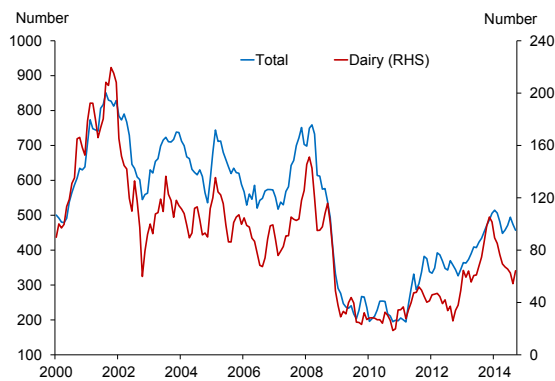
Sustained weakness in milk prices could create significant financial stress...

Farmers that make cash losses next season could come under significant financial stress if the payout does not recover in the 2015–16 season. Dairy prices are now well below the level that has prevailed over the past five years. The Reserve Bank expects dairy prices to recover somewhat from early next year, with prices supported over the longer term by growing Chinese demand associated with rising incomes and urbanisation. However, there is a risk of a more protracted period of weakness in dairy prices if global supply continues to grow rapidly or it takes longer than expected for Chinese forward purchasing to resume.

...especially if land prices fall.

After falling sharply in the wake of the decline in farm incomes in the 2008–09 season, farm values have increased by around 40 percent since the beginning of 2010. However, this recovery has been far from steady, with a declining dairy payout in the 2010–11 season resulting in a substantial slowdown in farm price inflation. More recently, dairy farm sales have declined throughout 2014 as the outlook for the dairy payout has deteriorated (figure 4.12). As a result, farm price inflation has started to moderate.

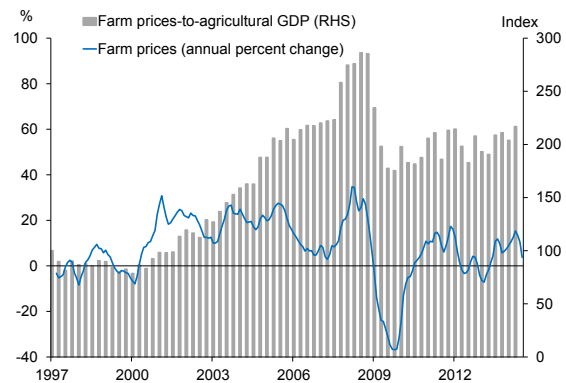
Figure 4.12
Farm sales
(3-monthly seasonally-adjusted total)



Source: REINZ.

The increase in farm values in recent years has reduced the share of agricultural debt with elevated LVRs, which should in turn reduce losses to the banking system if farm defaults rise. Improved equity buffers increase the scope for banks to forbear on financially stressed farmers, or for these farmers to reduce debt levels by selling all or part of their operation. The risk of a sharp correction in farm prices is also somewhat reduced because farm values are significantly lower relative to fundamental indicators such as agricultural incomes (figure 4.13). However, the experience of the GFC shows that liquidity in the farm market can dry up quickly if incomes fall. In these circumstances, farm prices could fall sharply if stressed farmers need to exit the market, potentially resulting in increased bank losses on dairy lending.

Figure 4.13
Farm prices



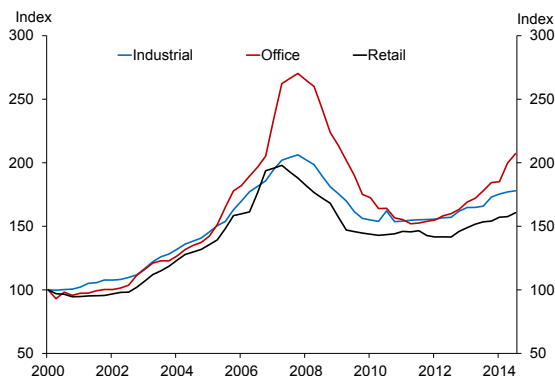
Source: REINZ, Statistics New Zealand.

Commercial property

Commercial property values are increasing...

Commercial property prices and sales activity have continued to grow over the past six months, although values remain well below their pre-GFC peak (figure 4.14). Across the retail, industrial and office sectors, capital values are growing at an annual rate of 7.8 percent. Growth in office values, at over 16 percent per annum, is outpacing that in the retail and industrial sectors. Sales of commercial property look set to increase sharply in 2014, helped by an increasing presence of offshore investors. With commercial property now embarking on a new period of rising prices and turnover, box C outlines the key features of the commercial property market and its implications for the New Zealand financial system.

Figure 4.14
Commercial property prices by sector
(March 2000=100)



Source: JLL.

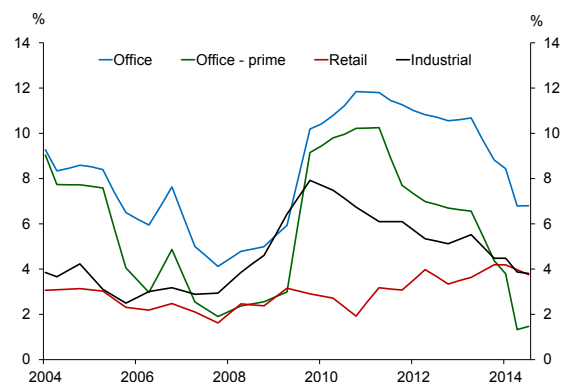
Note: Prices are an imputed capital return series.

...although there is significant variation within the sector.

Increased capital growth has been underpinned by strong tenant demand, as reflected in a reduction in vacancy rates in the office and industrial sectors over the past year (figure 4.15). Excess demand for prime office space has resulted in a sharp drop in vacancy rates, which are now near historic lows. This has enabled investors owning prime office space to increase rents, and reduce non-price incentives that were introduced when vacancy

rates rose after the GFC. By contrast, vacancy rates for the ageing stock of lower grade office space have remained relatively high. The gap between the yield on secondary and prime office space is at elevated levels, which may prompt investors to refurbish secondary properties to improve both quality and compliance with earthquake standards.

Figure 4.15
Vacancy rates by sector



Source: JLL.

Supply expected to increase.

Rising capital values are leading to an increase in planned developments in the office and industrial sectors in the Auckland and Wellington markets (figure 4.16). As discussed in box C, these prospective developments are being funded by listed property trusts and wealthy investors, with a significantly higher degree of equity than lending undertaken prior to the GFC. New supply, as well as refurbished properties coming back to market, should eventually reduce the current shortage of prime office space. However, supply is not expected to increase materially until 2017, and further growth in rents and capital incomes is likely in the interim.

Significant construction work is underway to rebuild the CBD and other commercial property in Christchurch (excluded from figure 4.16). The direct risks to the financial system associated with this construction work are limited as it is being largely funded through insurance payouts. The certainty around tenant demand for investors constructing CBD properties has also increased

Box C

The New Zealand commercial property sector and financial stability

The commercial property stock has an estimated worth of around \$180 billion, approximately one quarter of the value of residential property.⁵ Lending to commercial property investors tends to be relatively high risk and, as a result, accounts for approximately 20 percent of banks' risk-weighted assets (compared to actual bank lending of just less than 10 percent). Commercial property loans have typically been the main source of loan losses during past financial crises, as highlighted by the experience of the Japanese and Nordic crises in the early 1990s, most economies during the GFC, and in New Zealand and Australia during the late 1980s.⁶

The tendency for higher losses on commercial property loans can be explained by large swings in values throughout a typical commercial property cycle. High average values, heterogeneous buildings, and significant transaction costs all contribute to the low average liquidity of the market, which can dry up further when the market weakens. New developments are also large relative to the existing stock and are subject to long build times. This generates direct risks for developers and their financiers, since a deterioration in market conditions during construction could render the project unprofitable. An overhang of supply can develop, exacerbating any price downturn and posing additional risks for landlords.

Non-performing loans in New Zealand increased in the commercial property sector in the wake of the GFC, although bank losses were contained relative to the late 1980s experience. Losses on commercial property lending were more substantial for finance companies, particularly related to exposures on higher-

risk – or mezzanine – tranches of property development loans, where the finance company did not have the first claim on the underlying security in the event of default. The share of non-bank lending to the sector has declined from around 20 percent in 2007 to less than 2 percent following the contraction of the non-bank sector in recent years. As a result, there has been a structural change in the amount of leverage available for property development loans.

Commercial property investors employ a range of business models (table C1). Based on data from Statistics New Zealand's *Annual Enterprise Survey* (AES), at least 66 percent of the commercial property stock is owned by investors, with the remaining stock held mainly by owner-occupiers.⁷ A large proportion of firms in the industry are investors with a small portfolio of commercial property. Smaller investors are also able to take a stake in high value properties, which might otherwise be beyond their financial resources, through investment vehicles such as property trusts or syndicates. Investors with significant resources directly hold high value office/retail properties. This includes private equity (typically high net worth individuals or families) and institutional investors, sometimes from overseas.

Sales volumes and prices of commercial property have increased in recent years. Around half of the value of recent sales has been in the market for high value properties in Auckland and Wellington, which are regularly monitored in the *FSR* using data from Jones Lang LaSalle (JLL). Larger investors, such as listed property trusts (LPTs), private equity, other institutional investors, and offshore investors, account for the majority of sales activity in these markets (figure C1). Domestic private equity and LPTs have both been relatively active and have together accounted for around 35 percent of purchases in recent years. Offshore investors have also accounted for a relatively large and

⁵ Commercial property includes retail (restaurants and shops), accommodation buildings, office buildings, and industrial space (factories and warehouses). The reported figure is based on the total value of property reported by firms in Statistics New Zealand's *Annual Enterprise Survey*, as of the year to June 2013. The figure excludes non-market property, such as schools and other government holdings of land.

⁶ Kragh-Sorensen, K and H Solheim (2014) 'What do banks lose money on during crises?', *Norges Bank Staff Memo*, 2014/03.

⁷ The AES only identifies assets as being held by commercial property investors if this is the primary purpose of the entity. Thus, in addition to owner-occupiers, the remaining 34 percent is likely to capture entities, such as some financial institutions, who may directly own commercial property for investment purposes.

Table C1

Indicative description of investors in the commercial property market

Investor	Description	Share of assets (%)	Leverage (% of assets)	Involved in development?
Owner-occupiers	Corporates or small businesses owning their own premises.	≤34	Unknown	No
Small investors*	Own 1-3 properties, generally in small scale retail and industrial property.	≥59**	≤25** (LVR at origination capped at 60)	No
Private equity*	Domestic and offshore individuals active in the 'core' commercial property market, particularly large office and retail space.			Yes
Institutional investors (excluding LPTs)*	Pension funds, wealth management firms, both domestic and offshore, typically invested in prime grade property.			No
Listed property trusts (LPTs)	Pool investors' funds and hold a portfolio of large properties, often diversified across sectors and regions. Listed on NZ stock market.	6	35 (25-45 range)	Yes
Syndicates	Pool individual investors' funds but, unlike trusts, typically hold a single property rather than a diversified portfolio.	1	40 (25-50 range)	No

Source: Bloomberg, interest.co.nz, Statistics New Zealand *Annual Enterprise Survey*, RBNZ SSR.

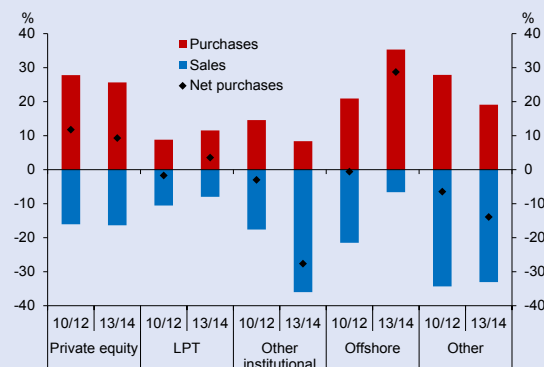
* All these categories will often hold assets in unlisted property trusts. These are typically not available for investment by the public, with trusts owned by some managed funds being the main exception.

** Implied by subtracting assets and debt of listed property trusts and syndicates from the overall assets and debt in the commercial property industry.

growing share of purchases, seeking the relatively high yields on offer in the New Zealand commercial property market (in a climate of very low yields on assets in much of the rest of the world in recent years). Meanwhile, domestic institutional investors, outside the LPT sector, have been reducing assets. The recent sale of an AMP portfolio valued at more than \$1 billion to a Canadian pension fund was a key driver of both these trends.

With the commercial property market embarking on a new cycle, investor balance sheets are in a much stronger position than prior to the GFC. Aggregate debt as a share of earnings increased significantly in the wake of the GFC, as earnings declined, some commercial property investors drew on credit lines, and borrowing

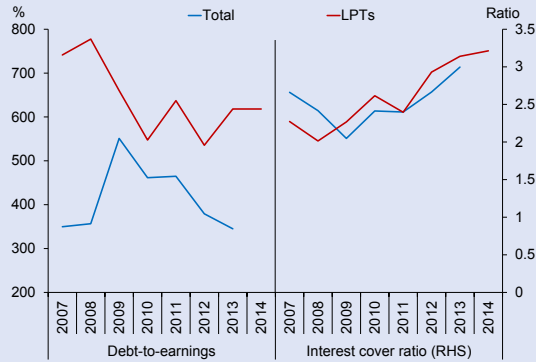
Figure C1
Commercial property transactions by entity
(percent of total value traded)



Source: JLL.

Note: Only sales valued at \$5 million or more are included. 'Other' includes corporate owner-occupiers, government and sales where the buyer classification was unknown.

Figure C2
Debt-to-earnings and interest cover ratios for commercial property investors



Source: Bloomberg, Statistics New Zealand *Annual Enterprise Survey*.

Note: Earnings are before interest and tax.

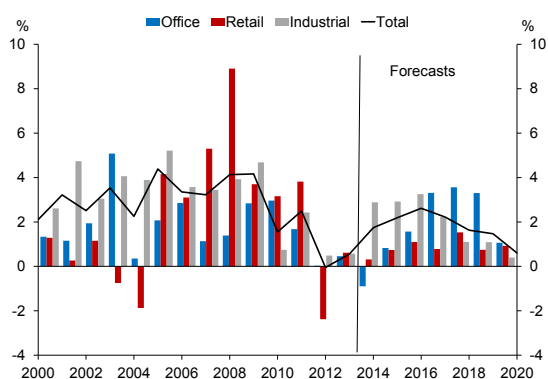
for late-cycle construction projects continued (figure C2). Debt-to-earnings has since declined, alongside reduced sales activity and property prices, and as some indebted investors exited the market. Declining interest rates and an increase in earnings since 2012 have also

driven an improvement in interest cover ratios. There is limited information on the distribution of debt within the commercial property sector. In the LPT sector, where good data are readily available, debt-to-income ratios and interest cover ratios have improved since 2007.

Development activity is beginning to increase, particularly in the office sector, in response to rising activity and values. With the lack of mezzanine finance reducing leverage available for property development, this supply pipeline is mostly being funded through wealthy private equity investors or LPTs – with significantly more equity than their counterparts prior to the GFC. This increase in equity buffers, along with the exit of riskier deposit-taking finance companies from the sector, has reduced the direct risks to the financial system associated with development lending. The scale of the supply pipeline is also forecast to remain well below that seen prior to the late 1980s crisis and the GFC. The Reserve Bank will continue to monitor for any signs of growing risks in the commercial property sector.

in recent months, with a number of anchor tenants signing long-term leases within the CBD. However, with the vast amount of construction work and changing shape of the commercial property market in Christchurch, there is a risk that some investors will experience lower than anticipated demand for their property.

Figure 4.16
Supply pipeline by sector
(m², percentage of sectoral stock)



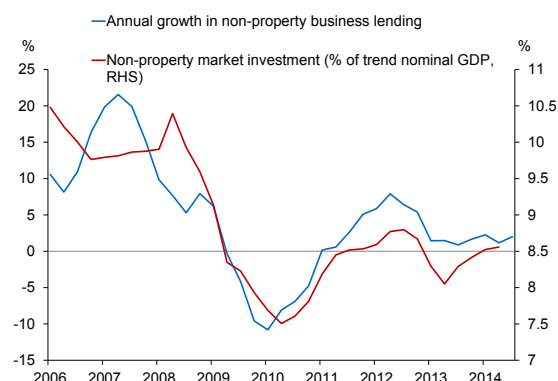
Source: JLL.

Non-property business

Business lending growth remains weak...

Lending to the non-property business sector declined by an annual rate of more than 10 percent in early 2010, as profitability declined, investment activity fell, and credit conditions tightened. Although lending to the sector has recovered to modest positive growth rates in recent years, debt levels remain below their pre-GFC peak. Growth in lending has slowed noticeably since mid-2012, although investment has increased over the past year (figure 4.17). Discussions with business contacts suggest that some businesses are relying more on retained earnings or, in the case of some larger firms, direct capital market funding to finance investment.

Figure 4.17
Non-property business lending and investment



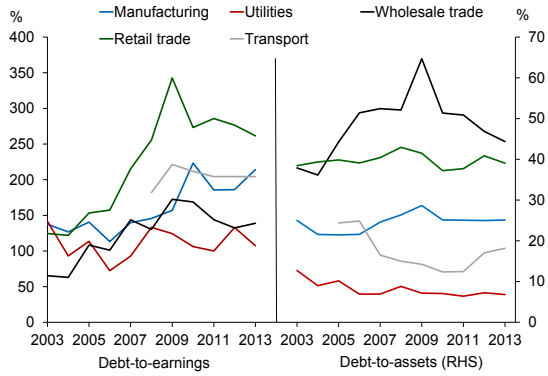
Source: RBNZ SSR.
Note: Non-property market investment includes transport equipment, plant and machinery (including computers) and intangible assets.

...despite improved balance sheets.

This aggregate picture disguises significant diversity within the sector. Figure 4.18 shows debt relative to earnings and assets for the retail trade, wholesale trade, manufacturing, transport and utilities sectors. Together these sectors account for around 80 percent of non-property business lending. Both the retail and wholesale trade sectors have significantly reduced debt relative to earnings and assets in recent years, following a strong increase prior to the GFC. By comparison, debt-to-earnings in the manufacturing, utilities and transport sectors have been relatively stable. Debt-to-earnings has increased somewhat for manufacturing in recent years, due to weak growth in earnings. Utilities tend to rely less on bank debt, with their large size enabling them to access capital markets.

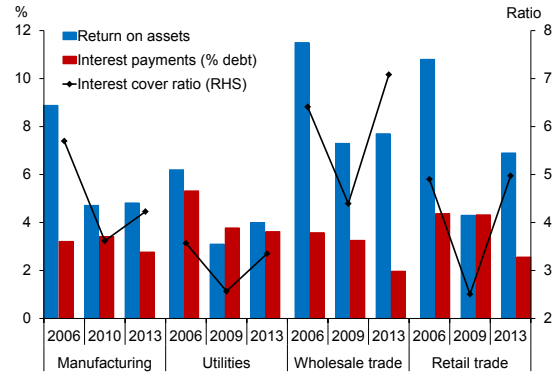
Interest cover ratios – the ratio of earnings to interest payments – have recovered markedly since 2009, due to a combination of recovering earnings and reduced interest costs (figure 4.19). The improvement has been particularly marked in the retail and wholesale trade sectors, where debt-to-earnings ratios have declined. This suggests that the sector is in a stronger position to take on more debt, if required, to fund the ongoing recovery in business investment spending.

Figure 4.18
Indebtedness for key non-property business sectors



Source: Statistics New Zealand *Annual Enterprise Survey*, RBNZ SSR.
 Note: Debt refers to lending intermediated by financial institutions. Earnings are before interest and tax. Debt-to-assets is computed excluding current assets.

Figure 4.19
Interest cover ratios for key non-property business sectors



Source: Statistics New Zealand *Annual Enterprise Survey*.
 Note: Interest cover ratio is the ratio of earnings to interest payments. The transport sector is not included in this chart due to gaps in the data for interest payments.

5 Financial institutions and infrastructure

The banking system remains resilient. Capital levels are well above regulatory minima, and above the conservation buffer that was implemented at the beginning of the year. Non-performing loans have declined, leading to lower provisions and increased profitability. Even though deposit growth has started to slow, banks remain well funded, with the core funding ratio comfortably above the 75 percent regulatory requirement.

The non-bank lending sector, which has shrunk significantly since 2007, has grown modestly in the past 12 months. There are few signs that this is due to leakage from the banking sector as a result of the LVR restrictions.

The insurance sector is facing challenging business conditions, including ongoing claims processing resulting from the Canterbury earthquakes. Falling reinsurance costs as a result of benign global financial markets conditions are providing some support to the property insurance sector.

Payment systems have been operating effectively over the past six months.

Banking sector

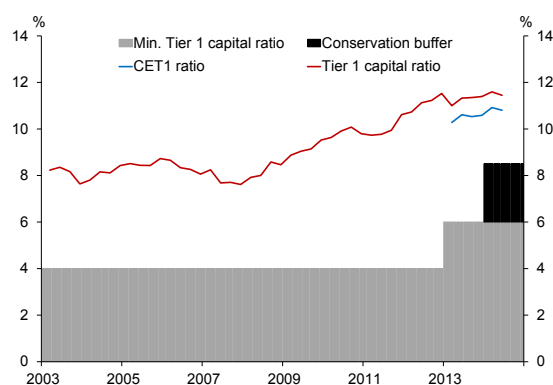
The banking sector is well capitalised...

The banking sector's overall capital position is well above required regulatory minima, providing capacity to manage a significant deterioration in economic conditions (figure 5.1). As discussed in box A (chapter 2), recent stress tests highlight the resilience of the banking system to a major stress event. The system-wide common equity Tier 1 (CET1) capital ratio – the highest quality of loss absorbing capital – was 10.8 percent at the end of June, well above the regulatory minimum of 4.5 percent of risk-weighted assets (RWA), plus the conservation buffer of 2.5 percent introduced on 1 January 2014. The conservation buffer is designed to provide additional loss-absorbing capacity in times of stress, and although banks are allowed to operate inside the buffer, while doing so they are subject to restrictions on distributions to shareholders. Banks have been able to build their capital positions largely from retained earnings arising from a recovery in profitability over the past several years.

Figure 5.1

Regulatory capital ratios

(locally incorporated banks, percent of RWA)



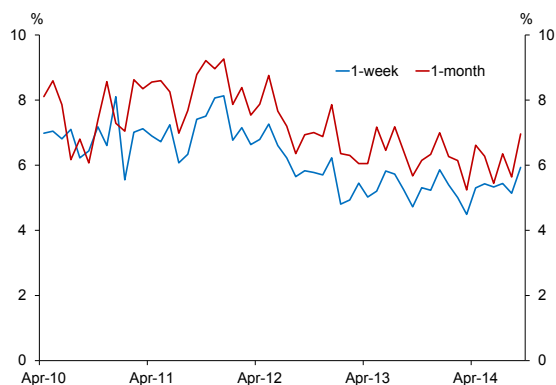
Source: Registered banks' Disclosure Statements.

...and has strong liquid asset buffers.

Banks are subject to several liquidity requirements to ensure they can meet payments in a timely manner in the event of a stress scenario. The mismatch ratios, part of the Reserve Bank's liquidity policy, ensure banks have sufficient liquid assets to meet projected cash outflows over a one week or one month period respectively. The

banking system's mismatch ratios are well above the 'zero' regulatory requirement (figure 5.2).

Figure 5.2
Mismatch ratios



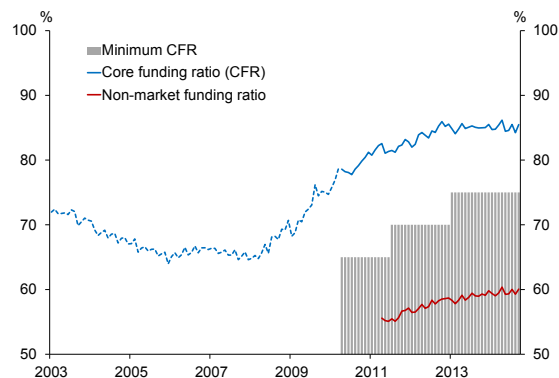
Source: RBNZ Liquidity Survey.

Banks are also maintaining a high level of stable funding...

The second main feature of the liquidity policy is the minimum core funding ratio (CFR) – weighted toward funding that can be expected to stay in place for a year, including non-market funding, long-term market funding and bank capital.¹ Strong growth in non-market funding over the past several years has enabled banks to maintain core funding ratios well above the minimum requirement of 75 percent (figure 5.3).

Between 2010 and 2013, banks were able to meet the majority of their funding needs from non-market funding, reflecting the growth in household and business deposits, as well as modest domestic credit demand (figure 5.4). Insurance-related payouts from the Canterbury earthquakes of 2010 and 2011 have also contributed to the rise in non-market deposits.

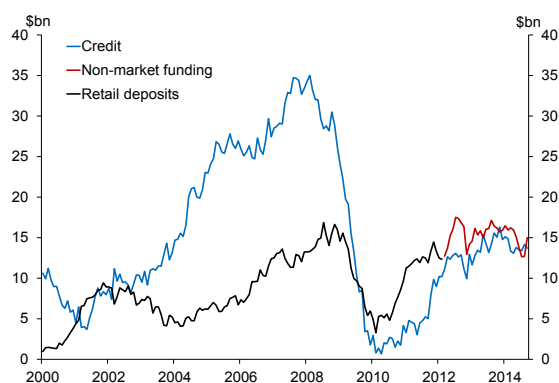
Figure 5.3
Banking system core and non-market funding (percent of loans and advances)



Source: RBNZ Liquidity Survey, RBNZ Standard Statistical Return (SSR).

Note: The dotted section of the CFR is an approximation based on SSR data. The non-market funding ratio shows the contribution of non-market funding to core funding.

Figure 5.4
Non-market funding and credit growth (annual growth, dollar value)



Source: RBNZ Liquidity Survey, RBNZ SSR.

... although non-market funding has slowed.

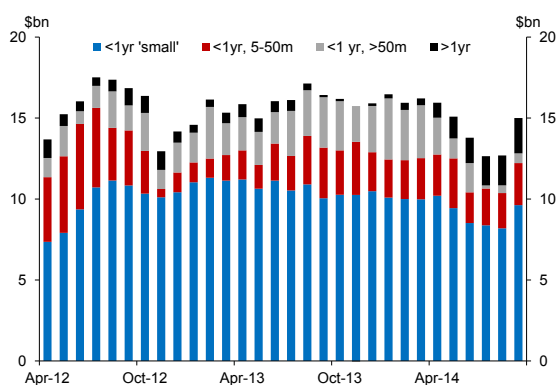
There has been a slowdown in non-market funding growth since the start of 2014. Larger deposits of more than \$50 million have been a key contributor to this slowdown (figure 5.5). As these deposits are subject to substantial 'haircuts' before counting as funding for the CFR, the impact on the CFR itself has been minimal.² Moreover, because banks have a substantial CFR buffer, they have the capacity to support some increase in lending

¹ Non-market funding is essentially all funding not raised in the wholesale markets or tradable in the secondary market. It mainly consists of retail deposit funding, and also includes large deposits from corporates, some financial institutions, and wealthy individuals.

² A 'haircut' refers to the proportion of funding that is not allowed to count towards the core funding ratio. For example, a deposit of \$100 with a 20 percent haircut would translate into \$80 that is counted towards core funding.

growth without increasing long-term market funding. Should lending growth strengthen, or non-market funding slow further, the minimum CFR prevents banks from greatly increasing their reliance on more volatile short-term market funding. In this scenario, banks are likely to prefer a balanced approach to achieving an increase in core funding, which could include competing more strongly for domestic deposits, and increasing domestic and offshore long-term market funding.

Figure 5.5
Non-market funding
(annual growth, dollar value)



Source: RBNZ Liquidity Survey.

Funding spreads falling...

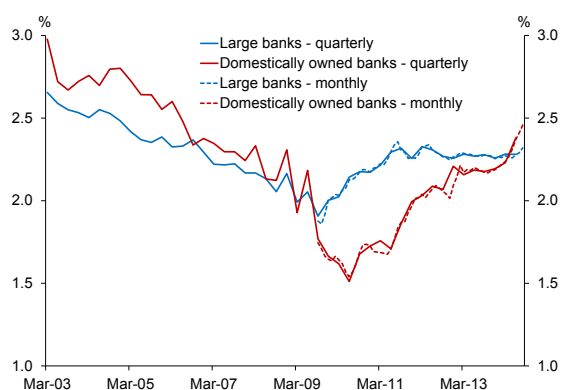
Funding costs have declined substantially since early 2012. Strong non-market funding growth has also allowed banks to compete less for domestic deposits, resulting in a substantial decline in retail deposit spreads (refer to figure 3.12). Offshore funding costs have continued to ease since the last *Report*, reflecting the benign conditions in global financial markets.

...but net interest margins have been stable.

Lower funding spreads have generally been passed on to customers in the form of more competitive lending rates, particularly for fixed rate mortgages. As a result, the net interest margins of major banks have tracked within a narrow range for the past three years, (figure 5.6). Rising short-term wholesale interest rates have likely increased bank margins on transactional

accounts, which tend to earn a stable and low interest rate throughout the interest rate cycle. The continued transition towards fixed rate mortgages, now accounting for 70 percent of mortgage lending, has created some offsetting downward pressure on net interest margins.

Figure 5.6
New Zealand bank net interest margins



Source: Registered banks' Disclosure Statements, RBNZ Net Interest Margin Survey.

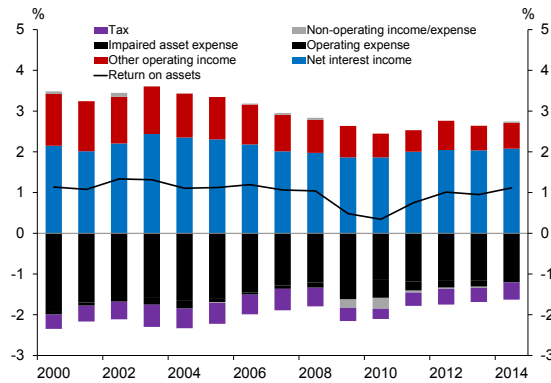
Note: Series are annualised and monthly data are a three month moving average. Large banks refer to the largest four banks.

Profitability continues to improve...

Banks' return on assets in the year to June was 1.1 percent, up on the level achieved in the year to June 2013 of 0.95 percent (figure 5.7). A profitable banking system supports financial system resilience, by allowing banks to absorb credit losses through underlying earnings. However, a very high level of profitability, earned through excessively large net interest margins for example, might suggest a lack of economic efficiency.³ Over the period 2009–13 profitability of the New Zealand banking system was in the top quartile of OECD countries (figure 5.8). This can be partly attributed to the relatively stronger performance of the New Zealand economy compared to many other OECD countries and the resulting improvement in asset quality – rather than a lack of competition in core banking products and services.

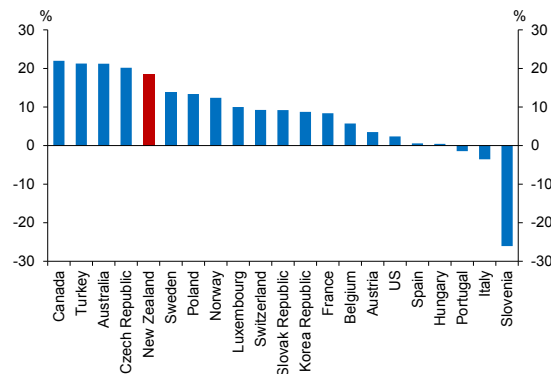
³ See box C, 'Measuring financial system efficiency', *Financial Stability Report*, May 2014 for a fuller discussion.

Figure 5.7
New Zealand bank profitability
(percent of total assets, June years)



Source: Registered banks' Disclosure Statements.
Note: Return on assets is after tax.

Figure 5.8
Return on equity – OECD
(2009–13 average)



Source: IMF Financial Soundness Indicators database, New Zealand registered banks' Disclosure Statements.
Note: Return on equity is before tax.

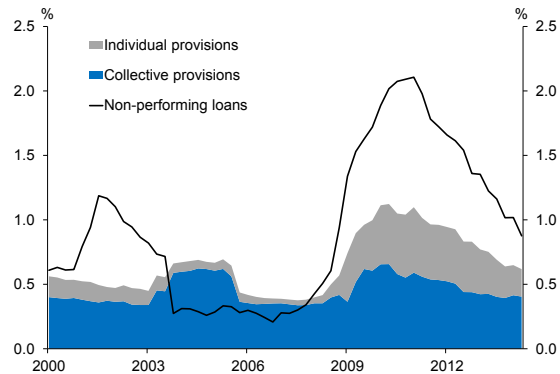
Box D outlines the new financial performance data collected by the Reserve Bank for the New Zealand banking system, which was first published in October.

...aided by further declines in non-performing loans.

Bank non-performing loans (NPLs) peaked at 2.1 percent of total lending in early 2011. NPLs have steadily declined to 0.9 percent, at the end of June 2014 (figure 5.9). New Zealand and Australian banks were much less affected by the GFC than banks in the United States and

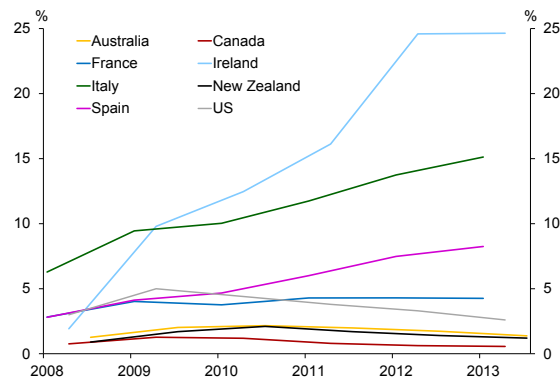
Europe (figure 5.10), and consequently the ratio of non-performing loans to gross loans is among the lowest in the OECD.

Figure 5.9
Non-performing loans and provisions
(percent of lending)



Source: Registered banks' Disclosure Statements.

Figure 5.10
Non-performing loans – cross-country
(percent of total lending)



Source: IMF Financial Soundness Indicators database.

Provisioning for non-performing loans has now fallen back to a rate close to what was experienced in the mid-2000s (figure 5.9). While the sector has been continuing to make individual loan loss provisions, it has been able to write back collective provisions over 2013 and 2014, supporting profitability.⁴ Collective provisions

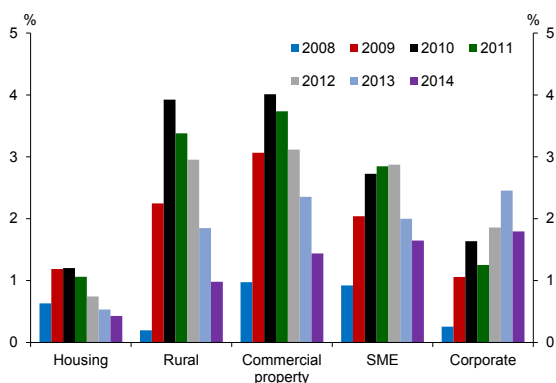
⁴ Individual provisions are for losses that have already been incurred on loans that are known to be impaired and are individually significant. Collective provisions are for loans assessed in pools of similar assets with similar risk characteristics.

are now at levels close to the average of the last 15 years. Therefore the opportunity to continue to add to profitability by this means may be limited.

NPLs have declined in all sectors, but risks are rising for rural loans.

NPLs have fallen across most sectors over the past two years (figure 5.11). This decline has been especially pronounced in the commercial property and rural sectors. The commercial property sector has benefitted from strong leasing activity and rising property values. The rural sector has experienced high commodity prices and rising land values. However, a large decline in dairy payouts is forecast for the 2014–15 season (see chapter 4). As a result, the decline in rural NPLs may reverse.

Figure 5.11
Sectoral non-performing loans
(percent of sectoral lending, September years)



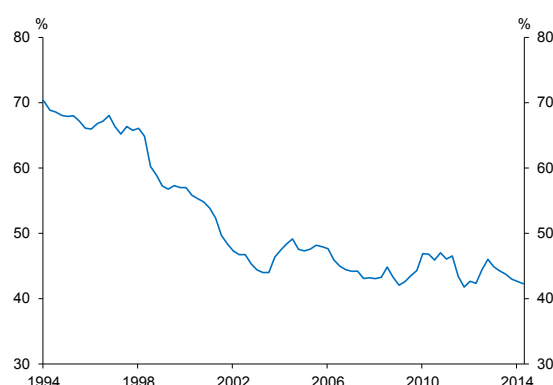
Source: Based on private reporting data from 20 registered banks.
Note: Includes impaired and 90-days past due assets. Data are not standardised and definitions may vary across banks.

Operating cost ratios remain low.

The New Zealand banking sector's cost-to-income ratio has been between 40 and 50 percent over the past decade (figure 5.12), and is currently among the lowest in the OECD (figure 5.13). This follows concerted measures taken by most banks during the 1990s to

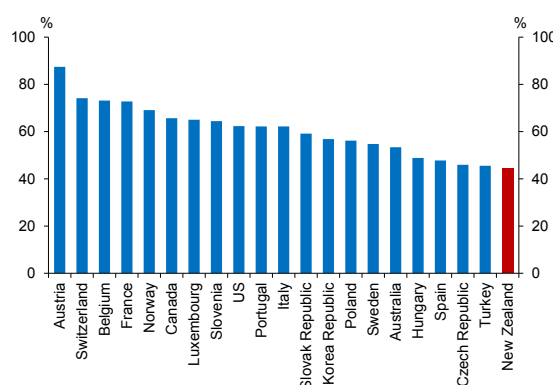
substantially trim costs. The New Zealand banking sector has a less complex business model than in many other countries, based on more traditional savings, lending and payments systems activities. In 2014 the cost-to-income ratio declined and this has contributed to an increase in profitability this year.

Figure 5.12
New Zealand bank operating costs
(percent of income)



Source: Registered banks' Disclosure Statements.

Figure 5.13
Cost-to-income ratios – OECD
(2009–13 average)



Source: IMF Financial Soundness Indicators database, New Zealand registered banks' Disclosure Statements.

Box D

New statistics on the financial performance of banks

The Reserve Bank has a long tradition of collecting and publishing banking and other financial statistics. Over the last decade the financial sector and how regulators supervise the sector has changed rapidly, which has required new and more timely data. International standards for financial statistics have also changed. In 2012 the Reserve Bank began a project to renew and redevelop its statistical and prudential data collections with the aim of ensuring that current and future data collections produce high quality and relevant statistics for the monitoring of the financial system and policymaking.

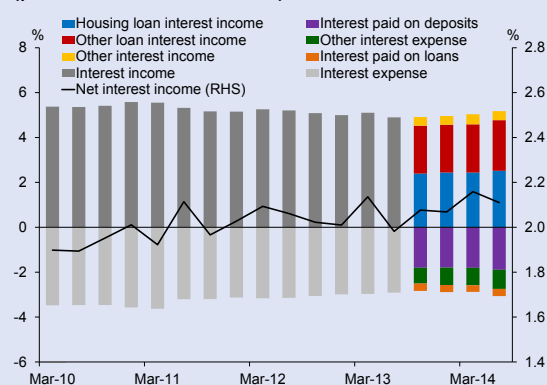
The first phase of the project focused on improving the data on the financial performance of registered banks. At the time the only performance data available were the income statements published in banks' quarterly *Disclosure Statements*. However, there are several limitations in using this data for prudential supervision, including: a 2-3 month lag in data becoming available; the level of detail published varied across banks and throughout the year; and some item definitions were not consistent across banks.

A new monthly registered bank *Income Statement Survey* was introduced in 2013 to provide detailed and timely data to help the Reserve Bank improve its monitoring of the soundness and efficiency of the banking sector. The Reserve Bank publishes aggregate statistics from all its data collections to provide the public with high quality data to inform discussion on the financial sector. Aggregate data from the new *Income Statement Survey* was first published in October 2014.

The data from the new survey provide more detail on the sources of banks' income and expenses than is currently available (figure D1).⁵ In the June 2014 quarter, banks earned \$5.4 billion in interest. Almost half of this was from interest on housing loans and 43 percent

from interest on other types of loans (business lending, credit cards etc.). Over the same period banks paid \$3.2 billion in interest, of which 62 percent was interest paid on deposits. While both the interest earned and paid by banks have increased over the last two quarters as interest rate rises take effect, the net interest margin has remained steady at 2.1 percent.

Figure D1
Interest income and expense
(percent of total assets)



Source: Registered banks' *Disclosure Statements*, RBNZ *Income Statement Survey*.

Note: Data prior to September 2013 are from *Disclosure Statements*. Other interest income includes interest income from cash and deposits, debt securities, derivatives and other interest income. Other interest expense includes interest expense from debt securities, derivatives and other expenses.

The new data also provide more insight into the other drivers of bank profitability. The income banks earn from non-interest sources can fluctuate from quarter to quarter as it includes income from derivatives, trading gains and losses, and fair value adjustments. In the past these types of fluctuations have significantly impacted individual bank profitability. The new data identify these items separately and show that over the past year they have had little impact on profitability (table D1).

The next phase of the project will focus on integrating the Reserve Bank's existing statistical and prudential balance sheet collections with the aim of bringing them into line with the new income statement data and reducing the reporting load placed on banks.

⁵ Banks are still required to publish quarterly *Disclosure Statements* and key items (such as profit, net interest income, and impairment expenses) will be consistent with data reported in the *Income Statement Survey*.

Table D1
Components of profitability
(percent of total assets)

	Sep-13	Dec-13	Mar-14	Jun-14
Net interest income	2.1	2.1	2.2	2.1
Other income	0.5	0.7	0.7	0.7
Derivative income	-0.1	0.1	0.0	0.1
Trading income	0.1	0.0	0.1	0.1
Fair value adjustments	0.0	-0.1	0.0	-0.1
All other income	0.5	0.6	0.7	0.6
Operating expense	-1.1	-1.1	-1.2	-1.2
Impaired asset expense	-0.1	-0.1	0.0	-0.1
Tax expense	-0.4	-0.4	-0.4	-0.4
Return on assets	1.0	1.1	1.2	1.1

Source: RBNZ Income Statement Survey.

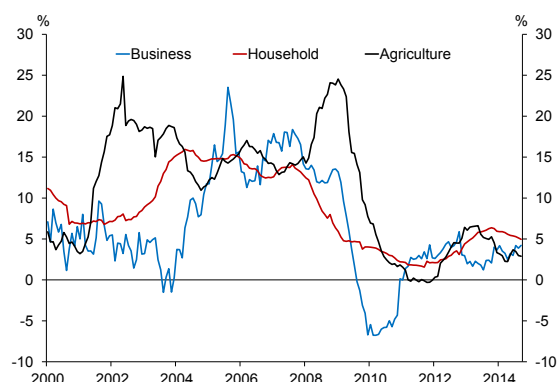
Bank lending growth steady over the past six months.

Bank lending grew 4.5 percent over the year to September 2014, around the same rate of growth as earlier in the year. Lending to the household sector increased by 5 percent over the period, accounting for the majority of credit growth (figure 5.14). The rate of growth of consumer credit picked up to 8.3 percent, although this is only a small share of overall household lending. Consumer confidence and employment have increased, and have been reflected in increased automotive sales for example. There has been little sign of borrowers using consumer credit to circumvent the speed limit on high loan-to-value (LVR) mortgage lending.

Agricultural borrowing has increased only modestly – close to 3 percent for the year to September 2014. On the whole, lending to most parts of the sector has been relatively steady, with the exception of lending to dairy farms, which increased by 5.8 percent over the year to June 2014.⁶ Lending to the dairy sector now accounts for about 65 percent of total agricultural lending. Nonetheless, lending to the dairy sector appears to have been reasonably constrained over the 2013–14 season, a year of record milk payouts. The significant decline in the

⁶ A sectoral breakdown of agricultural lending is only available for June years from the Reserve Bank's Annual Agricultural Survey.

Figure 5.14
Bank lending by sector
(annual percent change)



Source: RBNZ SSR.

forecast dairy payout for the current season, if sustained, will result in term-lending for on-farm investment being significantly cut back. Offsetting this, however, will be increased lending for working capital purposes.

Lending to business has picked up slightly, mainly due to the rise in commercial property prices and transactions (see chapter 4). However, lending to firms outside the property sector has been relatively weak, despite stronger business investment over the period. It appears that many firms have been using retained earnings rather than credit to fund working capital and new investment.

The LVR speed limit is reducing household leverage.

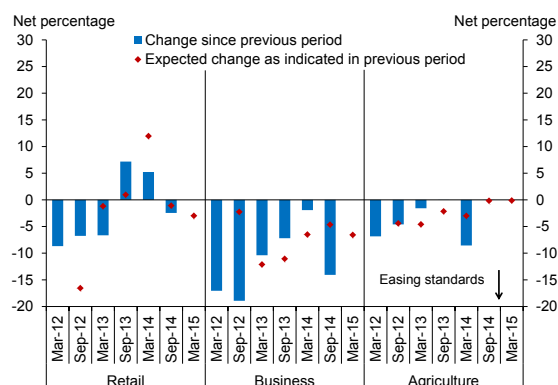
LVR restrictions have resulted in fewer high-LVR loans being written by the banking sector. The flow of high-LVR loans was around 30 percent of total lending prior to the restrictions. Post-restriction lending has been well below the 10 percent speed limit, with the latest data showing that system-wide high-LVR loans have averaged 6.8 percent of new mortgage loans over the three months to September 2014. Consequently, the stock of high-LVR loans has fallen from 20 percent in September 2013 to 16 percent in June 2014 (refer to figure 2.7). As a result, the amount of leverage in the residential mortgage market has declined. Further declines in the stock of high-LVR lending are likely while the policy is in place, increasing the resilience of the banking sector.

Lending standards largely unchanged.

Banks report increased competition in lending to households and parts of the business sector in the Reserve Bank's six monthly survey of credit conditions. This has manifested itself in reduced interest margins and pressure on fees, but banks report they have not eased non-price conditions significantly. In the household sector, standards were tightened after the introduction of the LVR restrictions and have been largely stable since (figure 5.15). However, competition is reported as intense in the under 80 percent LVR market and for the refinancing of existing mortgage loans.

In the agricultural sector, the decline in the forecast payout has prompted greater caution on the part of borrowers in terms of the demand for long-term credit, including those in the rural servicing industries. However, banks report no material change in lending standards in the past six months for rural borrowers, although some banks are beginning to require increased financial reporting.

Figure 5.15
Change in banks' lending standards



Source: RBNZ Credit Conditions Survey.
Note: Net percentage is the percentage of respondents reporting a tightening of lending standards minus the percentage of respondents reporting an easing. Individual responses are weighted by market share.

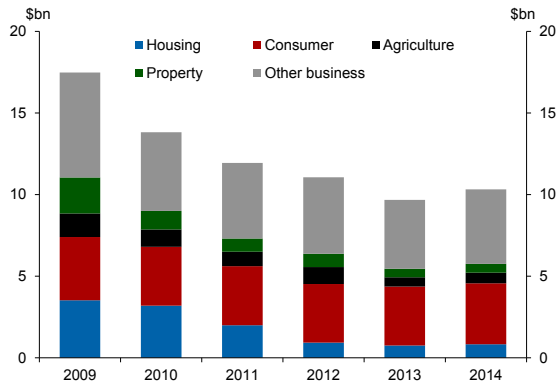
Non-bank lending institutions (NBLIs)

NBLI lending growth modest.

The non-bank sector accounts for a small proportion of total credit extended to the economy, making up just 3 percent of intermediated credit outstanding. The sector includes deposit-taking institutions, such as deposit-taking finance companies, building societies and credit unions, which are all regulated by the Reserve Bank. The NBLI sector also includes non-deposit taking finance companies, which are not regulated by the Reserve Bank.

Non-bank lending fell in absolute terms between 2007 and 2013. In the 12 months to September 2014, however, the sector expanded lending by 6.7 percent. Around half of the increase in total non-bank lending over this period was in the 'other business' category (figure 5.16). Lending to the household sector was more subdued. NBLIs are not subject to the LVR restrictions on mortgage lending but there is no evidence of any material 'regulatory leakage' arising from the policy. The NBLI sector was a substantial source of mezzanine funding to the commercial property sector in the mid-2000s, but is no longer a significant source of funding for property development.

Figure 5.16
NBLI lending by sector
(September years)



Source: RBNZ NBDT reporting, RBNZ SSR.
Note: Excludes assets of deposit-taking finance companies in receivership or moratorium. In the period shown on the chart, several large NBLIs left the sector and became registered banks.

Insurance

The insurance sector faces a range of challenges.

The insurance sector has wrestled with several challenges in recent years. The property insurance sector is still managing Canterbury earthquake claims, but has started to benefit from falling reinsurance costs. The life insurance sector has been experiencing premium growth broadly in line with the growth in household incomes, but interest earnings have been suppressed by historically low interest rates. The health insurance sector has been experiencing declining demand as measured by lives insured for several years, while health care costs have been increasing strongly.

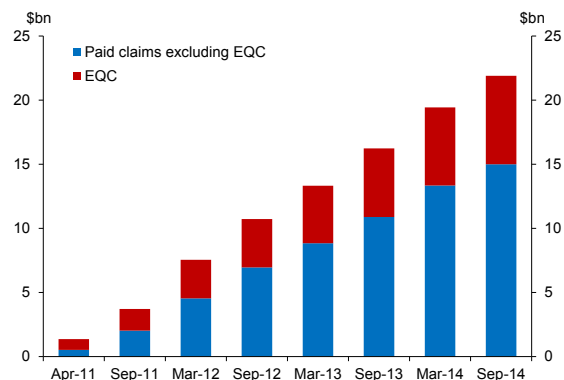
The New Zealand insurance sector has become relatively concentrated in all major service lines, as providers seek scale economies to support profitability. Nonetheless, barriers to entry are relatively low, and new insurers have entered the market at the same time as a consolidation in existing participants has been occurring.

Canterbury earthquake claims continue to progress.

Canterbury earthquake claims paid out as at the end of September 2014 were \$22 billion, comprising

EQC payments of \$7 billion and \$15 billion from private insurers (figure 5.17). The Reserve Bank estimates that the ultimate insurance claims cost will be in the range of \$32-37 billion, but the final cost remains uncertain, and will depend on building cost inflation. Settlement periods for some claims have lengthened due to a range of factors, meaning that the tail-end of claims may not be settled until at least 2017. This increases the potential for construction cost inflation to impact on insurance costs and therefore it is essential that insurers continue to proactively resolve claims to reduce the valuation risk.

Figure 5.17
Canterbury earthquake paid claims
(cumulative, six-monthly totals)



Source: EQC, RBNZ.

Property reinsurance costs easing.

Reinsurance markets play a significant part in underpinning the stability of the property insurance sector. Individual insurance companies can pass on some of their insurance risk to reinsurers, thereby gaining access to the benefits of larger, more diversified insurance pools. Reinsurance costs rose rapidly after the Christchurch earthquakes in late 2010 and early 2011. This partly reflected the increased perception of risk in New Zealand in the aftermath of the Christchurch earthquakes, but there were also several other catastrophes in the Australasian region about that time.

Over the past year reinsurance costs for New Zealand insurers have fallen, although they remain above the levels that prevailed prior to the Christchurch

earthquakes. Globally, reinsurance costs have come down at every major renewal date so far in 2014. This partly reflects a reduction in the number of catastrophic events, but is also related to the global 'search for yield'. In a low global interest rate environment, investors have been attracted to the insurance sector in search of higher returns.

Merger approved.

The Reserve Bank completed an assessment of the proposed change of control of Lumley General Insurance (NZ) Limited to IAG (NZ) Holdings Limited. The Reserve Bank was satisfied that Lumley General Insurance (NZ) Limited would continue to meet the licensing criteria set out in the Insurance (Prudential Supervision) Act 2010.

New insurance sector data.

The Reserve Bank has recently issued a consultation paper on collecting information on the insurance sector.⁷ The new data collection will enable the Reserve Bank to better monitor the 99 insurers currently licensed to operate in New Zealand, using consistent and standardised reporting.

The focus of the monitoring is on financial performance and compliance of all licensed insurers in New Zealand to promote and maintain a sound and efficient insurance system. The objectives of the proposed data collection are to:

- obtain critical data on a regular basis from New Zealand licensed insurers;
- design a collection that is both efficient and informative for insurers and the Reserve Bank;
- achieve standardisation to enable comparisons and aggregation; and,
- publish data in summary form that is informative for a range of users.

The consultation began in August, and submissions closed in October. The summary of submissions is expected to be released in late November.

⁷ Available here: http://www.rbnz.govt.nz/regulation_and_supervision/insurers/regulation/5868234.pdf

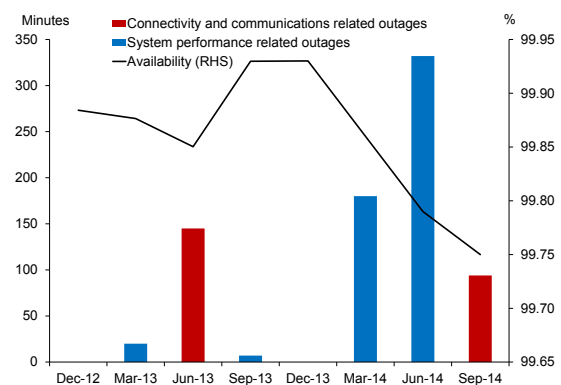
The implementation of the data collection is planned for 2015.

Financial market infrastructure

Payment and settlement systems have operated satisfactorily.

New Zealand's financial market infrastructure operated satisfactorily over the past six months. The various systems successfully processed transactions submitted to them and exhibited a high degree of availability. There was only one material incident, on 12 May, when the ESAS/NZClear system was unavailable to some users.⁸ A solution has been implemented, with further related improvements to be made in due course.

Figure 5.18
ESAS/NZClear availability and outages



Source: RBNZ.

Note: Availability is for the 12 months to the current period. ESAS and NZClear availability are reported together because of the close links between the two systems and because this is the way the Reserve Bank reports.

Industry has moved to address concerns about risks in the retail payment system...

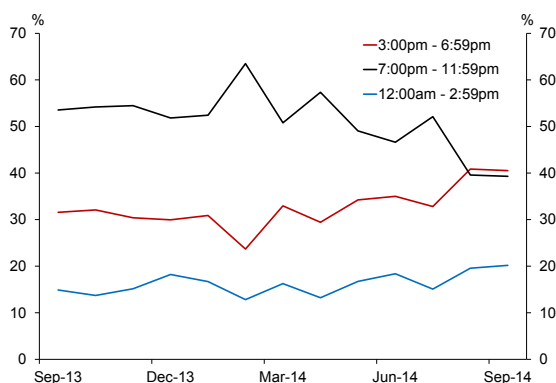
The Reserve Bank has a long-standing concern about intra-day settlement and operational risks in the retail payment system. These risks arise from the length of time it takes banks to settle retail payment transactions after a payment instruction has been issued, the consequent

⁸ The exchange settlement account system (ESAS) provides real-time gross settlement of inter-bank transactions across the exchange settlement accounts held with the Reserve Bank. NZClear allows members to settle fixed interest and equity transactions and make cash transfers.

value of unsettled transactions at any point in time, and the fact that the majority of retail payments are settled late in the banking day.

After consultation, the Reserve Bank concluded that the best way to address these concerns would be for banks to be able to exchange retail payment files at least hourly. This will shorten the payments pipeline and reduce the concentration of settlement activities late in the day. It will also improve the overall efficiency of the retail payment system by providing faster payments finality. The Reserve Bank has informed the industry that it expects SBI participant banks to exchange files at least hourly by the end of 2016.⁹

Figure 5.19
Settlement of retail payments



Source: RBNZ.

The Reserve Bank is pleased that the industry has broadly supported its plans, with several banks already implementing changes. As shown in figure 5.19, there has also been some improvement with the timing of the settlement of transactions shifting to earlier in the day. The Reserve Bank will continue to engage with banks to encourage them to make further improvements.

⁹ SBI refers to 'settlement before interchange', the arrangements for the exchange of retail payment instructions.

...and implemented a new membership framework.

A new membership framework for the retail payments industry took effect on 1 October 2014. Payments NZ (PNZ) has introduced three classes of membership: infrastructure members, standards members and industry members. The Reserve Bank welcomes this move, which gives a wider group of stakeholders a voice in payments developments.

However there has been limited progress in addressing concerns about the allocation of bank and branch numbers.

In New Zealand, a number of smaller financial institutions access the retail payment system through an agency arrangement with a major bank (or 'agent bank'). As discussed in the November 2013 *Report*, under these arrangements, these financial institutions (or 'agency banks') are required to use the interchange (bank) and branch numbers allocated to the agent bank. This requirement means that agency banks who may wish to become direct settlement participants in the future would have to modify account numbers, a move that may introduce both an inconvenience to customers and a cost that would have to be allocated. The issue raises concern for the Reserve Bank not only in terms of efficiency but also because it could make it more difficult to address risks associated with indirect participation in the payment system.

While PNZ has explored a pragmatic solution to the problem, the industry has been slow to address the issue. The Reserve Bank will continue to monitor industry initiatives in this area and is keen to see meaningful progress made.

The Reserve Bank is monitoring developments in digital payments.

The Reserve Bank is also monitoring developments in digital infrastructure that will soon enable payments to be made at the point of sale by smartphones. One of these developments is the Semble joint venture initiative between Paymark and the three mobile network

operators (Vodafone, 2 Degrees, and Spark). Semble will deliver 'near field communications' based services to enable payments to be made with Android smartphones.¹⁰ The company plans to conduct a pilot within the year, involving two banks, ASB and BNZ.

As the infrastructure develops, and with the possibility of competing technologies and services to be offered to the market over time, the Reserve Bank will engage with the industry to understand the efficiency implications of alternative technologies and any potential market fragmentation.

¹⁰ Near field communication (NFC) is a set of standards for smartphones and similar devices to establish communication with each other by touching them together or bringing them into close proximity, usually no more than a few centimetres. Semble will act as a trusted service manager (TSM) which manages access to the secure element (including data such as a user's financial account) in NFC-enabled devices.

6 Key developments in financial sector regulation

This chapter reviews progress on four key areas of work on the regulatory framework. Other important regulatory initiatives are briefly summarised in Appendix 1.

As announced in the *May Report*, the Reserve Bank is undertaking a stocktake of the regulatory framework for banks and non-bank deposit-takers, with the objective of improving the efficiency, clarity and consistency of regulatory requirements. Potential areas for review are currently being drafted, following feedback from stakeholders.

Bank capital requirements form a core part of the regulatory framework. A number of regulatory initiatives are under way, related to how banks assess the riskiness of their lending portfolios, and the assessment of whether capital is sufficient to withstand a severe downturn.

A number of amendments to insurance solvency standards have been recently released for consultation. The proposals aim to improve the clarity and effectiveness of the standards.

Finally, the Reserve Bank is about to embark on a review of the outsourcing policy that currently applies to large banks.

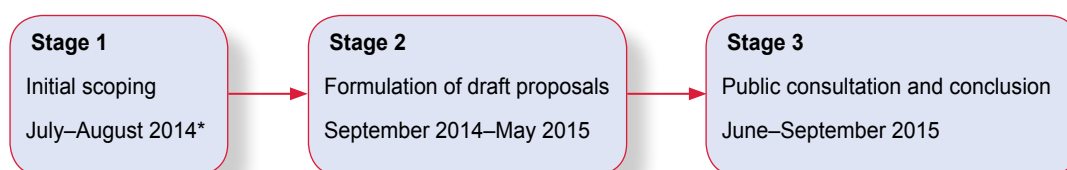
Regulatory stocktake

As announced in the *May 2014 Report*, the Reserve Bank is undertaking a stocktake of its regulatory framework for banks and non-bank deposit-takers (NBDTs). The objective of the stocktake is to improve the efficiency, clarity and consistency of the Reserve Bank's regulatory requirements. The stocktake is expected to take about a year, with public consultation likely to commence some time between June and September 2015 (figure 6.1). Since the publication of the last *Report*, the Reserve

Bank has finalised the terms of reference of the stocktake, and is currently formulating draft proposals related to the initiative.¹

The primary objective of the project is to ensure that prudential requirements for banks and NBDTs operate efficiently and do not impose unnecessary costs or burden, rather than altering the fundamental shape of the regulatory framework. A second objective, which has been added since the *May Report*, is to identify improvements to the Reserve Bank's current process for introducing or

Figure 6.1
Timeline for regulatory stocktake



* Erratum. This corrects date of July–August 2011 originally published in error.

¹ The terms of reference are available here: http://www.rbnz.govt.nz/regulation_and_supervision/stocktake/5803394.pdf

amending prudential requirements.

In pursuing these objectives, the project will consider the following questions:

- Do the current requirements serve their original purpose?
- Can they be clarified, shortened, removed, or replaced?
- Would alignment with international standards or the requirements of other jurisdictions help to improve efficiency?
- Are there ways to make the regulations easier for the users to understand and implement?
- How can the Reserve Bank minimise the costs and burden of regulation, without compromising the soundness of the regulatory regime?
- How can the Reserve Bank's processes for introducing or amending prudential regulation allow for more effective input from the public?

Scope of the project

The stocktake covers the regulatory frameworks for registered banks and NBDTs, but excludes insurers and financial market infrastructure.² Where appropriate, the stocktake is considering the scope for greater consistency in the treatment of capital and balance sheet items across the bank and NBDT regimes.

Areas for review for banking regulation include the content and drafting of prudential requirements and disclosure requirements (i.e. the contents of the *Banking Supervision Handbook*, including the disclosure Orders in Council and generic Conditions of Registration). Excluded are the contents of Part 5 of the Reserve Bank of New Zealand Act 1989 and obligations imposed on registered banks by the Anti-Money Laundering and Countering the Financing of Terrorism Act 2009.

Areas for review for NBDTs include any prudential requirements, whether contained in the Non-bank Deposit Takers Act 2013 (the Act) or related regulations. Other aspects of the legislative framework of the Act (e.g. the licensing and supervisory framework for NBDTs, and the

enforcement and crisis management powers in the Act) are excluded.

Examples of areas to be considered

Early feedback has suggested that there is considerable scope to improve the overall organisation of the *Banking Supervision Handbook* and of individual documents within it, to make them easier to navigate and understand. It can be hard for new applicants for registration as a bank to be clear about all the information they need to provide, and what ongoing requirements will apply to them if registered. The stocktake will look for ways to improve the grouping and layout of the material, to remove duplication and unnecessary padding, and to make it clearer where to locate rules that are binding on banks.

Although the review will not make significant changes to the key components of the current bank prudential requirements, such as adequate capital, adequate public disclosure of bank risk profiles, and sound governance, it will look for ways in which broadly the same outcomes can be achieved at lower cost. For instance, bank disclosure statements will be looked at again to see whether the information they contain is still of material value to the public, in light of the increasing amount of data that banks report directly to the Reserve Bank for prudential purposes.

Stakeholder engagement

An internal Steering Group is overseeing the project, but external stakeholder engagement and participation is a key element of the initiative and will be critical to its ultimate success. Most registered banks, as well as the New Zealand Bankers' Association, are actively involved in the project. The Reserve Bank has made initial contact with NBDTs through their industry bodies and will be seeking additional input from them throughout the initiative. The Reserve Bank is also liaising with other government agencies, including the Treasury, MBIE and the FMA, and has engaged a small group of individuals to comprise an expert panel, which will contribute ideas and suggestions from alternative perspectives to those of the

² Full details on the scope for the project are available in the terms of reference.

regulated firms. Broader public consultation will happen in the final phase of the project.

Improving bank capital

Registered banks are subject to capital requirements to ensure they have sufficient capital to absorb losses in a severe downturn. The amount of capital that banks need depends on the riskiness of exposures, and in the case of the four large banks is determined by internal capital models. Internationally there has been growing emphasis on supervisory methods to validate the comparability and adequacy of capital across banks. The Reserve Bank has a number of regulatory initiatives under way related to how banks assess the riskiness of their lending portfolios, and to assess whether capital is sufficient to withstand a severe downturn.

Housing review

The Reserve Bank has almost completed a staged review of bank capital adequacy requirements for residential mortgage loans – also termed the ‘housing review’. The outcome of stage one, as reported in the May 2013 *Report*, was an increase in capital held against high-LVR mortgages for internal models banks. The second stage of the housing review has increased the clarity, consistency and efficiency of the Reserve Bank’s regulatory requirements for housing loans.

The Reserve Bank implemented most of the policies of the second stage of its housing review on 1 July 2014. As a result, the calculation of the residential mortgage loan-to-value ratio (LVR) has been more closely aligned between standardised and internal models banks. Standardised banks no longer have to include unsecured lending and other loans not directly secured by the residential property when calculating the loan amount. Any remaining differences between standardised and internal models banks are relatively minor.

Other changes announced included clarifying that all banks must have a board-approved valuation policy for residential properties, and distinguishing between residential mortgage loans and other types of lending such as farm or commercial lending. In addition, from 1 October

2014, each bank accredited to use the internal models approach under Basel II has to have a compendium of approved models that is agreed with the Reserve Bank. Several minor technical changes were also announced.

The remaining item of the second stage of the housing review affects the capital adequacy treatment of loans to residential property investors by internal models banks. Based on feedback from the second stage consultation, the Reserve Bank is currently exploring options for defining and classifying residential property investors. It will shortly consult with the industry as part of a wider consultation, which will also propose a new capital adequacy treatment for reverse mortgages.³

Hypothetical portfolio exercise

The Reserve Bank is currently working on a hypothetical portfolio exercise with the four large banks that are accredited to use internal models as an input to their capital requirements. This exercise will investigate differences in risk weights across internal models banks’ housing and rural lending portfolios, the most important portfolios for New Zealand banks. A key area of interest is whether differences in modelling approaches are a driver of variation in risk weights across these banks. It is critical that risk weights used by internal models banks, and the resulting amount of capital held against lending exposures, reflect the underlying riskiness of their portfolios.

This exercise is being undertaken in the context of growing global concerns around the complexity and lack of transparency of the capital framework used by internal models banks. There are concerns that large differences in risk weights across banks, without significant differences in underlying riskiness, may erode confidence in regulatory capital ratios and lead to an uneven playing field across banks. The Prudential Regulation Authority in the UK, the European Banking Authority and the BIS have all recently carried out exercises aimed at understanding the variation in risk weights across banks. These exercises have generally found that variations in risk weights were at least

³ A reverse mortgage is a home loan that provides cash payments based on the owner’s equity in the home. Payment of the loan is generally deferred until the owner dies, sells, or moves out of the property.

in part driven by differences in approach across banks, including their approaches to modelling risk weights.

The hypothetical portfolio exercise will involve providing each bank with an identical portfolio of hypothetical customers for both retail mortgages and rural exposures. Each bank will be required to estimate risk-weighted assets for the portfolios on the basis of their own internal models, along with key parameters such as 'probability of default', 'loss given default', and 'exposure at default'. The Reserve Bank is currently working with the internal models banks to construct a portfolio that is as representative as possible of their real portfolios to enhance the reliability of the results. Current timetabling envisages the project will be completed by March 2015, with key findings expected to be published in the May 2015 *Report*.

Internal capital adequacy assessment process (ICAAP) review

All locally incorporated banks are required to implement an ICAAP that accords with the requirements set out in the Reserve Bank's policy – *Guidelines on a Bank's Internal Capital Adequacy Assessment Process*. This policy requires that each bank has an ICAAP in place that enables it to ensure it has adequate capital in relation to its risk profile. The Reserve Bank may impose an additional regulatory requirement if it is not satisfied that a bank's capital is adequate. In recognition of the various changes that have occurred since the policy was introduced in 2007, the Reserve Bank has commenced a review of the ICAAP requirements to better understand how the industry complies with them in practice.

The review will focus on the processes and controls banks have in place for assessing their overall capital adequacy in relation to their risk profile, and their strategies for maintaining adequate capital to support those risks. It will also assess the effectiveness of banks' risk governance and reporting frameworks and examine the adequacy of the risk identification and capital planning processes. The findings of the review will provide input into any future ICAAP policy development the Reserve Bank undertakes.

Stress testing

Stress testing is an important component of bank ICAAPs and, as discussed in the May *Report*, a major strategic initiative for the Reserve Bank in 2014 has been to develop a comprehensive stress testing framework for the New Zealand banking system. Stress tests assess how bank balance sheets would respond to a hypothetical, adverse economic or financial scenario. The Reserve Bank believes that assessing resilience to such shocks is an important component of risk management at banks.

As part of the strategic initiative, the Reserve Bank is moving towards regular system-wide stress tests. A first step in this process was to engage the five domestically owned banks in a basic credit stress test in April this year.⁴ The Reserve Bank, in conjunction with APRA, has also completed a more thorough stress-testing exercise for the Australian-owned banks operating in New Zealand (see box A, chapter 2).

The Reserve Bank intends to review the current practice for stress testing at New Zealand banks and to compare this to international best practice. The five largest banks are completing a survey sent to them in September about the details of their stress testing methodology, and how this informs business decisions. This information, along with detailed interviews with banks, will provide input into a discussion document that will be released to industry in early 2015 providing recommendations for future enhancements. The desired outcome is an enhanced stress testing methodology, as well as ensuring that the results of the stress tests receive appropriate prominence in internal decision making at banks.

Insurance solvency standards reissue

In September the Reserve Bank released a package of consultation papers proposing amendments to all of the insurance solvency standards – the 'solvency standards reissue'.⁵ Under the Reserve Bank's requirements, different solvency standards apply to insurers' general insurance and life insurance business.

⁴ The domestically owned banks are: Co-operative, Heartland, Kiwibank, SBS, and TSB.

⁵ The consultation documents are available here: http://www.rbnz.govt.nz/regulation_and_supervision/insurers/4295441.html

This package contains four themes related to reinsurance, guarantees, the quality of capital, and amendments designed to clarify the insurance solvency standards. The overarching objective of the reissue is to improve clarity and consistency between the standards and take better account of specific legal structures used in the insurance industry.

Reinsurance

Reinsurance is an important element in many insurers' risk management plans and allows risks to be spread (or pooled) across insurers and regions, with associated efficiency and stability benefits for individual insurers and the sector itself. Under the Reserve Bank solvency standards, insurers are able to take account of reinsurance. That is, insurers may reduce required capital to the extent that reinsurance effectively transfers risk.

The Reserve Bank has identified three issues with the solvency treatment of reinsurance, as it applies to life insurers. First, there are no requirements as to when the benefits of reinsurance may be recognised in solvency calculations. Second, some forms of reinsurance, generally known as financial reinsurance, may include funding that has debt-like characteristics. These debt-like aspects are not always appropriately recognised in solvency calculations at present. Third, enhanced reporting requirements on reinsurance would improve the Reserve Bank's ability to monitor reinsurance arrangements.

The Reserve Bank has proposed a number of changes to the solvency standards that apply to life insurers to address these concerns.

Guarantees

Insurers obtain guarantees to mitigate the credit risk of a given exposure. They are desirable because the guarantor assumes responsibility for repayment of guaranteed assets in the event the principal counterparty to the insurer defaults. The current standards recognise this credit risk-mitigating effect of guarantees by a 'substitution approach'. That means an asset subject to a guarantee may be assigned the capital charge that applies to the guarantor, rather than the principal counterparty.

The Reserve Bank proposes to make several changes to the standards to allow a more efficient use of guarantees, while recognising that a guarantee is not a perfect substitute for the underlying asset.

One issue is that under the current standards, only guarantees of an equal or greater duration than the underlying asset receive recognition. The Reserve Bank considers that guarantees of a shorter term than the underlying asset still provide some benefit in terms of risk mitigation, and should receive some recognition in the standards. Allowing such recognition should improve economic efficiency by recognising a wider range of guarantees that exist in commercial practice.

Also, all guarantees can give rise to residual risks, such as legal risk arising from improper contract formation or the risk of a sudden change in minimum solvency requirements as a result of non-renewal, and this needs to be reflected in the standards.

The proposed changes to the standards for guarantees:

- allow for the recognition of guarantees of assets with a shorter duration than the guaranteed assets, with the amount of the guarantee being recognised dependent on the length of the guarantee;
- provide minimum requirements to ensure that guarantees that are recognised for solvency purposes are legally robust; and,
- provide that the capital factor applying to a guarantee is the capital factor applicable as if the guarantor was the counterparty, plus two percent, to ensure that the residual risks of guarantees are appropriately recognised.

Quality of capital

Changes to the definition of capital for solvency purposes are proposed to clarify the Reserve Bank's expectations of the quality of capital and ensure that licensed insurers' capital is of sufficiently high quality across the industry. High-quality capital instruments are important to provide effective financial protection to policy holders and other creditors in the event that an insurer

incurs unexpected financial losses. These changes will also help insurers' boards in managing their required capital for solvency and business purposes.

In the September consultation it was proposed that the following will be recognised as qualifying capital instruments:

- ordinary shares;
- perpetual non-cumulative preference shares; and,
- credit union securities.

The revised definition of capital includes general requirements together with qualifying criteria for each of the above types of capital instrument. These criteria must be met for a capital instrument to be counted as part of a licensed insurer's regulatory capital, for solvency purposes.

Review of outsourcing requirements

The Reserve Bank is about to initiate a fundamental review of the outsourcing policy that currently applies to 'large banks' (defined as those banks whose New Zealand liabilities, net of amounts due to related parties, exceed \$10 billion). The objective of the current policy (BS11) is to mitigate the risk that failure of an outsourced function interrupts the operation and management of a bank for a material length of time. BS11 also requires that banks have the legal and practical ability to control and execute

any business, and any functions relating to any business, of the bank that are carried out by a person other than the bank. The legal and practical control exerted by the bank must be sufficient to achieve the outcomes of BS11 under normal business conditions, and in the event of stress or failure of the bank or of a service provider to the bank.

In recognising that it is good practice to carry out periodic reviews to ensure that prudential policies remain appropriate, the Reserve Bank will be undertaking a review of BS11. In conducting the review, the Reserve Bank will be undertaking a full first principles review of the existing policy, including whether the current scope of the outcomes-focused policy remains appropriate, whether the definition of 'core function' should be retained, and what legal and practical controls banks should have over their outsourced functions. The Reserve Bank will also consider whether the threshold for 'large banks' and the framework for the policy remain fit for purpose, and whether consideration should be given to separating policies for outsourcing, business continuity planning and failure resolution.

At this stage the outsourcing policy review will only look at policy for the banking sector. The Reserve Bank expects to consult on a revised policy in early 2015.

Appendix 1

Summary of regulatory initiatives

Over-the-counter (OTC) derivatives reform

Since 2009 substantial regulatory change has occurred globally with respect to OTC derivatives. Most of this reform has been driven by G20 members in the areas of reporting, clearing and platform mandates.

In Australia, ASIC reporting requirements apply to New Zealand's largest banks. The Reserve Bank plans to review the reports a New Zealand bank provides under Australian regulation, to assess whether such data will be useful for prudential supervision within New Zealand.

The Reserve Bank does not currently consider that specific central clearing mandates are necessary for New Zealand banks, given the significant increase in voluntary clearing activity due to, among other things, the capital incentives introduced in the implementation of Basel III.

The particulars of platform trading mandates continue to evolve in the G20. The Reserve Bank does not think a mandate for New Zealand is justified at present.

Non-bank deposit-takers (NBDTs)

With the commencement of the Non-bank Deposit Takers Act 2013 on 1 May 2014, the Reserve Bank has been receiving and processing licence applications from NBDTs. Applications have now been received from most NBDTs. Existing NBDTs need to be licensed by 30 April 2015. The Reserve Bank's consideration of applications includes (among other things) an assessment of NBDTs' ability to comply with the prudential requirements, as well as determining the suitability of their directors and senior officers. The Reserve Bank has communicated with the sector about common issues that have arisen with applications to date, including the adequacy of liquidity provisions in trust deeds and certain aspects of risk management programmes.

Anti-money laundering (AML)

The Reserve Bank's on-site inspection programme in respect of most of the registered banks was completed successfully in the first year of AML supervision. In the second year of AML supervision the Reserve Bank will continue its supervisory interactions with many banks, but also include interactions with a number of non-bank deposit-takers and life insurers. The scope of the supervisory interactions will be extended to include desk-based reviews and at least one thematic review.

The Reserve Bank has commenced its work to revise its sector risk assessment. The contents of the annual reports submitted by the Reserve Bank's reporting entities in late August 2014 will comprise valuable data for the new sector risk assessment.

Covered bonds

The Reserve Bank has registered the covered bond programmes of five registered banks since the new law became effective on 10 December 2013. Registration is obligatory under the law if the relevant bank wishes to continue to issue bonds under the programme. The register of covered bond programmes can be viewed on the Reserve Bank's website. The new law ensures that a special purpose vehicle created for the issuance of a covered bond remains outside the failure resolution process of the issuing bank, should the issuing bank be placed into statutory management or liquidation.

Appendix 2

Reserve Bank enforcement

The Reserve Bank has responsibility for enforcing the regulatory obligations of entities in a number of areas, comprising banking, insurance, payments and settlements, non-bank deposit-taking, anti-money laundering, and countering the financing of terrorism. The Reserve Bank monitors entities' compliance with the obligations it oversees.

In the event of identified non-compliance, the Reserve Bank has the discretion to take enforcement action and to decide what enforcement action to take.

During the past 12 months, the Reserve Bank has undertaken the following public enforcement action:

- December 2013 – an industry notice was issued in respect of Trustees Executors Limited and its failure to report material non-compliance on the part of Broadlands Finance Limited, as required by (then) section 157ZF of the Reserve Bank of New Zealand Act 1989.

Appendix 3

New Zealand financial system assets and liabilities

Financial system liabilities

As at 31 December \$bn	2000	2005	2008	2009	2010	2011	2012	2013	2014*
Banks									
Households	41	61	90	92	97	106	115	126	130
Other residents	55	84	114	103	104	108	120	125	127
Non-residents	56	79	127	132	127	122	112	108	108
Other liabilities and equity	26	28	72	53	53	60	59	55	59
Total	178	253	403	380	382	395	407	414	423
Non-bank lending institutions									
Households	5	12	9	9	7	5	3	3	3
Other residents	4	7	7	6	7	7	6	5	6
Other liabilities and equity	2	8	11	9	7	5	5	5	5
Total	10	26	27	24	21	17	14	14	14
Funds under management									
Household assets	56	56	54	61	64	66	74	84	89
Other sector assets	5	7	8	8	8	8	9	9	9
Total	61	63	62	68	72	74	83	93	98
Total financial system liabilities	249	342	492	472	474	486	504	520	535

Financial system assets

As at 31 December \$bn	2000	2005	2008	2009	2010	2011	2012	2013	2014*
Banks									
Households	67	120	163	169	174	177	185	196	201
Other residents	70	101	149	136	137	141	148	150	152
General government	7	6	6	14	17	20	20	18	18
Non-residents	16	12	16	16	13	10	12	14	15
Other assets	17	14	70	44	41	47	41	35	37
Total	178	253	403	380	382	395	407	414	423
Non-bank lending institutions									
Households	5	12	12	10	9	7	6	6	6
Other residents	4	11	12	11	9	7	6	6	6
Other assets	1	3	4	3	3	3	2	2	2
Total	10	26	27	24	21	17	14	14	14
Funds under management									
Domestic fixed interest	27	25	28	27	28	30	32	33	35
Domestic equities	7	8	6	7	8	8	10	12	13
Domestic other	5	4	4	4	4	4	4	4	5
Overseas investments	21	26	24	30	32	32	36	43	45
Total	61	63	62	68	72	74	83	93	98
Total financial system assets	249	342	492	472	474	486	504	520	535

* as at 30 June 2014.

Source: RBNZ surveys.

Note: General insurance companies not surveyed. Property syndication included in 'domestic other' funds under management. Minor values for RMBS not included. Totals and sub-totals may not add due to rounding.

Appendix 4

New Zealand registered banks

Registered bank's name	Market share ¹	Credit ratings			Ultimate parent	Country of parent
		S&P	Moody's	Fitch		
Australia and New Zealand Banking Group Limited (B) ²	2.4	AA-	Aa2	AA-	Australia and New Zealand Banking Group Limited	Australia
ANZ Bank New Zealand Limited	29.8	AA-	Aa3	AA-	Australia and New Zealand Banking Group Limited	Australia
Commonwealth Bank of Australia (B)	1.0	AA-	Aa2	AA-	Commonwealth Bank of Australia	Australia
ASB Bank Limited	16.2	AA-	Aa3	AA-	Commonwealth Bank of Australia	Australia
Bank of New Zealand	18.0	AA-	Aa3	-	National Australia Bank	Australia
Bank of Baroda (New Zealand) Limited	0.0	-	-	BBB-	Bank of Baroda	India
Bank of India (New Zealand) Limited	0.0	BBB-	-	-	Bank of India	India
Citibank N.A. (B)	0.6	A	A2	A	Citigroup Inc.	USA
China Construction Bank (New Zealand) Ltd ³	-	A	-	-	China Construction Bank	China
Deutsche Bank AG (B)	0.6	A	A2	A+	Deutsche Bank Aktiengesellschaft	Germany
Heartland Bank Limited	0.6	BBB	-	BBB	Heartland New Zealand Limited	New Zealand
Industrial and Commercial Bank of China (New Zealand) Limited	0.0	A	-	-	Industrial and Commercial Bank of China	China
JPMorgan Chase Bank, N.A. (B)	0.1	A+	Aa3	A+	JPMorgan Chase & Co	USA
Kiwibank Limited	4.0	A+	Aa3	AA+	New Zealand Post Limited	New Zealand
Kookmin Bank (B)	0.1	A	A1	-	Kookmin Bank	South Korea
Rabobank Nederland (B)	0.6	AA-	Aa2	AA	Rabobank Nederland	Netherlands
Rabobank New Zealand Limited	2.3	AA-	-	-	Rabobank Nederland	Netherlands
Southland Building Society	0.7	-	-	BBB	Southland Building Society	New Zealand
The Bank of Tokyo-Mitsubishi, Limited (B)	0.9	A+	Aa3	A	Mitsubishi UFJ Financial Group Inc.	Japan
The Co-operative Bank Limited	0.4	-	-	BBB-	The Co-operative Bank Limited	New Zealand
The Hongkong and Shanghai Banking Corporation Limited (B)	1.2	AA-	Aa2	AA-	HSBC Holdings PLC	UK
TSB Bank Limited	1.3	BBB+	-	-	TSB Community Trust	New Zealand
Westpac Banking Corporation (B)	1.7	AA-	Aa2	AA-	Westpac Banking Corporation	Australia
Westpac New Zealand Limited	17.5	AA-	Aa3	AA-	Westpac Banking Corporation	Australia

¹ Registered banks' assets as a proportion of the total assets of the banking system, as at 30 June 2014.

² Banks marked (B) operate in New Zealand as branches of overseas incorporated banks. All other banks are incorporated in New Zealand.

³ Registered on 15 July 2014.

