Financial Stability Report

May 2016

RESERVE BANK
OF NEW ZEALAND
TE PŪTEA MATUA

Reserve Bank of New Zealand
Financial Stability Report

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Chapter 1
Overview

The New Zealand financial system remains resilient and continues to perform its functions effectively. Bank capital and liquidity buffers are strong relative to current regulatory minimums. Despite a modest increase in loan loss provisioning in recent quarters, bank profitability remains close to post-crisis highs. However, risks to the financial stability outlook have increased in the past six months.

The outlook for the global economy has deteriorated, causing an increase in financial market volatility earlier this year. Economic growth is slowing in a number of key trading partner economies and inflation is weak. Interest rates remain extraordinarily low as central banks maintain highly accommodative monetary policies, including in the US where the expected pace of policy tightening has slowed. The outlook for the Chinese economy remains particularly challenging given high levels of indebtedness and ongoing capital outflows. In Europe, low growth and inflation persist while legacy problem loans and negative interest rates weigh on bank profitability. Credit spreads have widened, placing upward pressure on the cost of funds for New Zealand banks.

Soft global growth and momentum in global commodity production have contributed to weak prices for New Zealand's commodity exports. Dairy prices remain low with global dairy supply continuing to increase. Many farmers now face a third season of negative cash flow with heavy demand for working capital. Problem loan levels are expected to increase significantly over the coming year, although losses in the banking sector are likely to be absorbed mainly with profits.

Imbalances in the housing market continue to increase, contributing to financial stability risk. The Reserve Bank's restrictions on loan-to-value ratios (LVRs) have reduced the share of risky lending on bank balance sheets. Along with government tax measures introduced in October, the recent investor LVR restrictions led to a cooling in the Auckland housing market in late 2015 and early 2016. However, Auckland prices remain stretched relative to incomes and recent data suggest that price pressures are re-emerging. House prices have also begun increasing strongly in a number of regions across New Zealand, although house price-to-income ratios are generally much lower than in Auckland.

The Reserve Bank is closely monitoring developments to assess whether further financial policy measures would be appropriate. Reducing the imbalance between housing demand and supply in the Auckland region remains essential if house price appreciation is to be contained over the longer term. Increasing housing supply is key and further efforts on a range of fronts should be considered to address the supply and demand imbalance. These include measures such as decreasing impediments to

densification and greenfield development, and addressing infrastructure and other constraints to increased housing supply.

The Reserve Bank continues to make progress on key regulatory initiatives. Consultation papers on proposed changes to the outsourcing policy for banks and on changes to bank disclosure requirements will soon be released. A consultation paper has recently been released on crisis management powers for financial market infrastructures. The Reserve Bank, along with other government agencies, is preparing for the IMF's Financial Sector Assessment Programme for New Zealand, which will take place later this year.

Graeme Wheeler

Governor

Chapter 2
Systemic risk and policy assessment

Risk assessment

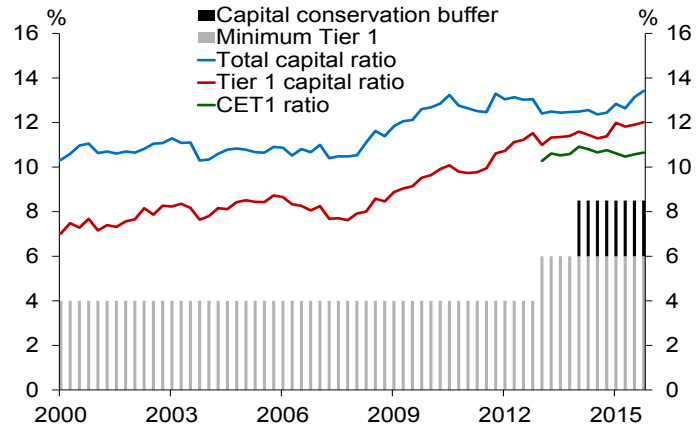
Risks to the financial stability outlook have increased…

The financial system continues to face three key risks, as identified in the November *Report*. While the balance of these risks has shifted over the past six months, overall risks to the financial stability outlook have increased. Global financial markets experienced heightened volatility between December and February, as perceived risks to global growth increased. The cost of obtaining wholesale funding for New Zealand banks has increased. Global dairy prices have remained low for longer than expected, with dairy farmers now likely to face cash flow pressure for a third consecutive season. This has contributed to further increases in dairy sector debt. Auckland housing market pressures have moderated but remain a serious risk to financial stability, with prices remaining elevated relative to incomes and rents.

…but the financial system remains resilient.

Although risks to the outlook have increased, the financial system remains resilient. Capital ratios are at or near recent highs (figure 2.1), and are above current regulatory minimums. Banking system profitability is also high by post-GFC standards, providing an additional buffer to absorb losses in a period of stress. Funding and liquidity buffers also exceed required minimums, which enhances resilience to potential funding market disruptions.

Figure 2.1 Regulatory capital ratios – locally incorporated banks *(% of risk-weighted assets)*

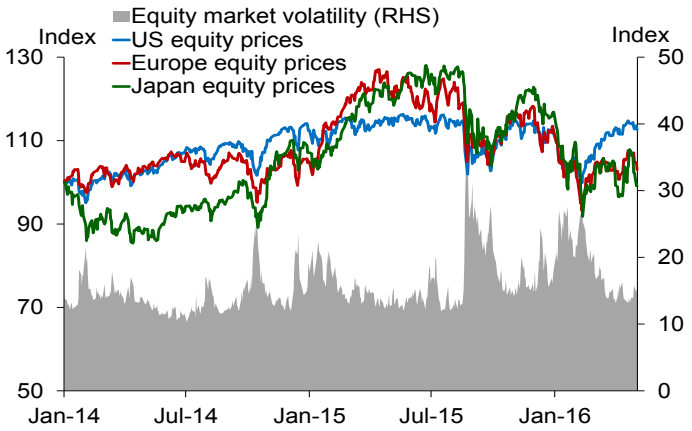


Source: Registered banks' *Disclosure Statements.*

Financial markets have experienced periods of volatility…

Financial market conditions deteriorated following the November *Report* amid uncertainty about the global outlook. Market volatility increased over the period until February as changes in the economic outlook and risk sentiment prompted large movements in equity prices and sovereign bond yields (figure 2.2). Increased risk aversion also saw credit spreads widen, particularly for high-yield bonds. These movements were amplified by reduced liquidity in key financial markets.

Figure 2.2 Global equity markets and volatility



Source: Bloomberg.

Note: S&P 500, Stoxx 600 and Nikkei 225 indices have been rebased to equal 100 in January 2014. Equity market volatility is the VIX index.

While market sentiment has recovered more recently, many of the factors that prompted the earlier deterioration remain relevant. Heightened volatility can be partly attributed to concerns regarding Chinese growth and uncertainty about China's foreign exchange policy. While the Chinese authorities have acted to support near-term growth through easier monetary policy, the risk of a further slowdown remains. In particular, further build-up in corporate debt from already elevated levels, falling profitability of state-owned enterprises, rising non-performing loans, and the potential for renewed capital outflows pose downside risks to the outlook.

Broader economic drivers have also contributed to the deterioration in sentiment. Concerns about growth in other emerging markets and the euro area have increased. Commodity prices have picked up but remain historically low, reflecting weak global demand and continued strong supply. There has also been growing unease about the effectiveness of negative interest rates in Europe and Japan and their impact on financial sector health. Finally, the pace of monetary policy tightening in the US remains highly uncertain.

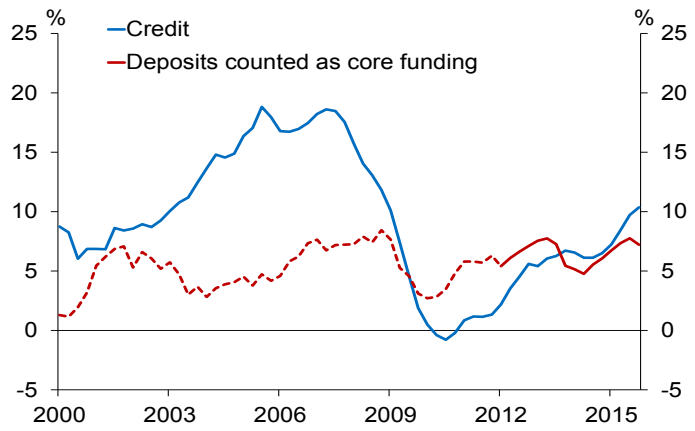
…increasing bank funding costs.

The heightened volatility early in the year contributed to higher funding costs for New Zealand banks. This has continued the trend from 2015, with the cost of issuing in both domestic and offshore long-term markets having increased to the highest levels since early 2013. There is a risk that the cost of long-term wholesale funding could increase further if heightened market volatility returns.

This situation may be exacerbated by the need to fund strong bank credit growth. Following the GFC, strong retail deposit growth and a moderation in credit growth from pre-GFC levels limited the need for banks to access higher cost long-term wholesale funding (figure 2.3). However, over the past 18 months, credit growth has accelerated across the household, agriculture, and business sectors, with aggregate credit growth now outpacing deposit growth. This may induce banks to compete more aggressively for retail deposits, or to increase their reliance on long-term wholesale funding, either of which could place upward pressure on bank

funding costs. Higher funding costs would keep lending rates up relative to the OCR and short-term wholesale rates.

Figure 2.3 Annual increase in credit and deposit funding *(% of GDP)*



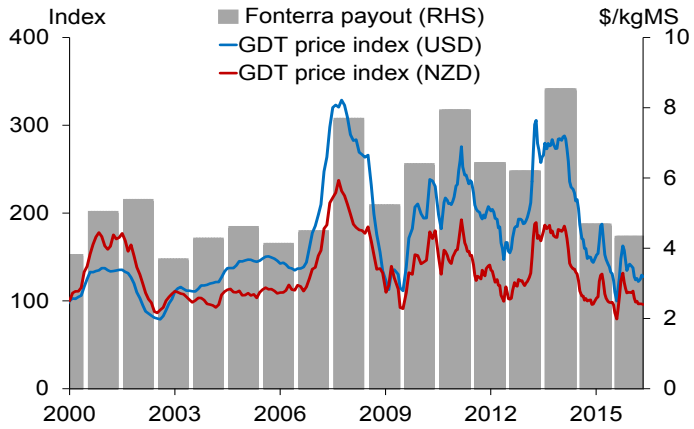
Source: Statistics New Zealand, RBNZ *Liquidity Survey*, RBNZ *Standard Statistical Return* (SSR).

Note: 'Deposits counted as core funding' includes haircuts made as part of the liquidity policy, which increase according to the size of the deposit. The dotted line shows growth in deposits measured by the SSR, prior to the introduction of the liquidity policy.

Dairy incomes remain under pressure…

Global dairy prices remain low, with prices having fallen modestly since November (figure 2.4). Current weakness in dairy prices can be attributed to a range of factors, including concerns regarding Chinese growth, continued growth in European supply, and Russia's import ban on EU dairy products. While the medium-term outlook for the dairy sector is favourable, with growth in emerging markets expected to be a key driver of increasing demand, the short-term outlook remains uncertain. Prices could remain low if European supply continues to expand in response to the recent removal of production quotas, or if relatively weak Chinese import demand persists for longer than expected.

Figure 2.4 Fonterra payout and global dairy prices



Source: Bloomberg, Fonterra, GlobalDairyTrade (GDT).

Note: Payout figures in the chart include dividends. The 2015-16 payout refers to Fonterra's latest forecast. Price indices have been rebased to equal 100 in January 2000.

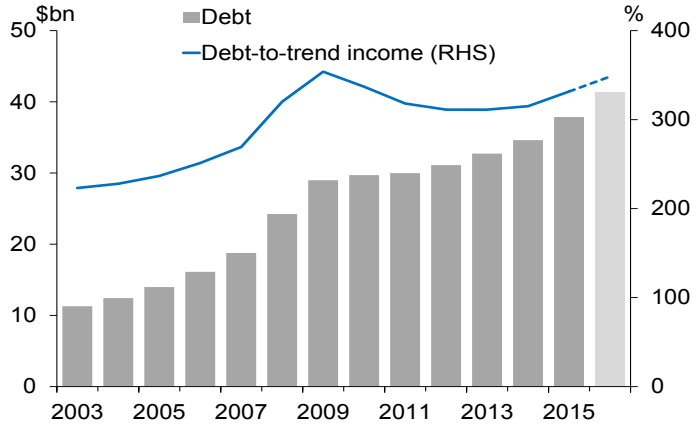
Weak milk prices and a relatively stable New Zealand dollar have led to further downward revisions to the forecast payout for the 2015-16 season. In response, farmers have continued to reduce on-farm expenditures, particularly with respect to capital investment and supplementary feed. Nevertheless, the average farm would face its largest cash loss in the post-2000 period at Fonterra's current estimate of a $4.30 payout, including dividends. While dairy incomes are expected to improve, most analysts' payout forecasts for the 2016-17 season are below DairyNZ's estimates of the current break-even payout. A third consecutive season of difficult conditions for farmers is looking increasingly likely.

…exacerbating risks associated with dairy sector debt.

Bank lending to the dairy sector has continued to expand, as farms have borrowed to meet working capital requirements (figure 2.5). Debt

positions are increasingly stretched, with the debt-to-trend income ratio approaching its 2009 peak. Demand for bank lending is expected to rise over winter when cash flow is seasonally low. Banks will have to balance the risk of over-extending credit with that of exacerbating the downturn through tightening lending standards.

Figure 2.5 Bank loans to the dairy sector *(June years)*



Source: DairyNZ, RBNZ *Annual Agricultural Survey*, RBNZ estimates.

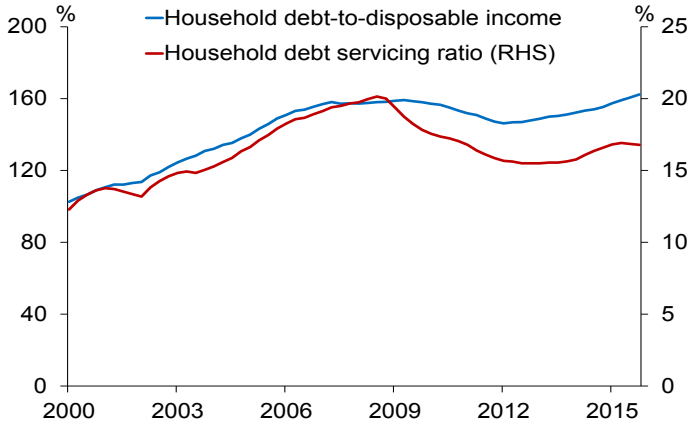
Note: Trend income is used to adjust for volatility in commodity prices and milk production. The trend payout is assumed to be $6.25 per kgMS in the 2015-16 season. Data for 2016 are forecasts based on private reporting data and DairyNZ production forecasts.

Banks have been working with farmers by extending credit while encouraging them to contain costs and sell assets. There have been relatively few forced sales to date which, alongside low interest rates and a positive medium-term outlook, has provided some support for farm prices. Nevertheless, prices have fallen 13 percent over the past year and there is a risk of further price declines if cash flow pressures result in more forced sales.

Household sector risks remain elevated…

Household credit continues to grow strongly, increasing by 7.7 percent in the year to March. As a result, the household debt-to-income ratio has increased to above 160 percent, beyond its pre-GFC peak (figure 2.6). Credit growth is likely to exceed income growth in the near term, resulting in higher debt relative to incomes. Low mortgage interest rates have helped to contain debt servicing costs but the household sector would be vulnerable to an increase in interest rates or an economic downturn. While a large increase in mortgage rates seems unlikely in the current global environment, a relatively small increase could put pressure on some borrowers.

Figure 2.6 Household debt and debt servicing



Source: RBNZ *Household Assets and Liabilities*, RBNZ SSR.

Note: Household debt refers to household financial liabilities including debt secured against rental properties. The debt servicing ratio is implied interest and principal repayments on outstanding debt as a share of household disposable income.

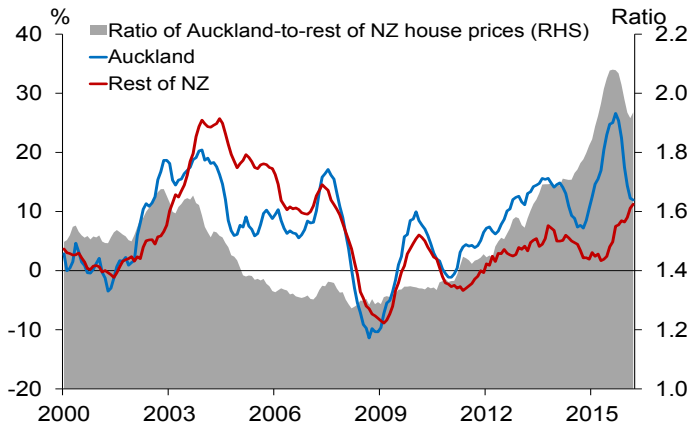
There are signs of a build-up in risk among new borrowers. For example, a large share of new lending is extended at high debt-to-income ratios. With gross housing lending flows remaining strong at around 35 percent

of the outstanding stock, this is being reflected relatively quickly in banks' overall portfolios.

...despite a slowing in Auckland house price inflation.

In response to the financial stability risks posed by imbalances in the Auckland housing market, the Reserve Bank implemented an Auckland-investor LVR speed limit in November 2015. Alongside government policy changes and other factors that may have reduced demand for New Zealand residential property, this has seen annual Auckland house price inflation slow from 27 percent in September to 12 percent in March (figure 2.7, see box A). While this is a positive development, Auckland prices are still very high relative to both incomes and rents, and near-term indicators suggest pressures may be returning to the market.

Figure 2.7 Annual house price inflation *(3-month moving average)*



Source: CoreLogic NZ, REINZ, RBNZ calculations.

House price inflation has continued to increase in the rest of New Zealand, particularly in the areas surrounding Auckland. For example, prices in Hamilton and Tauranga are now growing faster than in Auckland. Data from CoreLogic show that some of the strength in these regions reflects a shift in purchases by Auckland-based investors towards nearby regions, which appears to be helping to relieve pressure from the Auckland market.

Policy assessment

Capital and funding buffers underpin financial system resilience...

With risks to the financial system increasing, and bank balance sheets growing rapidly, it is critical that banks maintain sufficient capital and funding buffers. Recent stress tests of the major banks suggest that banks have sufficient capital to withstand a severe economic downturn (box C). However, banks report a significant tightening of lending standards in the stress scenario, which could materially worsen a downturn and exacerbate losses. While key prudential metrics remain above regulatory minimums, the increasing wedge between credit and deposit growth may require banks to make greater use of long-term wholesale funding markets if they are to maintain funding buffers at current levels.

As noted in the previous *Report*, the Reserve Bank will begin a general review of bank liquidity requirements this year. A key purpose of the review is to determine whether greater harmonisation with the Basel approach would be beneficial. A review of capital requirements is also

planned, partly in response to the recent increase in Australian standards and ongoing reform of the Basel framework.

...but banks will likely face an increase in stressed dairy loans.

The Reserve Bank expects banks to continue to closely monitor and manage the risks relating to their dairy exposures. As discussed above, banks have adopted a medium-term approach to assessing farm viability and are supporting farmers under short-term cash flow pressures. Nevertheless, with debt levels and servicing costs increasing, particularly for highly indebted farmers with higher break-even payouts, farmers are likely to face tighter borrowing constraints and further pressure to reduce costs. So far, non-performing loans (NPLs) have ticked up only modestly. Watchlist loans, which provide a leading indicator of NPLs, have increased more significantly, but remain well down on levels seen during the GFC. A further increase in NPLs is expected, unless the near-term outlook for the dairy sector improves materially.

Direct losses on dairy exposures are expected to be manageable...

With the near-term outlook for the dairy sector uncertain, it is important that banks continue to monitor their loan-loss provisions and ensure that they are sufficient. Provisions relating to dairy exposures have increased modestly since November, consistent with the deterioration in the near-term outlook. However, further increases in banking system provisioning will likely be necessary if NPLs increase as expected.

Late last year, the Reserve Bank conducted stress tests of the five largest dairy lenders to assess the banking system's resilience to a sustained dairy sector downturn. The tests included two hypothetical stress scenarios, each featuring a sustained low payout and a sharp fall in dairy land prices (table 2.1). While scenario 1 may be broadly comparable to the current near-term market outlook, scenario 2 reflects considerably more adverse conditions.

Table 2.1
Stress scenarios and estimated losses

	Fonterra payout ($ per kgMS)		Dairy land prices (annual % change)		Cumulative losses (% of initial portfolio value)	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2
2015-16	3.75	3.00	-15	-20	1.3	2.8
2016-17	4.75	4.00	-10	-15	2.4	6.0
2017-18	5.25	4.50	0	-10	3.1	8.2
2018-19	5.75	5.00	0	0	3.2	8.5
2019-20	6.00	5.50	0	0	3.0	8.5

Source: RBNZ assumptions.

Note: Loss estimates are averages across the five largest dairy lenders.

Both scenarios generated a significant increase in the proportion of loans written off, reflecting sustained pressure on farmers and land price declines. In the severe scenario, average losses were estimated to be 3 percent and 8.5 percent of dairy exposures under scenarios 1 and 2, respectively. While such scenarios would have a significant effect on dairy farms, the associated losses would be manageable for the banking system. Loan losses of this magnitude could be largely absorbed with bank earnings, with relatively little erosion of bank capital.[1]

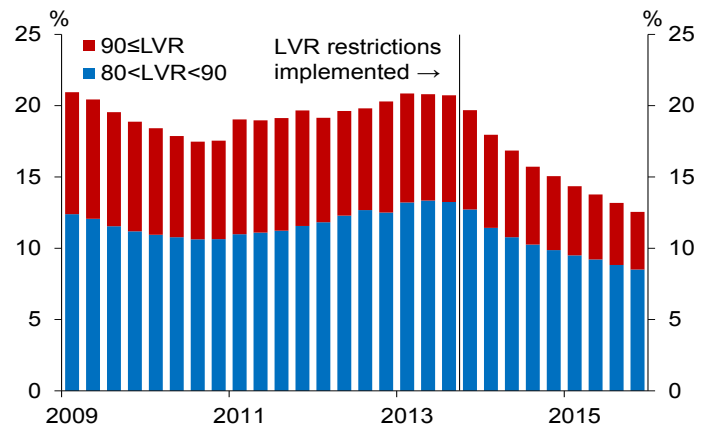
...but potential losses contribute to collective financial stability risk.

It is important to note that the stress test was designed to provide granular insights into risks associated with dairy lending. Spillovers to dairy support industries and potential stress in other sectors were not part of the exercise. Banking system losses would be much larger if broader macroeconomic weakness resulted in difficult conditions across several sectors. While increasing dairy sector risk may not pose a threat to financial stability in isolation, it comprises part of a significant overall financial stability risk when considered in combination with the current global outlook and elevated domestic household sector risks.

The LVR policy is a significant mitigant to financial stability risk.

The Reserve Bank's macro-prudential policy framework is designed to increase the resilience of the domestic financial system to significant asset market downturns and to limit extremes in the credit cycle. Nationwide loan-to-value ratio (LVR) restrictions were implemented in October 2013 to stem rising financial stability risks arising from the housing market at that time, limiting the share of new lending with LVRs exceeding 80 percent to a maximum of 10 percent. As a result, the stock of high-LVR lending has gradually declined, falling to 13 percent in December 2015 from a peak of 21 percent in 2013 (figure 2.8). Higher equity buffers for borrowers have increased the banking system's resilience to a housing market downturn. The policy has also promoted financial stability by reducing the likelihood that a large number of borrowers would be forced to sell in a severe downturn. However, a relatively high share of new bank lending is still being undertaken at elevated debt-to-income ratios.

Figure 2.8 Stock of high-LVR mortgages *(% of total bank mortgage lending)*



Source: Registered banks' *Disclosure Statements*.

Note: High-LVR mortgage loans are for the five largest banks only.

The Reserve Bank imposed tighter restrictions on lending to Auckland investors in November 2015, while relaxing LVR restrictions in the rest of New Zealand. The policy remains effective in limiting the share of risky lending on bank balance sheets. Investor LVR restrictions, and government measures that became effective in October, also helped to cool the market in late 2015 and early 2016. However, recent data

1 For more background and detailed results, see Dunstan, A (2016) 'Summary of the dairy portfolio stress testing exercise', Reserve Bank of New Zealand *Bulletin*, 79(5), March, http://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Bulletins/2016/2016mar79-5.pdf

suggest that pressure may be returning to the Auckland market. A resurgence of house price inflation in Auckland would be of real concern, given that prices are already very stretched relative to incomes and rents.

At the same time, there has been a significant pick-up in housing markets outside Auckland since the middle of 2015. Housing market pressures have been particularly pronounced in the areas immediately surrounding Auckland, but increasingly these appear to be spreading to other major centres. To some extent this reflects a shifting of demand, which may be helping to alleviate some pressure from the Auckland market. House price-to-income ratios are generally lower in these areas than in Auckland, and housing supply is likely to respond more rapidly, which could act as a brake on further house price appreciation. However, there is a risk that house prices outside Auckland are driven to levels that pose a financial stability risk.

The Reserve Bank is closely monitoring developments in the housing market to assess whether further financial policy measures would be appropriate. Any further actions would be designed to reduce risks to the financial system from a significant housing market downturn. Reducing the imbalance between housing demand and supply in the Auckland region remains essential if house price appreciation is to be contained over the longer term. Increasing housing supply is key and further efforts on a range of fronts should be considered to address the supply and demand imbalance. These include measures such as decreasing impediments to densification and greenfield development, and addressing infrastructure and other constraints to increased housing supply.

Box A

Initial impact of adjusted LVR restrictions

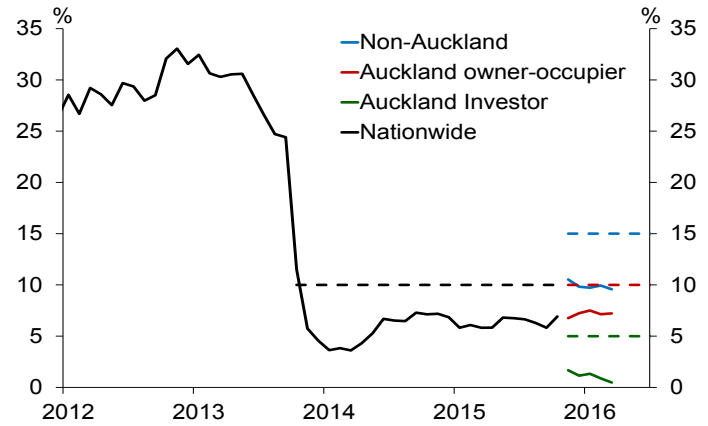
In November 2015, the Reserve Bank introduced changes to the policy on high-LVR mortgage lending by registered banks, tightening restrictions on Auckland investors while loosening restrictions outside of the Auckland region. These changes were designed to decrease the rate of growth in Auckland house prices, and hence reduce the probability and magnitude of a subsequent correction, and to improve the resilience of bank balance sheets to a housing market correction. In loosening LVR restrictions outside of Auckland, the Reserve Bank acknowledged that risks outside of Auckland had not increased significantly since the implementation of initial LVR restrictions in October 2013, with house prices having remained fairly stable relative to incomes.

The Reserve Bank expected the policy to have a short-run impact on housing market momentum in Auckland, lowering house sales by around 8 percent and annual house price inflation by 2-4 percentage points. Outside of Auckland, house sales were expected to be 4 percent higher and house price inflation 1 percentage point higher. National housing credit growth was expected to be 1 percentage point lower. These impacts were estimated to be temporary, occurring over a one-year horizon and gradually fading thereafter. LVR changes were expected to have a more enduring impact on banks' balance sheet resilience, by reducing the share of outstanding investor loans at LVRs of above 70 percent.

Since November, banks have quickly adapted to the new speed limits, with aggregate high-LVR lending well below the respective requirements (figure A1). The revised LVR restrictions exempted several extra categories of lending, including for non-routine property remediation (e.g. leaky homes) and combined collateral exemption. Uptake of the combined collateral exempt-lending has been particularly high, at about 20 percent of Auckland investor lending. This allows banks to exempt lending to borrowers with multiple collateral types if the aggregate loan does not exceed 70 percent of the value of Auckland investor property plus 80 percent of the value of other property.

Auckland house sales fell more sharply than expected following the implementation of the policy, dropping 19 percent between November 2015 and February 2016 (figure A2). It is likely the housing-related government tax changes, together with an apparent reduction in offshore demand due to global financial market volatility and more rigorous enforcement of capital controls by Chinese authorities, also restrained housing demand over this period. The fact that ex-Auckland house sales also declined, despite looser LVR restrictions, reinforces this view.

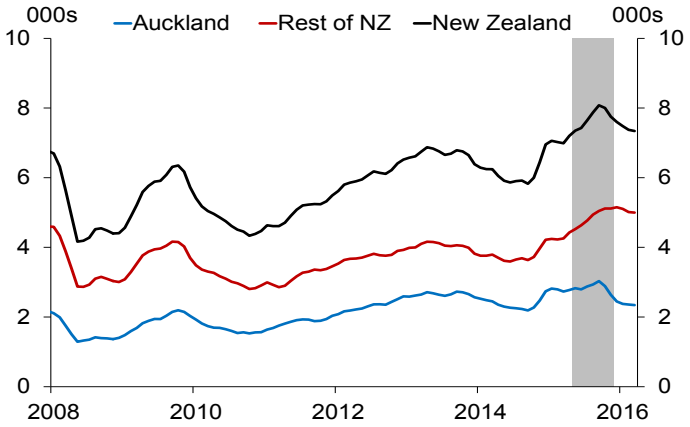
Figure A1 High-LVR bank speed limits *(% of commitments after exemptions)*



Source: RBNZ *New Residential Mortgage Commitments Survey*, RBNZ private bank reporting data.

Note: Banks' compliance with the new LVR restrictions will be first measured over the November 2015-April 2016 period. The data presented here cover the period to end-March, and it is likely that there will be some revisions to the data once the full compliance period has finished. Dashed lines refer to respective speed limits.

Figure A2 New Zealand regional house sales *(seasonally adjusted, 3-month moving average)*



Source: REINZ.

Note: The shaded area represents the period between announcement and implementation of the revised LVR restrictions.

However, recent data suggest that house sales may be rebounding in Auckland and the rest of New Zealand.

Auckland house price inflation has fallen significantly over the same period, although recent signs point to a potential turnaround (see figure 2.7). The pace of the slowdown was larger than the projected policy impact, reflecting the range of policy and international shocks to the market described above. The increase in house price inflation outside of Auckland is likely due to the influence of broader factors such as low interest rates and strong net immigration.

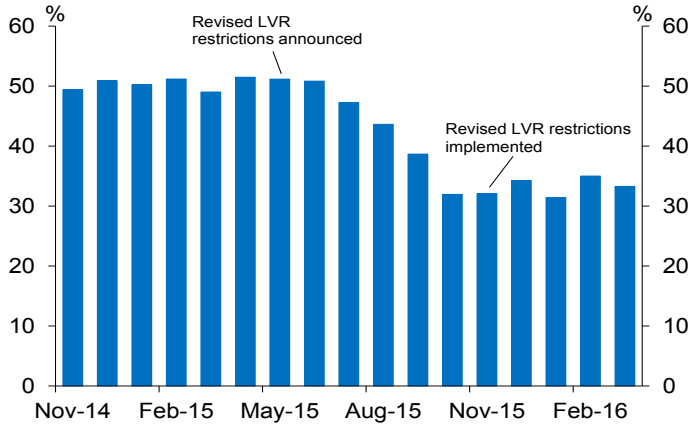
Near-term indicators of housing credit growth also slowed immediately following the changes to the LVR policy, partly reflecting the greater than expected slowdown in both national house sales activity and price growth over the same period. However, annual growth has continued to increase, and recent signs point to renewed strength in credit growth.

Much of this has been driven by robust lending growth outside of Auckland.

Bank balance sheet resilience to severe housing market shocks has strengthened as the share of riskier loan types has fallen. New investor lending at LVRs above 70 percent is down by around one-third (figure A3). Over time, this will reduce banks' losses on investor loans if there were a severe downturn in the Auckland housing market. However, while average LVRs are declining, a large share of bank lending is taking place at LVRs between 65 and 70 percent, which will partly mitigate this effect.

As with the initial LVR restrictions, there have been few signs of home lending migrating beyond the regulatory perimeter of LVR restrictions. Specifically, there is little evidence of either avoidance activity by the registered banks or a shift to non-bank financial intermediaries and other sources of finance.

Figure A3 Nationwide high-LVR investor mortgage lending *(% of new investor commitments)*



Source: RBNZ *New Residential Mortgage Commitments Survey*.

Note: High-LVR in the context of investors is defined as an LVR above 70 percent.

Chapter 3

The international environment and financial markets

Financial markets have experienced periods of heightened volatility recently as uncertainty surrounding the global economic outlook has increased. Concerns regarding Chinese growth and the risk of a sharp depreciation of the renminbi continue to drive global sentiment. While Chinese authorities have acted to support near-term growth, risks to the longer-term outlook are increasing as debt ratios continue to rise. Other emerging market economies are under pressure due to sustained low commodity prices, prompting some authorities to take action to support their economies.

Despite a significant improvement, economic conditions in Europe remain relatively weak, due in part to elevated debt levels and slow bank balance sheet repair. Several advanced economies are experiencing very low inflation, prompting central banks to respond by further easing already highly accommodative monetary policy. This is placing further downward pressure on already weak bank profitability. In contrast, monetary policy in the US has begun to tighten, as underlying economic conditions have improved.

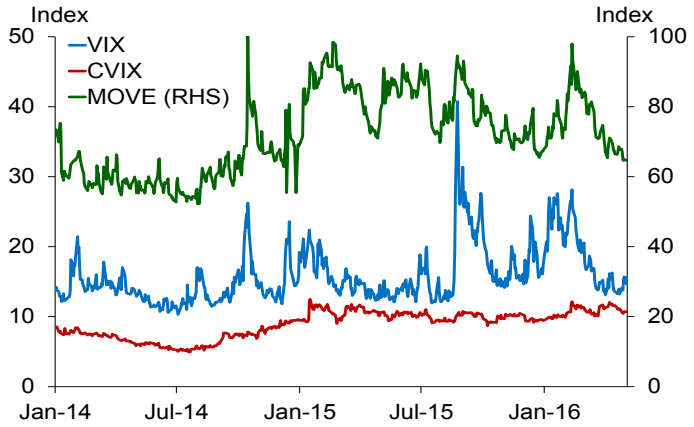
Long-term funding spreads for New Zealand banks have increased in parallel with greater market volatility. While market turbulence has subsided in recent months, underlying drivers of uncertainty remain, and a re-emergence of volatility could see funding spreads widen further.

Financial markets have experienced periods of volatility...

Financial market sentiment deteriorated between December and February, leading to heightened market volatility (figure 3.1). While sentiment has improved more recently, many of the risk factors that prompted the earlier deterioration remain. Concerns about Chinese growth, global financial sector health, the outlook for the European economy, uncertainty about the pace of Federal Reserve interest rate tightening, and sustained low commodity prices all contributed.

Volatility has been evident in a range of markets. Equity prices have fluctuated significantly since the November *Report*, dropping sharply until February. While some equity markets, such as the US, have regained much of these losses, others remain well below prior levels. Broad equity indices in Europe, for example, are down by 13 percent on November levels, while those in Japan are down 18 percent over the same period.

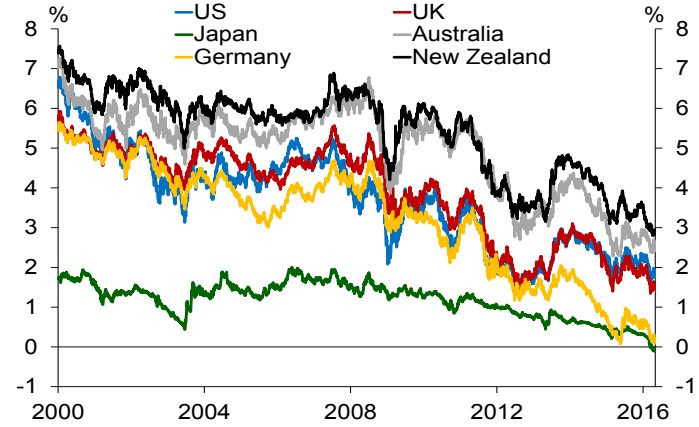
Figure 3.1 Indicators of financial market volatility



Source: Bloomberg.

Note: MOVE is the implied volatility of US Treasury markets; VIX is the implied volatility of the S&P500 equity index; CVIX is the weighted-average implied volatility of nine major currency pairs.

Figure 3.2 10-year government bond yields



Source: Haver Analytics.

Sovereign bond yields have also been volatile and have tended to decline in countries where central banks have adopted further monetary policy stimulus (figure 3.2). Low global interest rates support economic recovery and debt servicing, but may also lead to a build-up of risks if investors' search for yield causes asset prices to become excessively stretched. As global interest rates have fallen, residential and commercial property prices have increased rapidly. The associated risks to financial stability have prompted several countries to implement or tighten macro-prudential policies targeted at the housing market.

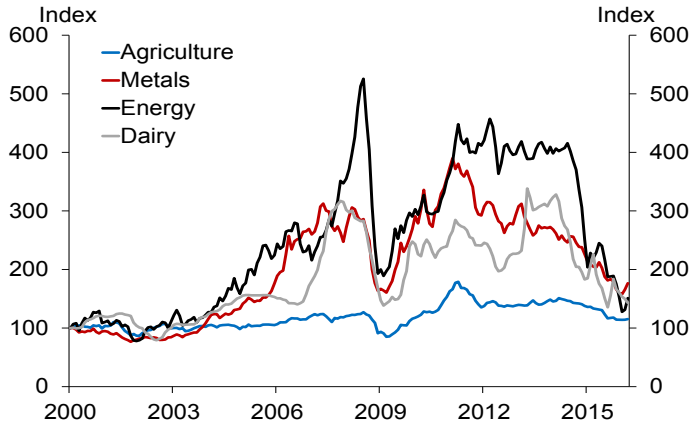
...as the global economic outlook has deteriorated.

The global economic outlook has deteriorated since the November *Report*, with the IMF downgrading its global growth forecasts for 2016 and 2017. Weaker prospects reflect downward revisions to expected growth in advanced economies, as well as Brazil, Russia, and the Middle East. While central forecasts for China remain stable, downside risks to the outlook have increased. European economic conditions are expected to continue their gradual improvement, but markets have become increasingly concerned about risks to the downside. With monetary policy already very accommodative in many of these countries, there is less policy space to respond to a further slowdown in growth.

Commodity prices remain low...

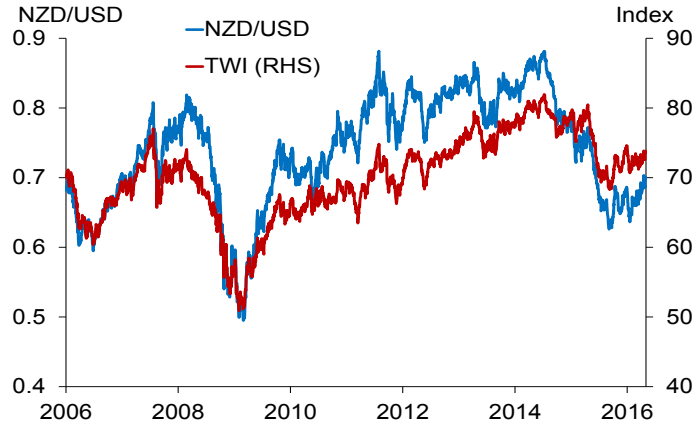
Commodity prices have remained low, in part due to sluggish economic growth dampening demand (figure 3.3). Some commodity producers have attempted to maintain revenues by holding output steady which has contributed to over-supply in a range of markets. Nevertheless, some producers have come under pressure, as their costs of production exceed current prices. This is particularly apparent in the US oil sector, where a number of producers have shut down and prospective investment has been pared back significantly.

Figure 3.3 Commodity prices *(SDR terms, January 2000 = 100)*



Source: ANZ, IMF.

Figure 3.4 The New Zealand exchange rate



Source: Bloomberg.

...placing further pressure on commodity producing countries.

Sustained low commodity prices are placing increased pressure on commodity producing countries, especially in emerging markets. Commodity currencies depreciated in the period up until January 2016, which provided some support for prices in domestic currency terms. However, most of these currencies have since appreciated and domestic currency prices remain well down on prior levels. In New Zealand, low agricultural commodity prices are adversely affecting farmers' incomes. Like other commodity currencies, the New Zealand dollar has provided little support to incomes over the past six months, appreciating modestly despite two 25 basis point cuts to the Official Cash Rate (figure 3.4).

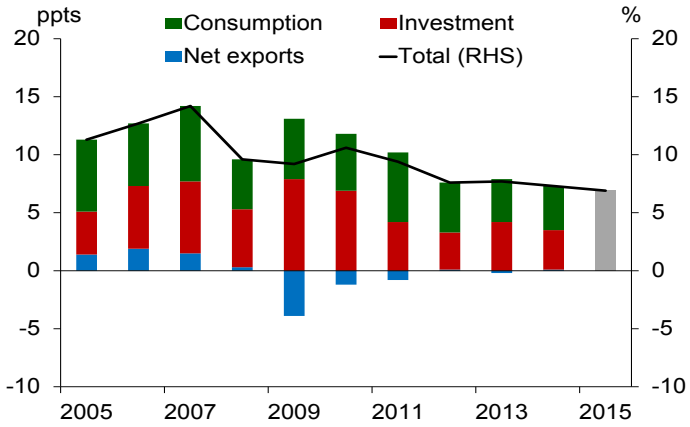
In response to rising financial pressures and subdued economic growth, authorities in some commodity producing countries have taken action to support their economies. Russia has liquidated half of its sovereign wealth fund to fill the budget gap left by low oil prices, and several other countries adopted similar measures. Governments in some Middle Eastern oil producing countries have offered guarantees on debt to support the banking system. Support has also been increased for farmers in the European Union, with intervention volume limits – the amount of dairy product eligible for purchase at the minimum intervention price – being raised for skim milk powder and butter.

China's growth is slowing...

Economic growth in China continues to slow, as the economy moves towards a consumption-led growth model. Real GDP growth was 6.9 percent in 2015, down from an average of 8.5 percent over 2010-14 and 10 percent over the previous decade (figure 3.5). A sharp reduction in investment growth has been the primary driver of the slowdown, and

this is expected to continue as the economy matures. While investment will be replaced to a large extent by services and consumption growth, economic growth is expected to be lower compared to China's previous growth model.

Figure 3.5 Contributions to real GDP growth in China



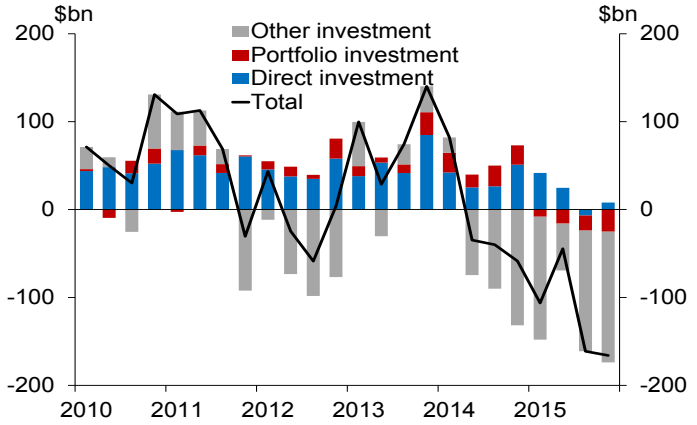
Source: National Bureau of Statistics of China.

Over the past decade, China's share of global output has increased significantly. Consequently, slowing growth in recent years has acted as an important drag on global growth. The shift away from an export and investment-led growth model is also reducing demand for commodities used in physical investment, such as iron ore, contributing to the pressures facing commodity producing countries. While New Zealand exporters have not been immune to the effects of slowing Chinese growth, China's re-orientation towards consumption-led growth is likely to support New Zealand agricultural exports over the longer term.

...as is progress towards reform.

China has made substantial progress over the past few decades in moving towards a more open and market-based economy, which will support long-run growth. Two key areas for potential further liberalisation are the exchange rate and capital account. However, there is significant uncertainty regarding China's foreign exchange policy given substantial capital outflows in recent quarters (figure 3.6), which have seen official reserves fall from a peak of almost USD4 trillion in June 2014 to USD3.2 trillion in March 2016. These outflows have primarily come in the form of other investment outflows, which are the least restricted component of the capital account.

Figure 3.6 Chinese private capital flows *(US dollars)*



Source: Haver Analytics.

To stem the outflow of capital and depreciation of the renminbi, liberalisation of the capital account has slowed and authorities have enforced existing capital controls more rigorously. While this has helped to slow the depletion of China's foreign exchange reserves, market participants remain concerned about the potential for a sharp currency depreciation, which could generate further financial market volatility.

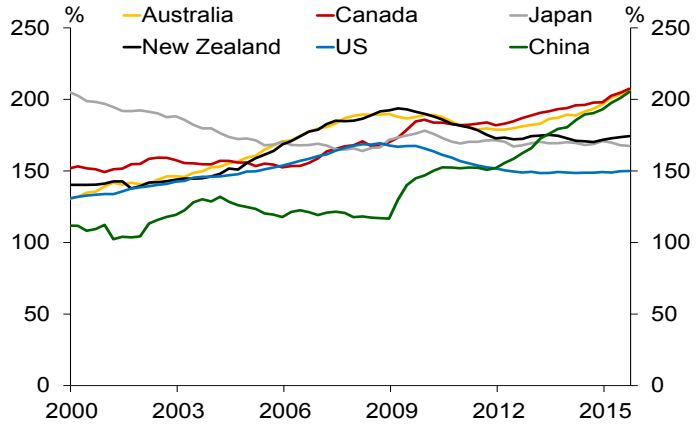
Progress has continued in other areas, including through closing local government finance vehicles and reducing distortions in private banking markets. The state sector has been shrinking over time, with its share of output and investment having declined significantly in recent decades. However, it remains a significant drag on economic growth, reflecting the large and growing differential between the return on assets achieved by private firms and state-owned enterprises (SOEs). SOE banks have also stifled growth by funnelling credit towards other SOEs and away from the more productive private sector.

There are significant risks to the outlook for China.

As the Chinese economy continues its transition, there is a risk of a sharp slowdown in growth. Near-term growth has been supported by increased government spending and easier monetary policy, with the People's Bank of China (PBOC) lowering the benchmark lending rate six times in the past 18 months. Chinese authorities have also reaffirmed their intention to maintain relatively strong growth, announcing an annual real GDP growth target of 6.5-7 percent for 2016.

However, market participants are becoming increasingly concerned about the implications of current supportive policies for longer-term growth prospects. Maintaining the growth target will require a further expansion in corporate credit, posing increased risks to financial stability. Total social financing, a broad measure of credit growth, increased by 13.4 percent in the year to March, well above the rate of nominal GDP growth. As a result, private sector debt relative to GDP has continued to increase rapidly, and is now near or above most advanced economy levels (figure 3.7).

Figure 3.7 Private sector debt *(% of GDP)*



Source: Bank for International Settlements (BIS).

A significant proportion of the growth in debt has been to SOEs, some of which face significant over-capacity and falling profitability. Non-performing loans (NPLs) in the banking system are starting to rise, although remain relatively modest at around 1.7 percent of lending on reported figures. However, it is likely that the share of problem loans significantly exceeds reported NPLs. For example, based on a large sample of listed firms as at 2015, the IMF estimates that 14 percent of debt is owed by firms with insufficient earnings to cover interest payments, compared to 4 percent in 2010.[1] Addressing over-indebtedness in parts of the corporate sector could take a long time and restrain growth as credit is withheld from more productive sectors.

European conditions remain relatively weak...

Despite a significant improvement since 2012, unemployment across the euro area remains elevated at 10.2 percent, and real GDP growth

1 See IMF (2016) 'Chapter 1: Potent policies for a successful normalization', *Global Financial Stability Report*, April.

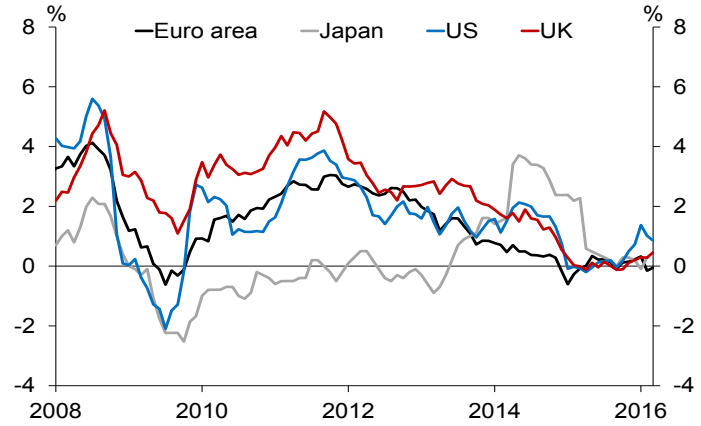
is modest at 1.6 percent. While economic conditions are expected to gradually improve, markets have become increasingly concerned about risks to the downside. European banks have not repaired their balance sheets to the same extent as their US counterparts, partly due to much lower write-off rates. Slow resolution of burdensome debt hinders economic growth by reducing the provision of lending to more productive uses.

Several other factors pose risks to growth. As European banks own a significant amount of sovereign debt, concerns about indebtedness of some European sovereigns may be reinforcing banking system difficulties. Geopolitical risks in Europe, including discord related to large refugee inflows and recent terrorist attacks, are increasing the potential for political instability. Finally, Britain is set to vote in June on whether it should remain a member of the European Union (EU). A British exit would likely result in elevated financial market volatility due to the potentially significant and highly uncertain implications for EU and global economic growth.

...and there is a risk of persistent deflation.

Excess capacity and high unemployment have seen aggregate euro area inflation steadily decline (figure 3.8), and there is a real risk that the currency union could face persistent deflation. Other major advanced economies are facing similar difficulties, partly as a result of sustained weakness in oil prices. Deflation increases the burden of debt by increasing real interest rates, which can hamper economic growth. Moreover, deflation may pose difficulties for central banks in stimulating economic growth, particularly if accompanied by reduced inflation expectations.

Figure 3.8 Advanced economy inflation *(annual, consumer prices)*

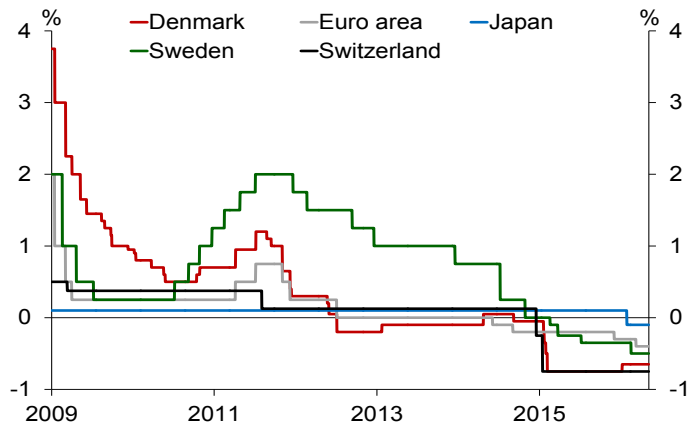


Source: Haver Analytics.

Policymakers are adopting extreme policy measures...

A number of major central banks have adopted extremely accommodative monetary policy to stimulate their economies and reduce the risk of deflation. In addition to its existing asset purchase programme, the European Central Bank (ECB) recently lowered interest rates further into negative territory. Several other central banks have also adopted negative policy interest rates, including three other central banks in Europe and the Bank of Japan (figure 3.9). Negative rates for deposits held at the central bank encourage banks to lend to the private sector instead of holding excess reserves, which should help to boost economic activity. However, with subdued economic activity limiting available lending opportunities, negative rates may incentivise banks to loosen lending standards, which could increase financial vulnerabilities.

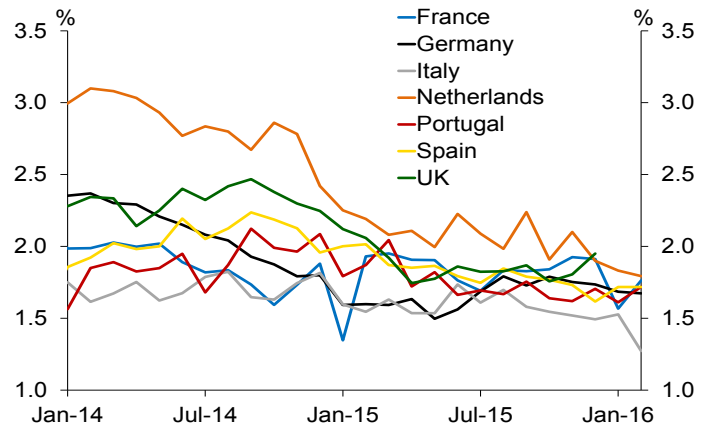
Figure 3.9
Central bank policy rates



Source: Bloomberg.

Note: See spreadsheet for data definitions.

Figure 3.10
European bank lending margins for housing loans



Source: Haver Analytics.

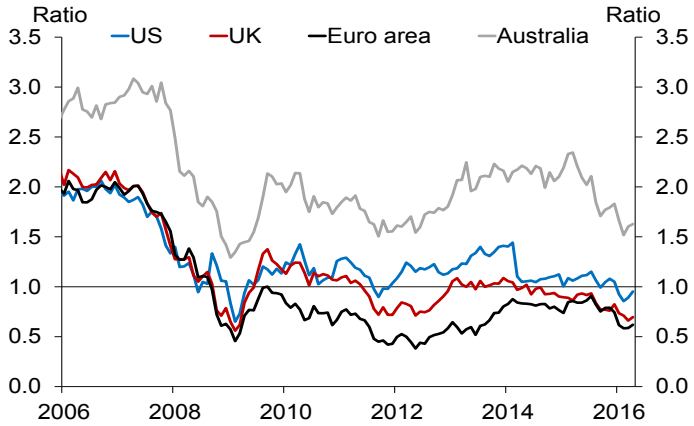
Note: Lending margins measure the difference between rates offered to new household borrowers and paid on new deposits.

...which are exacerbating bank difficulties.

European bank profitability has declined significantly since the GFC, in part due to the sluggish economic recovery and slow bank balance sheet repair. Falling interest rates have also contributed, by narrowing lending margins (figure 3.10) and reducing the return on banks' holdings of government bonds. Negative interest rates are proving particularly challenging, as banks have been reluctant to pass them on to depositors due to concerns about a significant outflow of deposits, which are a primary source of bank funding. At the same time, competition has lowered lending margins, reducing bank profitability. To help mitigate these effects, and to further stimulate lending to the private sector, the ECB recently announced a new series of targeted longer-term refinancing operations (TLTRO II). Under this scheme banks can obtain additional funding from the ECB at very low or, in some cases, negative interest rates.

Bank equity prices and price-to-book ratios have fallen significantly in a number of countries since the November *Report* (figure 3.11). The price-to-book ratio compares the market capitalisation of banks with their underlying balance sheet equity, and indicates the market's confidence in the banking system's ability to generate a sufficient future return on capital. Increased concern regarding bank profitability in an environment of low interest rates and weak economic growth has been a key contributor to reduced market confidence. However, the decline in Australia also reflects anticipated increases in capital requirements following the Financial System Inquiry completed in 2015.

Figure 3.11
Price-to-book ratios for selected banking systems



Source: Bloomberg.

Note: The price-to-book ratio is market capitalisation divided by balance sheet equity.

US policy normalisation has begun...

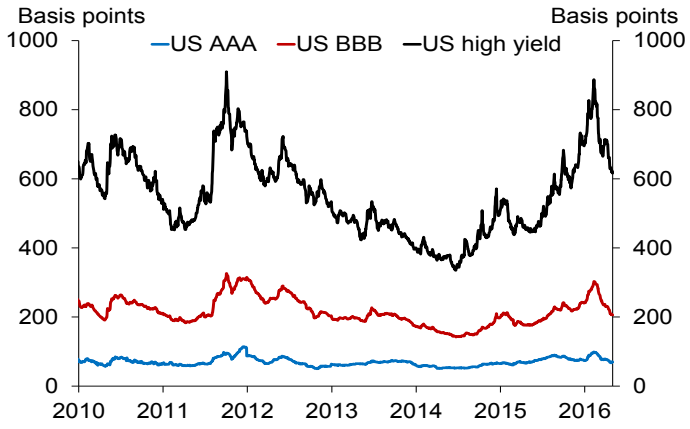
While monetary policy conditions in a number of major advanced economies have become increasingly accommodative, US monetary policy has started to tighten. The Federal Reserve raised its benchmark rate by 25 basis points in December, to a target range of 0.25-0.5 percent, citing strengthening household spending, business investment, and labour market conditions as factors underlying the decision. Nevertheless, monetary policy settings remain very accommodative and should support further improvement in economic activity and inflation.

At the December FOMC meeting, the Federal Reserve signalled four further rate rises throughout 2016. However, recent weaker near-term indicators have slowed the pace of expected tightening, with the Fed now signalling only two hikes during 2016. A marked downward revision to the forecast inflation rate for 2016 was a major factor, while the projection for real GDP growth was lowered modestly to 2.2 percent. Unemployment, which has declined significantly since the GFC, is expected to improve slightly from its current level of 5.0 percent.

...but risks to the outlook remain.

While underlying drivers of US growth are broadly improving, downside risks to the outlook remain. Market participants have become worried that higher interest rates, and tighter financial conditions more generally, could materially weigh on growth. Moreover, concern regarding the health of US corporates increased in late 2015 and early 2016, particularly relating to firms in the energy and mining industries struggling under low commodity prices. This contributed to the sharp increase in corporate credit spreads over the same period, although spreads have moderated somewhat in recent months (figure 3.12). Elevated credit spreads and low commodity prices could make it difficult for exposed firms to service debt, thereby reducing growth.

Figure 3.12
US corporate credit spreads
(basis points)



Source: Barclays Capital.

Global developments have implications for Australasia…

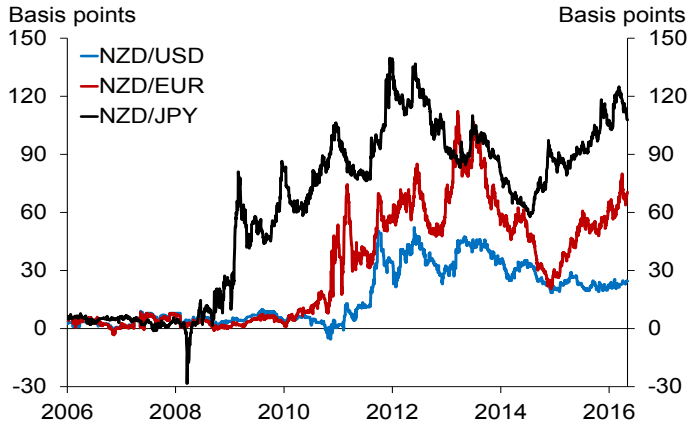
Developments in the global economy affect New Zealand both directly and indirectly. Low global growth, for example, can significantly reduce New Zealand export incomes, particularly if slowing growth is prevalent among New Zealand's major trading partners. This vulnerability has been highlighted recently, as prices of dairy products have fallen materially alongside slowing Chinese demand (see chapter 4).

In addition, global developments can have significant indirect effects on the New Zealand economy as a result of close integration with Australia. China's transition towards a consumption-led growth model has contributed to a sharp fall in the prices of coal and iron ore. The end of the mining investment boom and weak export demand have lowered Australian growth, with spillovers for New Zealand. Longer-term prospects are more encouraging, with the Australian economy continuing to rebalance away from resource-led growth toward other sources of growth.

…and have contributed to rising New Zealand bank funding spreads.

Heightened volatility in global financial markets has contributed to a further pick-up in long-term wholesale funding spreads, continuing the trend since early 2015. New Zealand banks that have issued in offshore markets this year have seen costs rise by about 50 basis points relative to domestic swap rates. This increase is attributable to both an increase in foreign currency bond spreads and rising costs of hedging exposures into NZD. In particular, the cost of hedging euros or yen into NZD has increased materially (figure 3.13).

Figure 3.13 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.

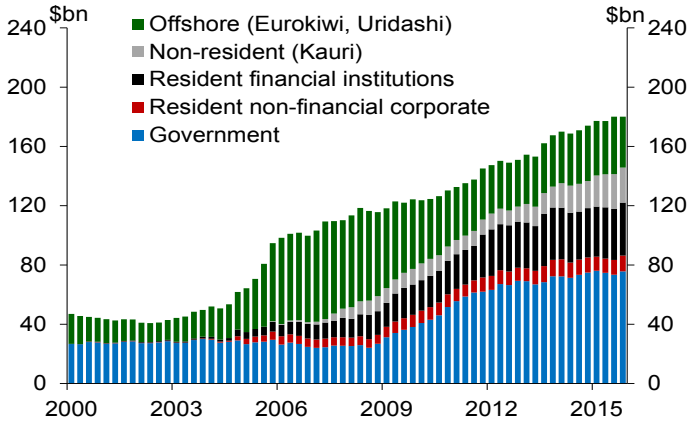
The onshore corporate bond market is expanding.

The outstanding stock of bonds denominated in NZD has continued to increase in recent years (figure 3.14). While gradual growth in offshore issuance has contributed, the onshore market has become an increasingly significant driver. In particular, the stock of Kauri bonds outstanding – NZD-denominated bonds issued onshore by non-residents – has increased from $10 billion to $24 billion over the past three years. By increasing the availability of foreign currency swap counterparties, this is helping to lower the price at which New Zealand banks can hedge their exchange rate risk.

Issuance in the domestic corporate bond market has been supported by higher domestic saving and a lower cost of borrowing relative to international markets. Development of the domestic bond market supports financial stability by providing more diversified funding sources for banks and corporates. However, the market remains small by

international standards, with only $11 billion and $36 billion of resident non-financial corporate and financial corporate bonds outstanding, respectively.

Figure 3.14
NZD bonds outstanding by issuer type and residence



Source: RBNZ, BIS.

Note: Onshore unless otherwise specified.

Chapter 4
Financial risks to the New Zealand economy

Annual house price inflation in Auckland has eased since September, in part due to policy changes implemented in late 2015. However, Auckland house prices remain elevated relative to fundamentals and recent data suggest market pressures may again be increasing. House price inflation has increased outside Auckland which, if sustained, could pose a risk to financial stability. Alongside rising house prices, higher household credit growth has pushed the household debt-to-income ratio to new highs, leaving the household sector vulnerable to a deterioration in economic conditions or an increase in interest rates.

Milk prices remain low, with a third consecutive season of weak incomes for dairy farmers looking increasingly likely. Working capital borrowing is expected to increase further, exacerbating the risks associated with elevated dairy sector debt levels. Banks will have to manage the risks associated with their dairy lending and are expected to adequately provision for potential losses. Stress tests indicate that the banking system would be resilient to dairy loan losses, even in severe hypothetical cases in which dairy payouts remain low for several more seasons.

Commercial property prices continue to rise and the risk of a correction may be increasing. Prices relative to rents have returned to pre-GFC peaks and significant development activity could create oversupply in some markets in coming years.

Households

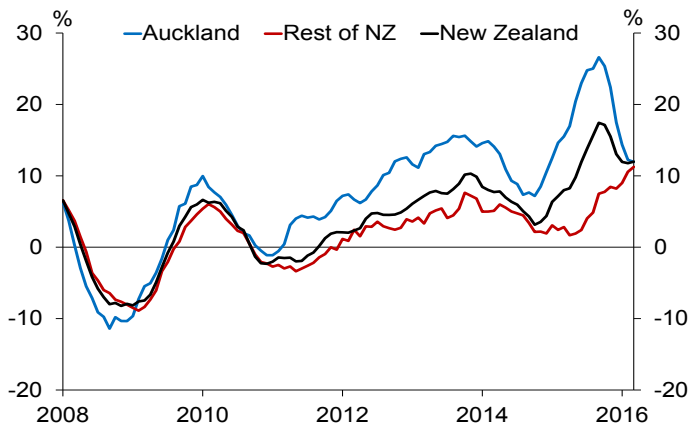
Growth in Auckland house prices has slowed...

House price inflation has slowed since the November *Report* but remains high. Nationwide prices grew at an annual rate of 12 percent in the year to March, down from 17.4 percent in September (figure 4.1). This reflects a decline in Auckland house price inflation to 11.9 percent from 26.6 percent in September. By contrast, annual house price growth in the rest of New Zealand has increased to 11.2 percent from 7.5 percent over the same period.

...in part due to recent policy changes...

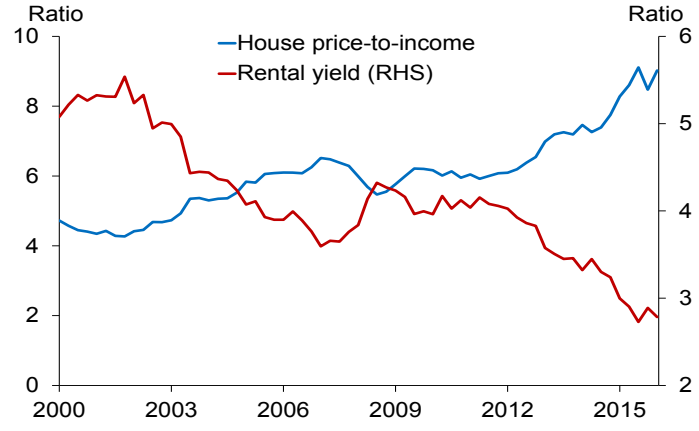
A range of factors contributed to the slowdown in Auckland house price growth. In November 2015, the Reserve Bank implemented a policy allowing no more than 5 percent of Auckland investor lending by registered banks to be at an LVR exceeding 70 percent (see box A). This policy appears to have taken some heat out of the Auckland market, partly by shifting investor demand towards surrounding regions.

Figure 4.1
Annual house price inflation
(3-month moving average)



Source: REINZ.

Figure 4.2
Auckland house price-to-income ratio and rental yield



Source: MBIE, REINZ, Statistics New Zealand, RBNZ calculations.

Note: Income refers to mean annual before-tax household income from all sources. Rental yield is based on the mean rent.

The Government also introduced housing market policy changes in October 2015, including a requirement for buyers and sellers to provide IRD numbers, and a 'bright line' test for taxation of capital gains when a property is sold within two years of purchase. These changes likely contributed to the decline in nationwide investor activity in late 2015, helping to reduce housing market pressures.

The slowdown may also reflect a reduction in buyer demand due to increasing housing affordability constraints. The house price-to-income ratio in Auckland currently exceeds 9 (figure 4.2), which is elevated by historical and international standards. In addition, Auckland rents have been growing at a slower rate than house prices for several years, with the rental yield falling below 3 percent in 2015.

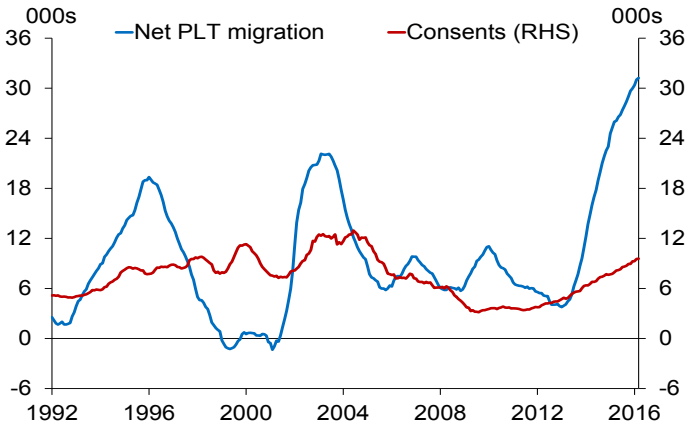
...but pressures may be returning to the market.

Although Auckland house price inflation has fallen significantly from September 2015 levels, annual house price inflation remains elevated and near-term indicators suggest that market pressures may again be increasing. Auckland house prices picked up strongly in the February and March months and house sales have lifted from recent lows. Market participants also report an increase in auction clearance rates relative to late 2015 levels.

There remains a risk that continued market pressures lead to further stretch in house prices. The shortfall of available housing stock is expected to increase this year as population growth outstrips the supply of new housing. Net migration into Auckland remains strong, with more than 30,000 migrants moving to the city in the year to March (figure 4.3). Although building consents have also risen, to 9,600 annually, the supply

of new housing is insufficient to match the increase in demand arising from migration and natural population growth.

Figure 4.3 Auckland migration and consent issuance *(annual total)*



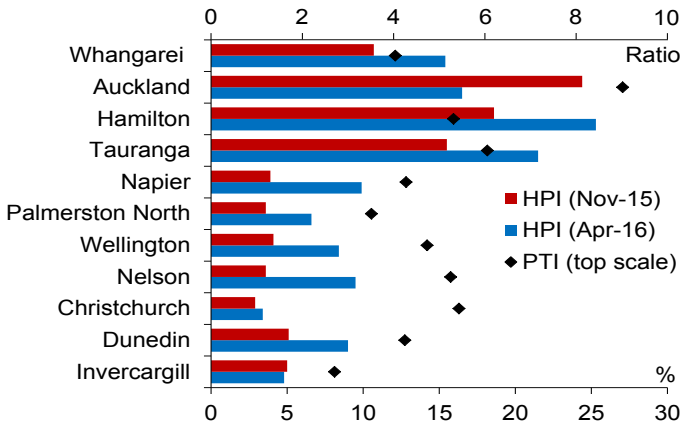
Source: Statistics New Zealand.

Demand for Auckland housing may also pick up as investors adapt to the Government's housing-related measures. For example, investors may shift more towards a buy-to-hold investment strategy in response to the 'bright line' test and foreign investors are expected to become more willing and able to comply with the requirement to have an IRD number. Low mortgage rates will also continue to boost demand for houses.

House price growth has spread to other regions...

Outside Auckland, house price inflation has picked up significantly since the middle of 2015. This has been particularly pronounced in the areas immediately surrounding Auckland, with house prices in Hamilton and Tauranga now increasing more rapidly than in Auckland (figure 4.4). However, price pressures are also spreading to the rest of the country, with most major centres now experiencing annual house price inflation in excess of 8 percent.

Figure 4.4 House price inflation and price-to-income ratios by urban area



Source: CoreLogic NZ, REINZ, Statistics New Zealand.

Note: House price inflation (HPI) is measured using CoreLogic data, which give slightly different rates to REINZ data presented in figure 4.1. Price-to-income (PTI) is a three-month average.

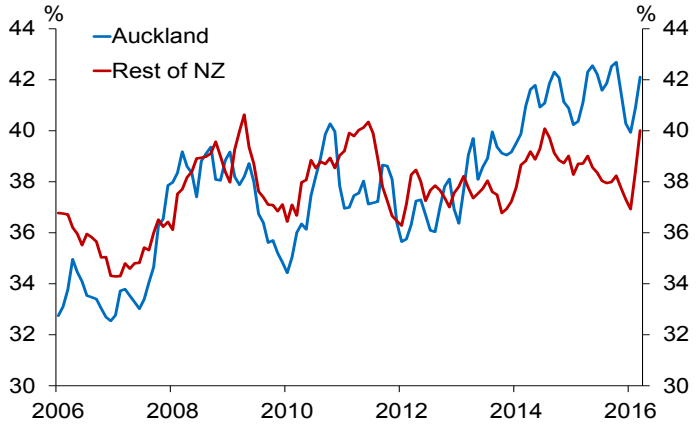
Strength in house prices in these regions partly reflects a shifting of demand, which may be relieving some pressure from the Auckland market. House prices outside Auckland are also growing from a lower base which, to some extent, makes the recent increases less concerning. Moreover, housing supply is likely to be more responsive to demand in these regions due to greater availability of undeveloped sections, which should help to limit further house price inflation. For example, in Tauranga, building consents were issued for more than 1,500 new dwellings in the year to March 2016, close to double the average of the past five years.

...which could present a risk to financial stability.

However, continued house price growth in excess of income growth could present a risk to financial stability as household balance sheets

of new borrowers become increasingly stretched. Concerns would be raised if high house price inflation was sustained across New Zealand, or if price growth was accompanied by rising investor activity and expectations of significant future capital gains. Investor activity outside Auckland has picked up recently after a period of decline (figure 4.5).

Figure 4.5 Investor purchase share by region

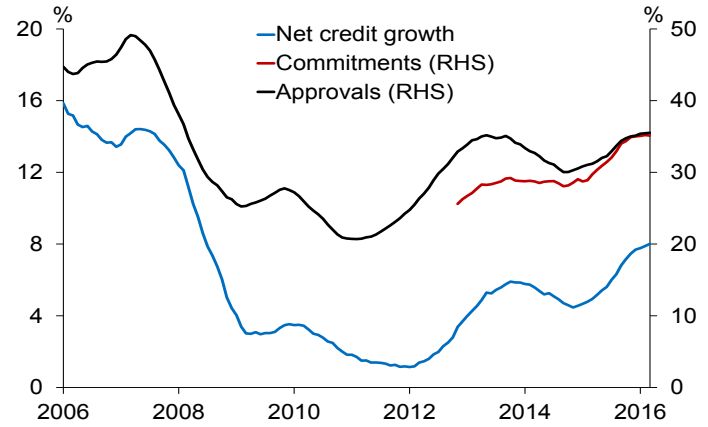


Source: CoreLogic NZ.

Housing credit growth is strong…

Housing credit has continued to grow rapidly with growth of 8 percent in the year to March, the highest rate since 2008 (figure 4.6). This comes despite strong rates of excess principal repayment. New housing commitments are also elevated at around 35 percent of outstanding housing debt. This suggests that the characteristics of new commitments will be reflected relatively quickly in banks' overall portfolios. This increases the risks associated with the high share of lending being undertaken on interest-only terms or at high total debt-to-income multiples (see chapter 5).

Figure 4.6 Housing lending *(annual, % of housing debt)*



Source: RBNZ *Housing Approval Survey*, RBNZ *Standard Statistical Return* (SSR), RBNZ *New Residential Mortgage Commitments Survey.*

Note: Mortgage approvals are an approximation of actual mortgage origination trends.

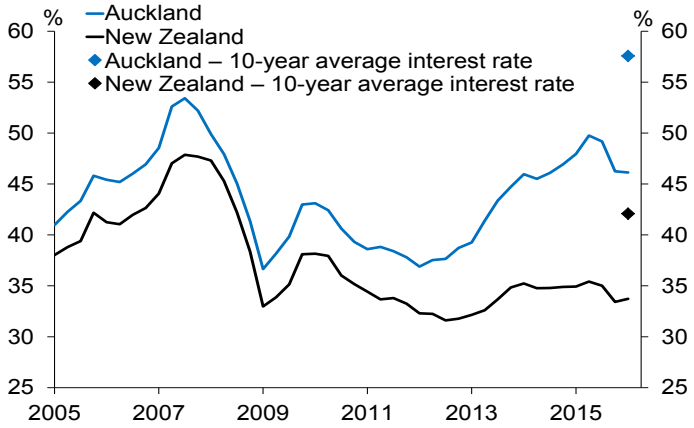
…and household debt is becoming increasingly elevated.

As a result of persistent credit growth in excess of income growth, the household debt-to-income ratio has grown steadily since 2012 and now exceeds the previous peak reached during the GFC. There is a risk that strong house price growth could result in a further stretch in household debt-to-income.

While low interest rates have helped to contain debt-servicing ratios (DSRs) for New Zealand as a whole (figure 4.7), high and rising debt levels leave households vulnerable to an increase in mortgage rates or a deterioration in economic conditions. A large increase in mortgage rates is unlikely in the current global environment, barring a significant deterioration in the cost of bank funding. However, a relatively small increase in interest rates could place pressure on some borrowers, especially those with high debt-to-income ratios. This is particularly the case in Auckland, where DSRs for new buyers are elevated, even at

current low interest rates. If interest rates returned to the 10-year average of 6.7 percent, DSRs for the representative new buyer in Auckland would significantly exceed the pre-GFC peak.

Figure 4.7 Representative buyer DSRs



Source: Interest.co.nz, Statistics New Zealand, RBNZ *Household Assets and Liabilities*, RBNZ SSR.

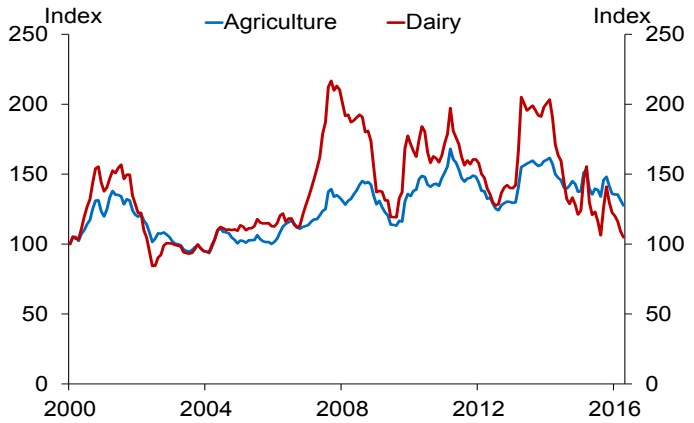
Note: The representative house buyer is assumed to have average income and purchase an average house with a 20 percent deposit.

Agriculture

Agricultural commodity prices remain weak...

Agricultural prices in New Zealand dollars have fallen almost 10 percent since November, largely on the basis of low milk prices (figure 4.8). Meat prices are forecast to remain at similar levels to last season in NZD terms, despite increased supply from China and the US.

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



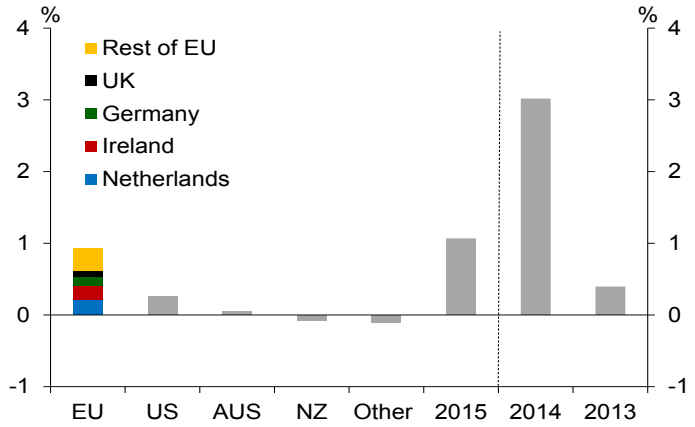
Source: ANZ.

...and dairy prices have continued to fall...

Despite a small recovery recently, global milk prices are lower than at the time of the last *Report*, as growth in global milk production has outstripped demand growth. On the supply side, milk production in the major producing countries increased by more than 1 percent in 2015, following strong global supply growth of more than 3 percent in 2014 (figure 4.9). European production accounted for much of the recent growth following the removal of European Union quotas on 1 April 2015. Production in New Zealand is estimated to have fallen by 3 percent on last season but the decline was smaller than expected.

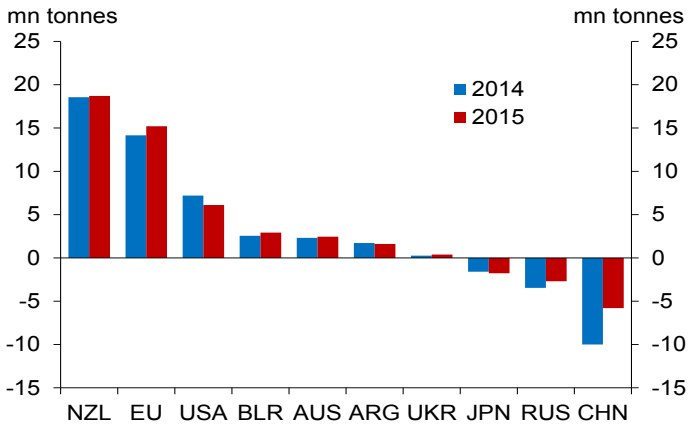
On the demand side, import demand was particularly subdued in Russia, which renewed sanctions on dairy imports in 2015, and China, which has been running down large dairy product inventories (figure 4.10). For example, China imported 40 percent less whole milk powder from New Zealand in 2015 relative to 2014.

Figure 4.9 Contributions to annual milk production growth



Source: CLAL, RBNZ calculations.

Figure 4.10 Global trade in dairy products *(million tonnes of LME)*



Source: CLAL, Food and Agricultural Organisation of the United Nations, RBNZ calculations.

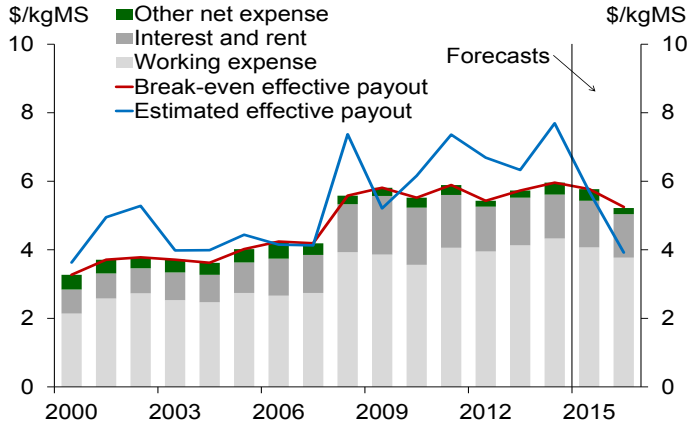
Notes: Trade is exports less imports and is defined in terms of liquid milk equivalent (LME). See spreadsheet for further details.

Looking ahead, global demand for milk imports is expected to increase as Chinese milk powder inventories diminish, the world population grows, and emerging markets develop. Despite this underlying projection for demand growth, some analysts expect the supply and demand imbalance to remain during 2016. Global production is expected to continue growing, particularly in the European Union which increased support to farmers in March 2016, including a doubling of the amount of skim milk powder eligible for purchase at the minimum intervention price. There is potential for milk prices to recover somewhat in the second half of 2016 if US production falls in response to falling domestic prices.

...causing the dairy payout to remain below break even.

In March, Fonterra cut its forecast payout for the 2015-16 season to $4.30 per kilogram of milksolids (kgMS), including dividends. This is well below the estimated break-even payout of $5.25 for the average farm in the current season (figure 4.11). Given the outlook for global supply and demand, the effective payout may remain below break even into next season, resulting in a third consecutive season of negative cash flow for many farms.

Figure 4.11 Actual and break-even dairy farm payouts



Source: DairyNZ.

Note: The effective payout is based on Fonterra's farm gate milk price and dividend payments, and takes account of deferred payments and dairy levies.

Dairy farm borrowing has increased.

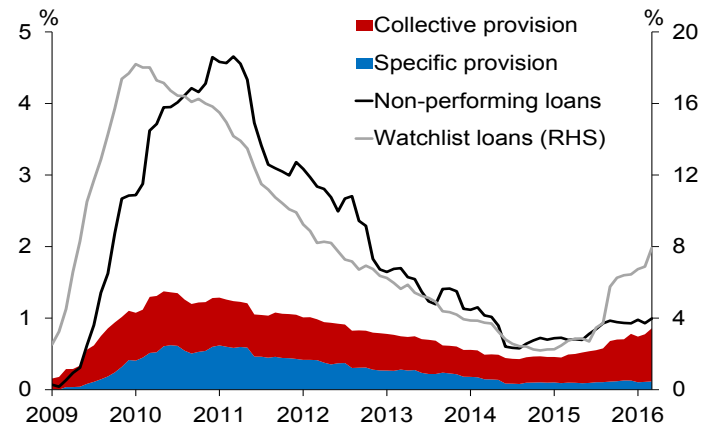
Fonterra has supported the dairy sector by providing farms with interest-free loans of up to 50 cents per kgMS of milk produced between June and December 2015. Fonterra also forecast an above average dividend of 40 cents for the 2015-16 season. These measures will reduce the financial strain on stressed dairy farms but increase Fonterra's debt, limiting the extent to which Fonterra can support the sector.

Notwithstanding the support provided by Fonterra, low milk prices have put the dairy sector under material stress. Bank lending to the dairy sector has increased by more than 9 percent in the year to March, as troubled farms have borrowed to meet working capital requirements. Debt relative to trend income has increased significantly, and is likely to exceed its previous peak of 350 percent if incomes remain subdued and indebtedness continues to rise.

Dairy sector borrowing is expected to increase in the coming months, as farm incomes fall during winter. The Reserve Bank expects banks to continue closely monitoring and managing risks on their dairy sector loan portfolio. It is possible that highly indebted farms with high break-even payouts may face tighter constraints on their borrowing capacity and pressure to reduce costs further. This could result in a sharp increase in non-performing and watchlist loans.

To date, problem loans have picked up modestly, but remain low relative to levels seen during the GFC (figure 4.12). Consistent with the expected pick-up in problem loans, internal bank metrics suggest that banks are now monitoring a larger number of dairy loans than those classified as non-performing or watchlist loans. Banks should be prepared to increase their provisioning against loans to the dairy sector to ensure that they are able to absorb potential losses. On the basis of recent Reserve Bank stress tests, it is likely that losses for the banking system would be manageable, even under a severe stress scenario for the dairy sector.

Figure 4.12 Dairy non-performing loans and provisions *(% of lending)*



Source: Based on private reporting data from 21 registered banks.

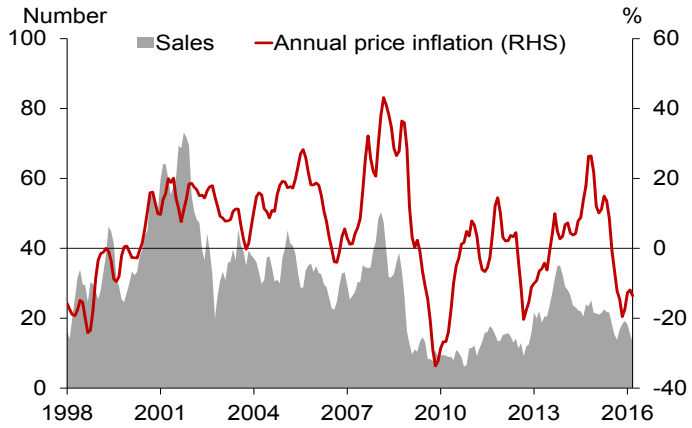
Note: Non-performing loans (NPLs) include impaired and 90-days past due assets. Watchlist loans are an internal bank metric which provide a leading indicator of NPLs, but are not consistently defined across banks.

Banks' assessment of the medium-term dairy payout, and the pace at which the payout returns to that level, will be key determinants of the resilience of the dairy sector. To date, banks have taken a positive view on future payouts but some bank analysts are now forecasting the 2016-17 season payout to be well below the average break-even payout.

If banks begin to take a more pessimistic view of the sector, they may force a larger number of troubled farms to be sold, which could create a negative feedback loop by reinforcing their pessimistic view. For example, in the most severe scenario in the recent Reserve Bank stress test of bank dairy portfolios (see table 2.1), banks reported that they expected to resolve around 25 percent of dairy loans through some form of forced sale procedure. Significant numbers of forced sales would place further downward pressure on farm values, which have fallen 13 percent

in the last year (figure 4.13). This is particularly the case as farm sale volumes are typically low, and demand for farms is likely to be weak due to poor farm incomes (see box B). In turn, lower farm collateral values would increase bank losses on problem dairy loans.

Figure 4.13 Dairy farm prices and sales volume *(3-month moving average)*



Source: REINZ.

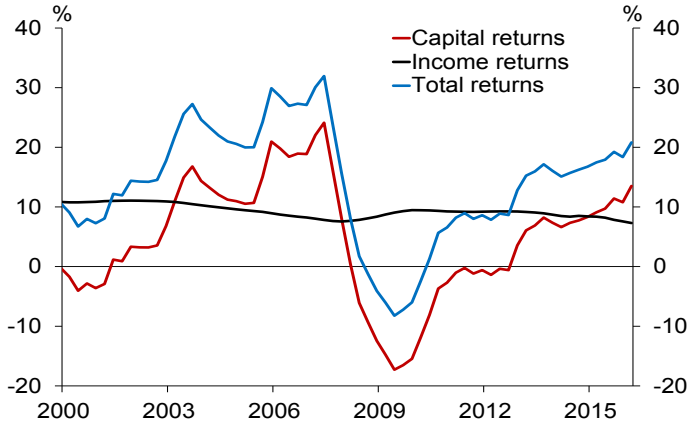
Note: Sales are seasonally adjusted.

Commercial property

Commercial property prices have continued to rise…

Commercial property prices continue to increase (figure 4.14), with growth spreading from the prime to the secondary sub-sector. Price growth has been driven by strong tenant demand pushing down vacancy rates, particularly in the retail sector, and investor demand attracted by the high return on commercial property relative to low global interest rates. This is consistent with the trend in commercial property markets internationally, where investors' search for yield has contributed to strong growth in capital values in a range of countries.

Figure 4.14 Annual returns on New Zealand commercial property



Source: JLL.

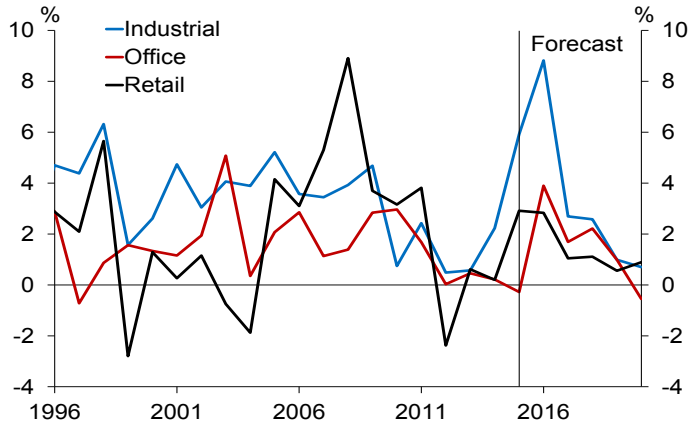
…but the risk of a downturn may be increasing.

Despite strong returns, the risk of a downturn may be increasing. Rising prices have driven the commercial property price-to-rent ratio back to pre-crisis highs. In line with rising prices, bank lending to the sector grew by 9.3 percent in the year to March 2016. Nevertheless, the sector's debt-to-income ratio remains relatively contained compared to levels reached during the GFC, helping to reduce financial stability risks.

Although vacancy rates continue to decline, particularly in the retail sector, a strong supply response is under way and rental growth is slowing (figure 4.15). Nearly 1 million square metres of commercial property space was developed in 2015, a threefold increase on 2014, and more than 1.5 million square metres is forecast for this year. The

expected increase in supply is particularly strong in the industrial sector, which is forecast to add nearly 9 percent to the existing stock in 2016 alone. This supply could exert significant downward pressure on prices when it comes on stream.

Figure 4.15 Supply pipeline by sector *(% of sectoral stock)*



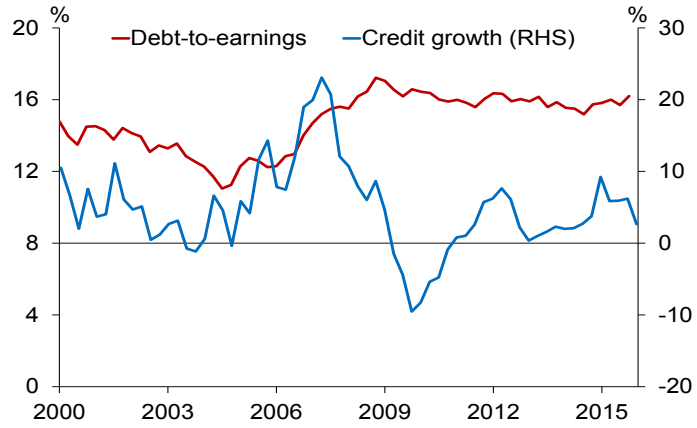
Source: JLL.

Non-property business

Business lending has grown modestly.

While lending growth has been strong in the commercial property sector, lending to non-property businesses increased by a relatively modest 2.7 percent in the year to March 2016 (figure 4.16). This follows the period after the GFC during which businesses reduced borrowing as profitability declined, investment activity fell and credit conditions tightened. Although credit availability has improved, credit growth to the non-property business sector remains subdued and the ratio of debt-to-earnings has remained broadly flat since 2009.

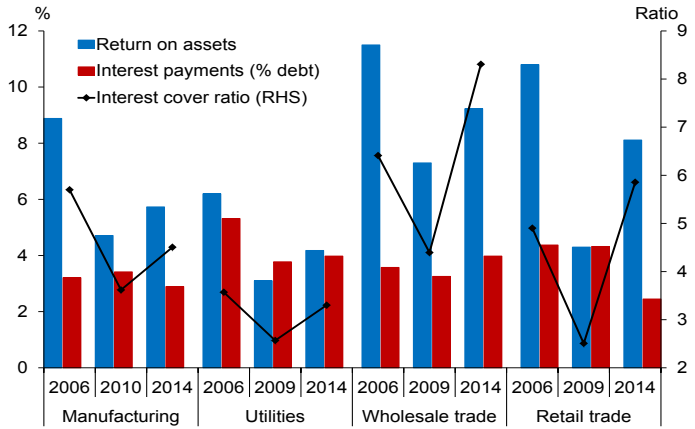
Figure 4.16 Non-property business credit growth and debt-to-earnings



Source: Statistics New Zealand, RBNZ SSR.

Low credit growth has persisted despite a strong recovery in profitability and a decline in interest rates since the GFC (figure 4.17), which has resulted in an improvement in interest cover ratios – the ratio of earnings to interest payments – across all key non-property business sectors. The lower debt service burden, and improved profitability more generally, suggest that the sector is in a stronger financial position to take on additional debt. Whether this causes business sector lending growth to increase will depend on the willingness of businesses to undertake capital investment funded with debt.

Figure 4.17 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 before interest and taxes to interest payments.

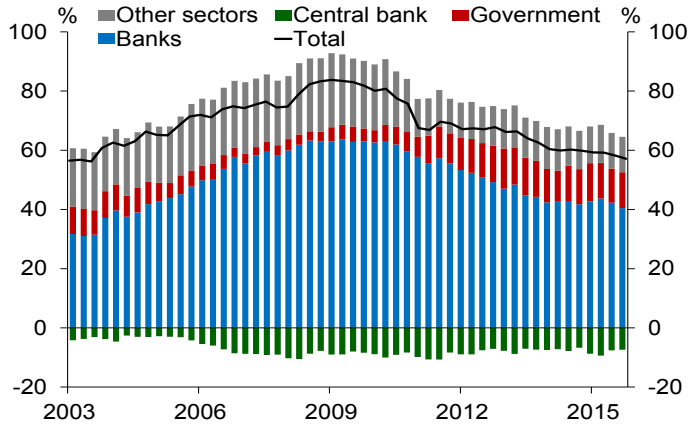
External sector

The risk associated with New Zealand's external liabilities continues to fall...

Countries with large current account deficits and external liabilities face risks to financial stability from the potential for a sudden stop in capital inflows. Stress in external financial markets could cause an abrupt and disorderly retraction in investment or consumption, as the cost of borrowing increases, or a sharp decline in the exchange rate. These risks are reduced for New Zealand by its stable political and economic environment, and the risks have declined in recent years.

New Zealand's annual current account deficit narrowed to 3.1 percent of GDP in December 2015, from 3.4 percent six months earlier, and remains well below levels seen prior to the GFC. New Zealand's net external debt, excluding equity and financial derivative liabilities, has fallen from 83 percent of GDP at end-2008 to 57 percent at end-2015 (figure 4.18). Over the same period, the composition of external liabilities has become more stable. The proportion of gross external liabilities provided in the form of equity or direct investment, which are more stable than short-term loans or deposits, increased from 36 percent to 41 percent, and the maturity of external debt liabilities increased.

Figure 4.18 Sectoral composition of net external debt *(% of GDP)*

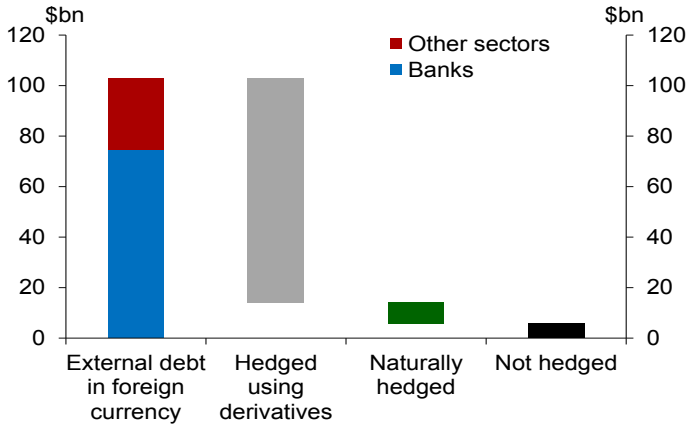


Source: Statistics New Zealand.

New Zealand's ability to repay external liabilities is also aided by lower global interest rates. New Zealand's external debt payments as a percentage of goods and services exports (the 'debt service ratio', a key indicator used by the IMF to assess a country's external debt burden) have fallen from more than 20 percent in 2008 to nearly 8 percent as at December 2015.

Furthermore, the ability to service foreign debt is largely protected from adverse exchange rate movements. The share of gross external debt denominated in New Zealand dollars has increased to 60 percent, from a low of 50 percent in 2008. Of the $103 billion of gross external debt denominated in foreign currency, most of which is attributable to banks, more than 90 percent is hedged using financial derivatives or is naturally hedged by borrowers receiving payments in the same currency as debt repayments (figure 4.19).

Figure 4.19 Hedging of gross external debt in foreign currency *(March 2015)*

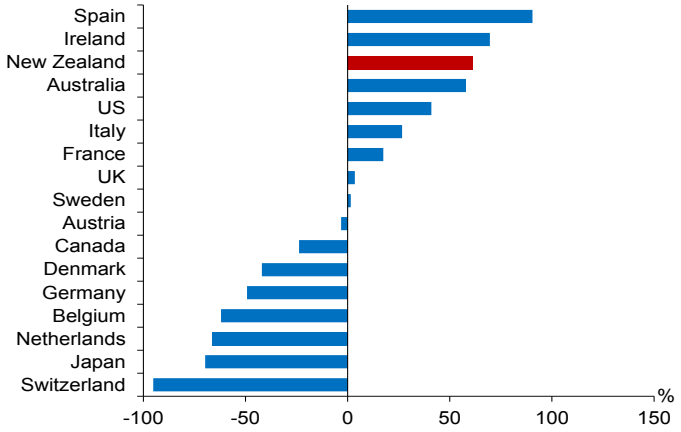


Source: Statistics New Zealand.

...but the external position remains large by international standards.

Despite the decline in New Zealand's current account deficit and net external liabilities, they remain high by international standards (figure 4.20). Although foreign investors are likely to continue viewing New Zealand as a relatively safe place for investment, there is a risk that heightened global market volatility could cause the inflow of foreign capital to decline.

Figure 4.20 Cross country net external liabilities *(% of GDP)*



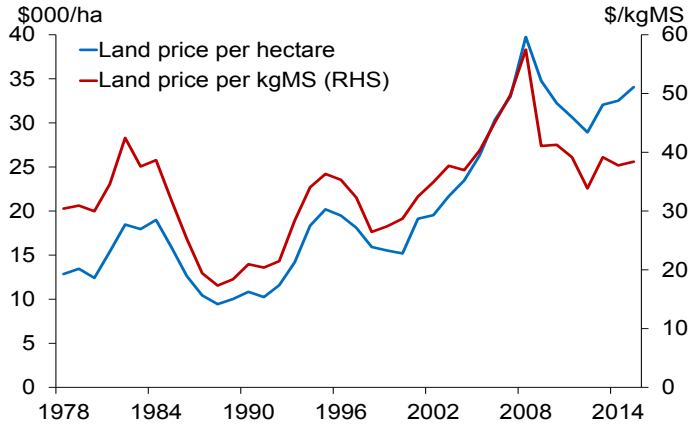
Source: Haver Analytics.

Box B

Dairy farm land valuation – an examination based on price multiples

Dairy farm land in New Zealand has historically experienced pronounced price cycles, with periods of market strength often followed by significant price corrections (figure B1). With dairy incomes remaining depressed for many seasons, there is concern that dairy land prices could decline sharply. This box examines the pricing of dairy farm land in a historical context to provide insight into current land values and the potential for prices to fall sharply.

Figure B1
Real dairy farm land prices
(2015 dollars)



Source: CoreLogic NZ, REINZ, Statistics New Zealand, RBNZ estimates.

Valuing farm land is an inherently complicated exercise as several factors may influence prices. For example, average dairy farm values are affected by the expected future profitability of the dairy operation, the value placed on nearby amenities and the option to convert the land to other agricultural or non-agricultural uses.[1] However, if the relationship between profitability and these factors remains stable through time, simple financial metrics can provide useful insight into relative valuation. This box makes use of two such metrics: the price-to-revenue (P/R) and price-to-earnings (P/E) ratios.[2]

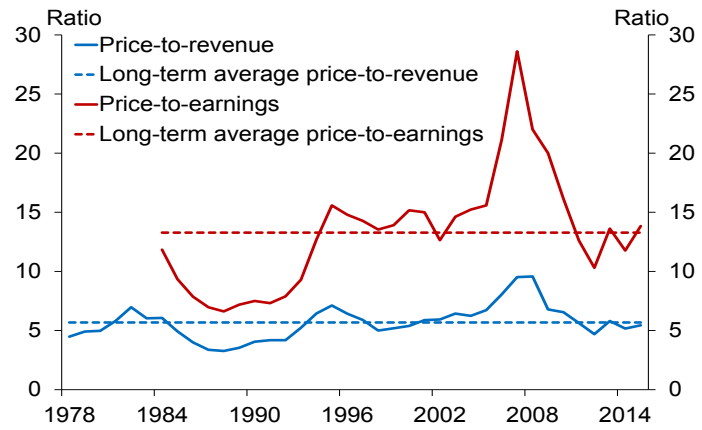
Figure B2 displays the historical relationship between dairy farm prices and revenues and earnings. Since 1978, prices have gone through three cycles, most notably the boom and bust centred on the GFC. Between 2002 and 2007, the P/E ratio increased from 13 to 29, implying a significant overvaluation relative to its long-term average. To justify such prices, profitability per hectare would have to almost double from its 2000-07 average and remain there in perpetuity. Profitability did rise significantly, with the 2008-15 average some 70 percent above 2000-07 levels. However, this was insufficient to prevent the 27 percent peak-to-trough fall in dairy farm prices per hectare, which saw the P/E ratio revert back to a more fairly valued level.

Table B1 summarises the results of the ratio analysis over the entire period since 1978. Periods in which both indicators imply relative overvaluation were typically followed by a fairly sharp decline in land prices. By contrast, prices did not fall following the 1998-2001 period, where only the P/E ratio implied a land price overvaluation. Importantly, neither indicator suggests that dairy farm land prices were overvalued going into the current period of sustained income weakness, helping to limit any subsequent decline. Although the P/R and P/E ratios are around

1 Allan and Kerr (2014) model farm land prices in an econometric framework that considers these factors. See Allan, C and S Kerr (2014) 'Examining the drivers of rural land values in New Zealand', *Motu Working Paper* (draft).

2 Hargreaves and McCarthy (2010) also consider the price-to-revenue ratio in the context of New Zealand dairy farm land valuation. See Hargreaves, B and I McCarthy (2010) 'Is New Zealand farm land worth what it will produce?', Paper presented at the 16th Pacific Rim Real Estate Society Conference, 25-27 January.

Figure B2
Dairy farm land prices to measures of fundamentals



Source: CoreLogic NZ, DairyNZ, LIC, MPI, REINZ, RBNZ estimates.

Note: Prices are annual averages. Revenues and earnings are five-year trailing averages.

Table B1
Summary of estimated overvaluation in the dairy farm land market

	Maximum overvaluation (*percent*)		Peak-to-trough change (*percent*)	
Period	*P/R*	*P/E*	*Price/ hectare*	*Price/ kgMS*
1981-1984	23	-	-50	-59
1994-1997	25	17	-17	-27
1998-2001	0	14	N/A	N/A
2004-2009	68	115	-27	-41

Source: CoreLogic NZ, DairyNZ, LIC, MPI, REINZ, RBNZ estimates.

Note: N/A indicates that prices did not fall in subsequent years.

fair value as of 2015, dairy farm incomes are low and there is clearly potential for dairy farm land prices to fall from 2015 levels.

It is difficult to gauge the extent to which prices could fall, particularly given the absence in recent history of similar sharp and protracted declines in incomes. However, insight can be gleaned through an adaptation of the price-to-earnings multiples applied above.[3] For the purpose of this exercise, the potential evolution of land prices is assessed under the stressed payouts used in the dairy portfolio stress tests (see table 2.1). Farm prices are assumed to be a function of the expected future profitability of using the land as a dairy farm. Two alternative approaches are adopted to estimate these expectations:

1. Approach 1 assumes that market participants have perfect foresight, with land prices estimated by multiplying long-term expected earnings under each scenario by the long-term average P/E ratio. Short-term overvaluation on the basis of backward-looking multiples would be unwound via a catching-up of earnings.

2. Approach 2 assumes that market participants are entirely backward-looking, with the dairy farm land price at any point in time inferred by multiplying a moving average of earnings over the previous five years by the long-term average P/E ratio.

While neither of these assumptions is likely to reflect the true expectations-formation process of market participants, the estimates from the two approaches should illustrate of the potential range for the farm price decline. Absent a marked deterioration in confidence or stressed sales, the estimate from approach 1 would be most appropriate.

3 While the price-to-revenue ratio offers a valuable longer-term historical perspective, it is less useful in a forward looking context given the changes in farm cost structures post-2000.

However, confidence effects due to low incomes and potential market illiquidity, if significant, could push prices towards the level implied by approach 2.

Table B2 presents the results of this analysis. Under scenario 1, the two approaches imply an estimated peak-to-trough price decline of 19 to 49 percent. This suggests that the price decline could be comparable to the 27 percent price decline experienced in the wake of the GFC. Similarly, the estimated fall in prices in scenario 2 is 31 to 64 percent. Given that stressed sales would likely be taking place in this scenario, an overshoot relative to the value implied by approach 1 might push the price decline beyond that assumed in the dairy portfolio stress test of 39 percent. A decline of a similar magnitude has occurred in recent history, when real prices per hectare fell by 50 percent following the removal of farm subsidies in the mid-1980s.

Table B2
Scenario analysis of dairy farm land prices
(per hectare, real % change, peak-to-trough)

Approach	Scenario 1	Scenario 2
Approach 1 – Perfect foresight	-19	-31
Approach 2 – Backward-looking	-49	-63

Source: RBNZ estimates.

The analysis above is, however, subject to a range of uncertainties. First, it assumes that the relationship between earnings and fair value is constant over time, which may not be the case, for example, if long-term discount rates vary significantly over time,[4] or if amenity and option values are weakly correlated with earnings. Second, the expectations-formation process of market participants and the extent to which stressed sales occur are highly uncertain.

These estimated declines in farm prices should also not be interpreted as central forecasts, with scenario 2 in particular reflecting more difficult conditions than suggested by the current market outlook. Recent sales in the dairy farm land market indicate a peak-to-current price decline of around 15 percent, broadly in line with the lower bound of the estimated range under the scenario 1 payout.

4 Preliminary work on a fundamentals-based model that accounts for changes in interest rates and leverage produces similar results.

Chapter 5
Financial institutions and infrastructure

The New Zealand banking system remains well capitalised relative to current regulatory requirements. The banking system also has liquid asset buffers and funding positions that exceed regulatory requirements, which are designed to enable banks to withstand temporary periods of stress. However, to accommodate current credit demand, issuance of long-term debt may need to increase to maintain current funding positions. Bank profitability remains strong but may come under pressure if higher funding costs compress net interest margins, or losses on dairy lending increase materially. It is important that banks manage risks relating to their dairy exposures and adequately provision for expected losses.

Global developments, including low interest rates and strong supply of reinsurance capital, continue to shape developments in the New Zealand insurance sector. The Reserve Bank is now receiving insurance sector data, which will provide insight into the sector and aid in the prudential supervision of insurers. There has been continued progress on claims related to the Canterbury earthquakes.

Banking sector

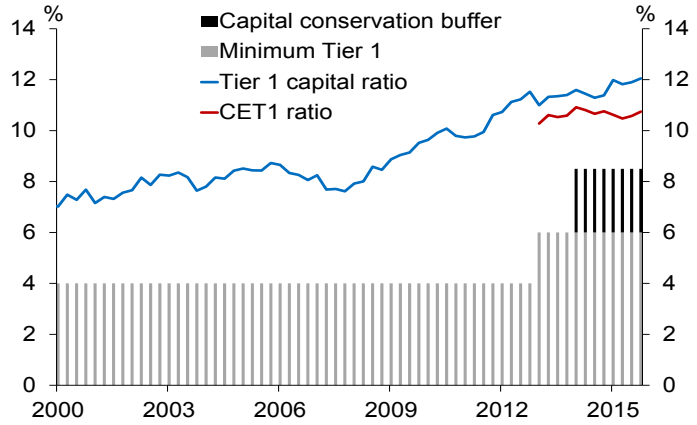
Bank capital ratios remain above current regulatory requirements...

Aggregate capital ratios of locally incorporated banks are stable at levels above current regulatory requirements and well in excess of levels seen prior to the GFC. The system-wide Common Equity Tier 1 (CET1) capital ratio was 10.7 percent of risk-weighted assets (RWA) at end-December 2015, and the Tier 1 capital ratio was 12 percent (figure 5.1).

All locally incorporated banks are operating with capital ratios above the regulatory requirements. The minimum requirements include a CET1 ratio of 4.5 percent and a Tier 1 ratio of 6 percent, that banks must meet at all times, and an additional 2.5 percent capital conservation buffer, which banks hold to absorb unexpected losses during periods of stress. Some of the major banks have increased their total capital ratios in the past six months by increasing their levels of CET1 capital (figure 5.2). This represents a reversal in the recent trend in the composition of capital

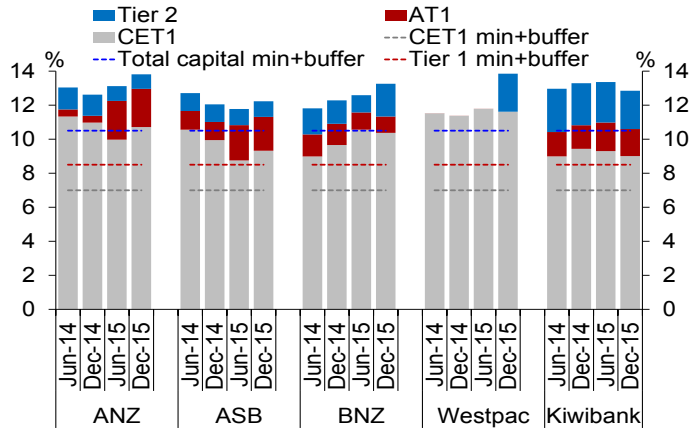
towards alternative Tier 1 (AT1) and Tier 2 capital. This is positive for financial stability as CET1 capital is the highest quality form of capital and can absorb losses on a going concern basis.

Figure 5.1 Regulatory capital ratios – locally incorporated banks *(% of RWA)*



Source: Registered banks' *Disclosure Statements*.

Figure 5.2 Regulatory capital ratios – large banks *(% of RWA)*



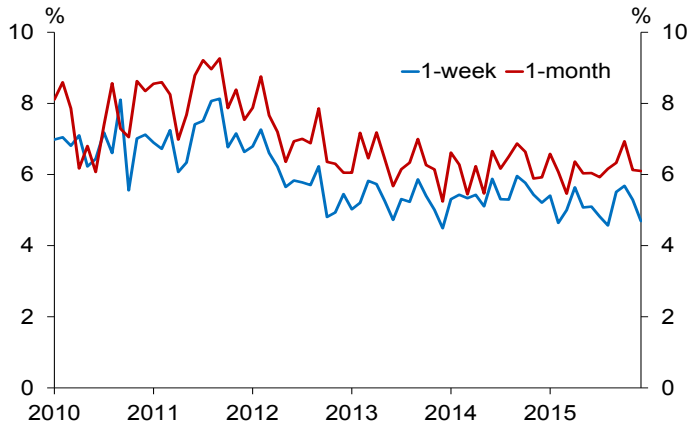
Source: Registered banks' *Disclosure Statements*.

Note: 'Buffer' refers to the 2.5 percent capital conservation buffer.

...as do liquid asset buffers...

To ensure that banks are resilient to a short-term loss of confidence or market disruption, the Reserve Bank requires individual banks to hold sufficient liquid assets to meet estimated net cash outflows during periods of stress.[1] This is measured using one-week and one-month mismatch ratios, which show the ratio of liquid assets and projected cash inflows to projected cash outflows during a stress period. These ratios have remained broadly stable for the banking system as a whole since the November *Report* and remain above the regulatory minimum of zero (figure 5.3).

Figure 5.3 Mismatch ratios



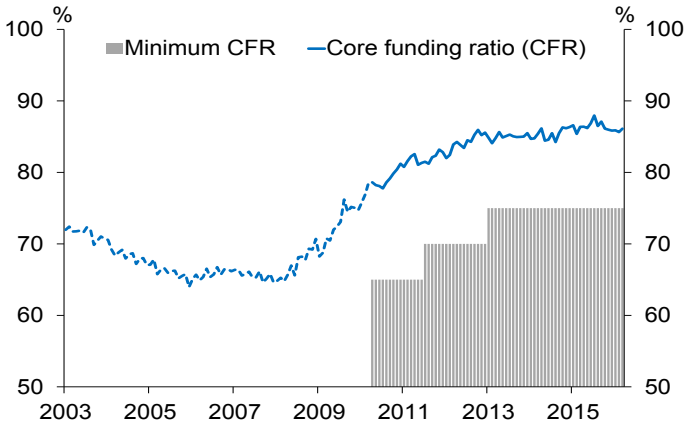
Source: RBNZ *Liquidity Survey*.

1 Assets are considered liquid assets if they can be sold at short notice with limited loss of value, such as government debt, residential mortgage backed securities and funds held with the Reserve Bank.

...and core funding ratios.

The Reserve Bank also requires banks to meet a minimum core funding ratio (CFR) to ensure that they have sufficient stable funding ('core funding') to meet the funding needs of their core lending business. The CFR requires individual banks to have at least 75 percent of their loan portfolio financed using core funding. This is designed to reduce the vulnerability of banks to a period of market disruption or loss of confidence, by limiting their reliance on short-term funding, which would be difficult or costly to roll over during a stress event. The CFR for the banking system as a whole was 86 percent in March 2016, well above estimated pre-GFC levels and in excess of the regulatory minimum (figure 5.4).

Figure 5.4 Banking system core funding *(% of loans and advances)*



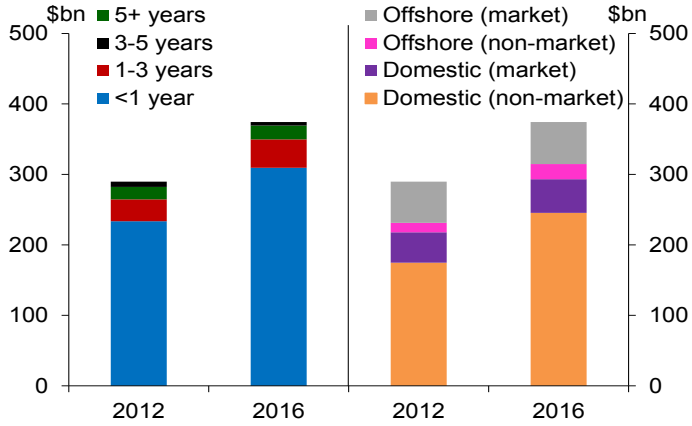
Source: RBNZ *Liquidity Survey*, RBNZ *Standard Statistical Return* (SSR).

Note: The dotted line for the CFR is an approximation based on SSR data.

Issuance of long-term funding may need to rise to maintain the current CFR...

Until recently, bank CFRs have been supported by deposit growth outpacing lending growth; particularly as the majority of growth has been in deposits of less than $5 million, which are considered to be largely stable when calculating the CFR (see box D for a discussion of the underlying drivers of strong deposit growth in recent years). This has resulted in banks reducing their reliance on wholesale (market) funding (figure 5.5).

Figure 5.5 Maturity and type of bank funding *(March years)*

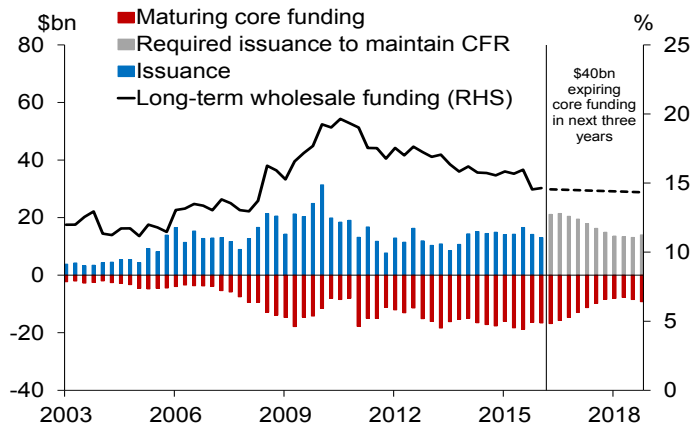


Source: RBNZ *Liquidity Survey*.

Currently, however, bank lending is growing more rapidly than deposits. If this trend is maintained, banks may lower their CFRs from current levels. Alternatively, banks may choose to protect their CFRs by issuing long-term wholesale funding to fund new lending and to replace long-term funding as it approaches maturity. It is estimated that locally incorporated banks will need to issue around $40 billion of long-term wholesale funding in the next three years to maintain CFRs if lending and deposit

growth persist at current rates (figure 5.6). Banks could also maintain their current CFRs by competing more aggressively for deposit funding, or by reducing the rate of lending growth.

Figure 5.6 Issuance and expiry of core funding *(12-month rolling total)*



Source: Bloomberg, RBNZ *Liquidity Survey*, RBNZ SSR, RBNZ calculations.

Note: Dashed line refers to wholesale funding share of lending consistent with issuance of wholesale funding at the level required to maintain the current CFR. It assumes that banks maintain their current CFRs, banks' Tier 1 capital grows in line with loans and advances, and bank lending and deposits continue to grow at their current rates. See spreadsheet for further details.

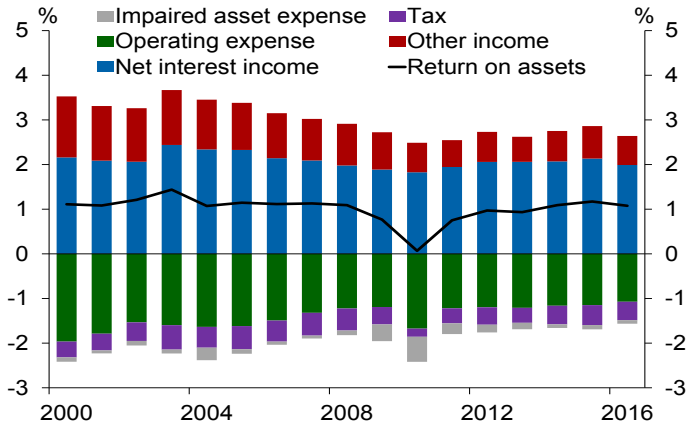
...and due to changes to Australian bank regulation.

Funding pressures for the Australian-owned New Zealand banks may also be exacerbated by changes to requirements imposed on parent banks under APRA's Prudential Standard APS 222, of which banks were informed in late-2015. These changes give Australian parent banks five years from the start of 2016 to reduce non-capital exposures to their New Zealand operations to less than 5 percent of Tier 1 capital. In addition, banks that had non-capital exposures to their New Zealand operations in excess of the 5 percent limit at end-June 2015 must reduce the percentage excess by at least one-fifth each year over the five-year transition period. The Reserve Bank understands that the affected New Zealand banks have plans in place to accommodate these new requirements and transitional arrangements.

Bank profitability remains strong...

New Zealand banks remain profitable relative to comparable banking systems. After-tax profits increased 1.4 percent in the year to March 2016. While strong asset growth has resulted in a lower return on assets, it remains relatively high at more than 1 percent (figure 5.7). Strong profitability provides a buffer against the risks outlined in this *Report*, as it provides significant loss-absorbency during periods of stress.

Figure 5.7 New Zealand bank profitability *(% of total assets, March years)*



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

High profitability partly reflects the cost efficiencies in the sector and strong net interest margins (NIMs). Banks' operating costs as a proportion of total income have declined steadily since the mid-1990s to a level that is now considerably below most advanced economy banking systems.

...but net interest margin has fallen.

The banking system's core deposit and lending business continues to be profitable, with the aggregate NIM remaining fairly stable since the GFC, at around 2.2 percent (figure 5.8), albeit below the high levels seen in the early 2000s.

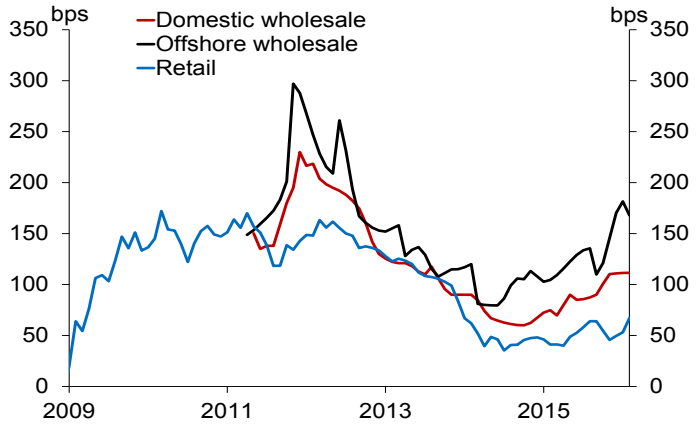
Figure 5.8
Retail banks' net interest margin
(annualised quarterly)

Source: Registered banks' *Disclosure Statements*.

Note: Net interest margin is net interest income relative to interest-earning assets.

Banks earn a NIM by lending to customers at higher interest rates than the banks themselves pay when borrowing from depositors or in wholesale funding markets. In 2015, the banking system's NIM was affected by rising funding spreads (figure 5.9). The cost of raising funds in offshore wholesale markets relative to swap rates increased sharply in late-2015, as market sentiment deteriorated alongside increasing concerns regarding the global economic outlook, and the cost of hedging foreign borrowing into local currency increased. This has seen a corresponding but more muted increase in the cost of domestic wholesale funding. In addition, retail funding costs ticked up in the second half of 2015 as banks began to compete more aggressively for deposit funding.

Figure 5.9
Bank funding costs
(spread to swap rates)

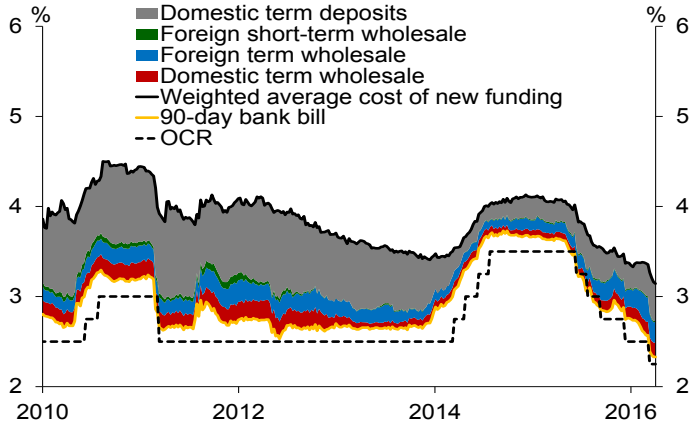


Source: RBNZ *Liquidity Survey*, RBNZ SSR.

Note: Wholesale spreads are a simple average of the landed cost of new issues by the four largest banks from the *Liquidity Survey*, at terms of between four and seven years. The spread between the average six-month deposit rate and the 180-day bank bill rate is the proxy for retail spreads.

The relatively higher cost of issuing wholesale funding or attracting new deposits has gradually increased banks' average funding spreads as they issue new loans and their existing funding matures (figure 5.10). Competition in the mortgage market has prevented banks from fully passing on these higher funding spreads, with the spread between mortgage rates and funding costs declining significantly in the latter half of 2015 (figure 5.11). More recently, banks have sought to protect their NIM and overall profitability by increasing lending margins, resulting in mortgage rates not falling in line with the Official Cash Rate (OCR) and swap rates. Nevertheless, margins on new lending remain relatively low by post-GFC standards.

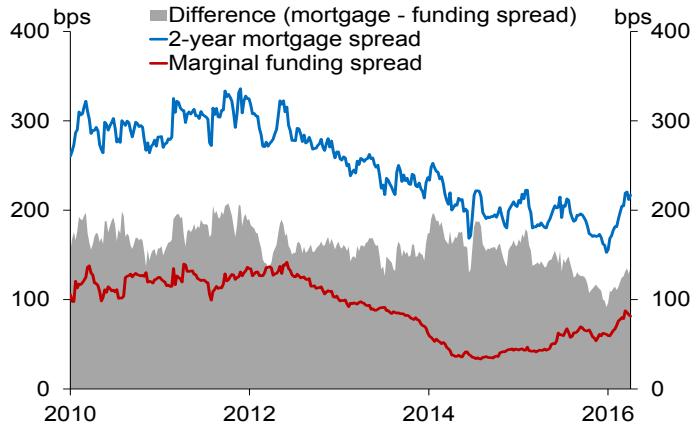
Figure 5.10 Bank marginal funding costs



Source: Bloomberg, RBNZ calculations.

Note: The shaded areas measure the contribution of each funding source to overall marginal funding costs.

Figure 5.11 Bank mortgage and funding spreads



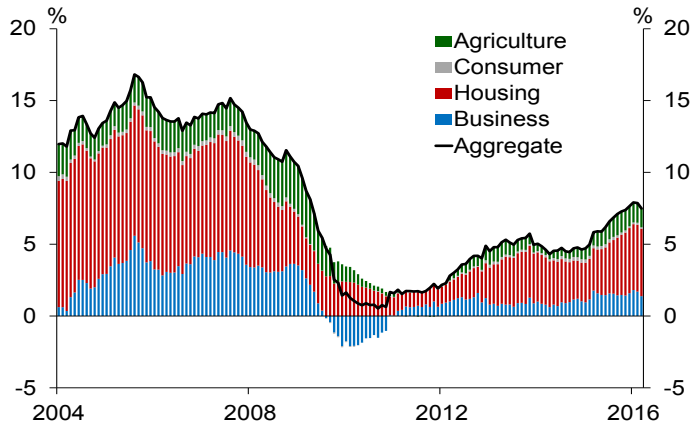
Source: Interest.co.nz, RBNZ SSR.

Note: 2-year mortgage spread is the 2-year mortgage rate less the 2-year swap rate. Marginal funding spread is the marginal funding cost estimate less the 90-day bank bill rate.

Bank lending growth has increased…

Bank lending growth has continued to increase since the last *Report*, expanding 7.5 percent in the 12 months to March 2016, with housing lending accounting for more than 60 percent of that growth (figure 5.12). Bank housing lending grew at 8.2 percent in the year to March, compared to 5.1 percent a year earlier, and may continue to increase given rising nationwide house price growth and falling mortgage rates. The low interest rate environment may also support higher growth in business and consumer lending. Business lending grew by 5.9 percent over the year, while consumer lending increased by a more modest 3.3 percent.

Figure 5.12 Sectoral contributions to bank lending growth



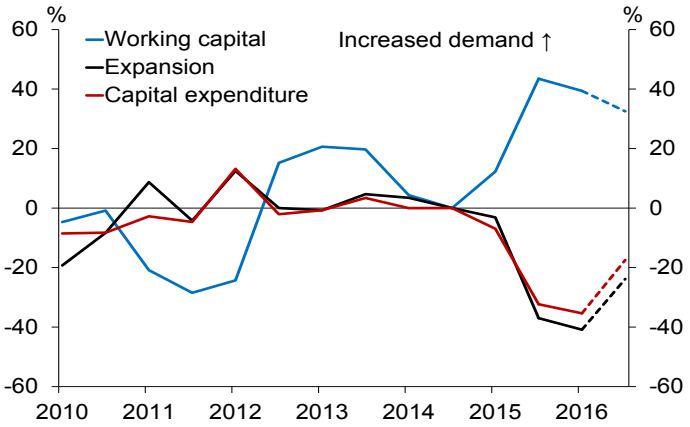
Source: RBNZ SSR.

…and high agricultural lending growth is likely to continue.

Annual growth in bank lending to the agricultural sector has stabilised at a high level in recent months, sitting at 8.3 percent in March. Strong agricultural lending growth is expected to continue given weakness in the dairy sector, which accounts for more than two-thirds of total agricultural

lending. Lending to the dairy sector grew at 9.1 percent in the year to March and is likely to continue growing rapidly as low milk prices increase the working capital borrowing needs of dairy farmers. Banks report that they expect demand for working capital borrowing to increase over the next six months, consistent with the low cash flow period over winter (figure 5.13). Sustained cash flow pressures are also expected to see a further reduction in demand for borrowing to fund capital expenditures and expansion.

Figure 5.13 Demand for bank lending by the agriculture sector *(net percentage)*



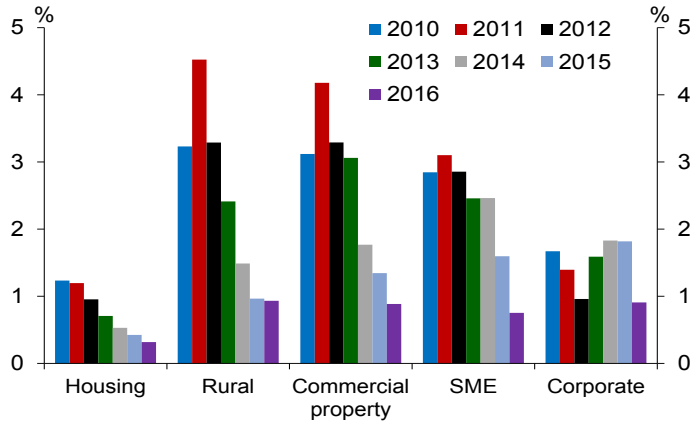
Source: RBNZ *Credit Conditions Survey*.

Note: Net percentage is the percentage of respondents reporting an increase in demand minus the percentage reporting a decline. Individual bank responses are weighted by market share. The dotted line is the expected change six months ahead.

Non-performing loans have continued to fall.

Total non-performing loans (NPLs) for the banking sector have continued to fall from their post-GFC peak of 2.2 percent in 2011 (figure 5.14). NPLs fell to $2.1 billion in March, representing around 0.5 percent of the total stock of lending. Falling NPLs were driven by declines in most sectors, reflecting the relatively strong domestic economic performance.

Figure 5.14 Sectoral non-performing loans *(% of sectoral lending, March years)*



Source: Based on private reporting data from 21 registered banks.

Note: Includes impaired and 90-days past due assets. Data are not standardised and definitions may vary across banks.

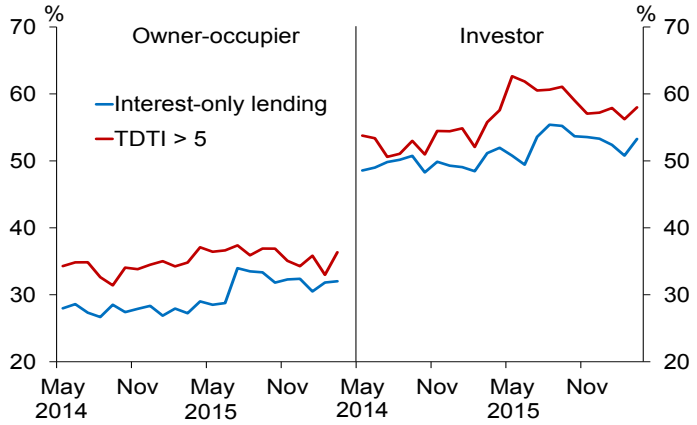
As discussed in chapter 4, however, NPLs in the dairy sector are expected to increase as farmers struggle under the pressure of low milk prices. As milk prices are currently below the average break-even price, and may remain depressed in future seasons, dairy NPLs could increase substantially.

The LVR policy continues to mitigate the risk of a housing market downturn.

The Reserve Bank's restrictions on high-LVR lending are designed to protect the banking system and households from a sharp downturn in the housing market. The policy has resulted in the stock of nationwide high-LVR lending declining from 21 percent in 2013 to 13 percent at end-2015 and appears to have taken some heat out of the Auckland market (see box A).

While the resilience of bank mortgage portfolios has increased following the implementation of LVR restrictions in October 2013, the relatively high share of interest-only and high total debt-to-income (TDTI) lending may have provided a partial offset (figure 5.15).[2] While the proportion of high-TDTI investor lending has remained flat in recent months, it is up 7 percentage points on July 2014 levels. The change in lending standards on owner-occupier lending is more mixed. The proportion of new owner-occupier lending at elevated TDTI ratios has declined slightly, but the proportion of interest-only lending has picked up from 2014 levels.

Figure 5.15 Interest-only and high-TDTI lending by borrower type *(% of borrower-type new lending)*

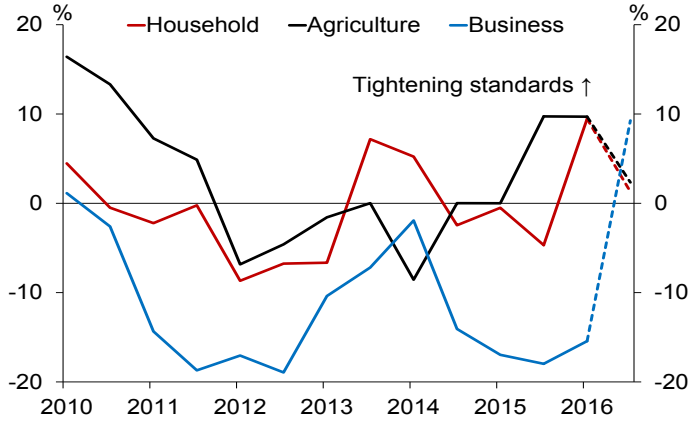


Source: Based on private reporting data from 21 registered banks.

Note: Interest-only and TDTI data are currently experimental, and are subject to revision. The Reserve Bank expects to begin regularly publishing data on interest-only mortgage lending around June.

Banks report a tightening in lending standards in the household and agriculture sectors since the November *Report* (figure 5.16), in line with the investor LVR policy and downward revisions to the dairy payout. At this stage, banks are signalling no further near-term tightening in either sector, and expect to continue to work with dairy farmers facing temporary cash flow pressures. In the business sector, strong price competition has seen a further loosening in lending standards, but low margins are expected to generate some tightening over the coming six months.

Figure 5.16 Change in bank lending standards *(net percentage)*



Source: RBNZ *Credit Conditions Survey*.

Note: Net percentage is the percentage of respondents reporting a tightening of lending standards minus the percentage reporting an easing. Individual bank responses are weighted by market share. The dotted line is the expected change six months ahead.

2 These types of loan are considered more risky because the value of interest-only loans do not diminish over time and borrowers of high-TDTI loans typically have less scope to draw on income to meet potential increases in mortgage payments.

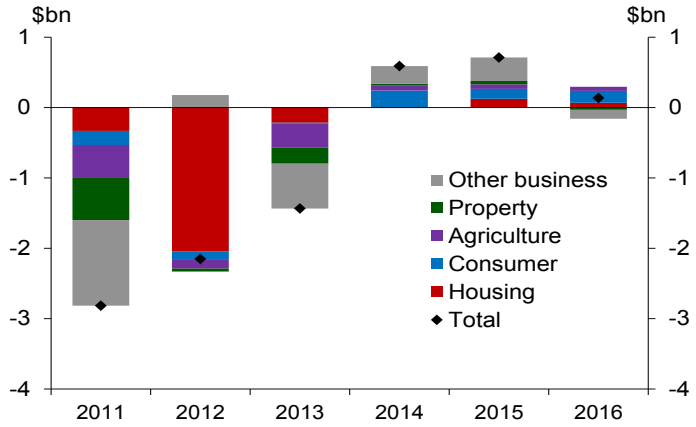
Non-bank lending institutions (NBLIs)

NBLI lending continues to grow from a low base.

Non-bank lending institutions (NBLIs) include non-bank deposit takers, such as credit unions, building societies and deposit-taking finance companies, and non-deposit taking finance companies. The NBLI sector provides a small amount of lending to New Zealand households and businesses, and accounts for around 2 percent of private sector credit.

Total lending by the NBLI sector has more than halved since the GFC, with total lending slightly over $11 billion at the end of 2015 compared to $23 billion at the end of 2007. The decline in housing-related lending was particularly pronounced, driven to a large extent by several NBLIs leaving the sector to become banks (figure 5.17). NBLI lending began to increase in 2014 and expanded by $136 million in the year to March 2016, with housing-related lending accounting for around $67 million of that increase (equal to annual growth of 7 percent). This increase is small by comparison to mortgage lending undertaken by banks, suggesting that there has not been material leakage from the LVR policy.

Figure 5.17 Annual change in NBLI lending by sector *(March 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 banks.

Insurance

Global trends continue to shape local developments.

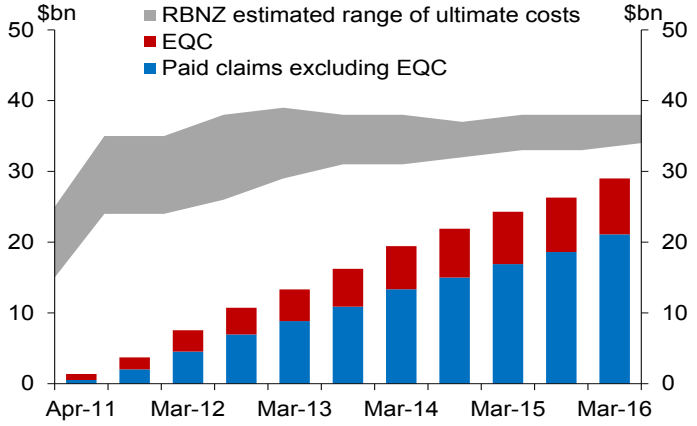
Global trends, such as low interest rates, a relatively benign period of catastrophe events, and a plentiful supply of reinsurance capital continue to shape local developments. Global factors have led to increased competition in some lines of non-life insurance business, notably commercial property. In response, insurers are seeking other ways to improve financial results, including through mergers and acquisitions to achieve greater scale and diversification. Examples of recent merger activity include IAG's consolidation of its brands AMI Insurance and Lumley General (NZ) Ltd under the IAG insurance licence, while Ace and Chubb, each separately licensed insurers in New Zealand, are now under common ownership.

Competitive pressures are also arising from developments in digital technologies such as new, smaller, players using new pricing models and distribution channels to compete with established insurers. This is prompting competitive responses from the larger insurers. Vero's partnership with Warehouse Money allowing customers to obtain quotes and buy online is one example of a new distribution arrangement being introduced by an established insurer.

Progress has continued on Canterbury earthquake claims.

As at 31 March 2016, insurers have paid $29 billion in Canterbury earthquake claims (figure 5.18). This compares to $26 billion at the time of the November *Report*. While estimates of the total costs are uncertain, due to the complex nature of remaining claims, the Reserve Bank now estimates these to be $34-38 billion. Paid claims to date therefore amount to around 76-85 percent of the ultimate costs.

Figure 5.18 Canterbury earthquake paid claims



Source: EQC, RBNZ.

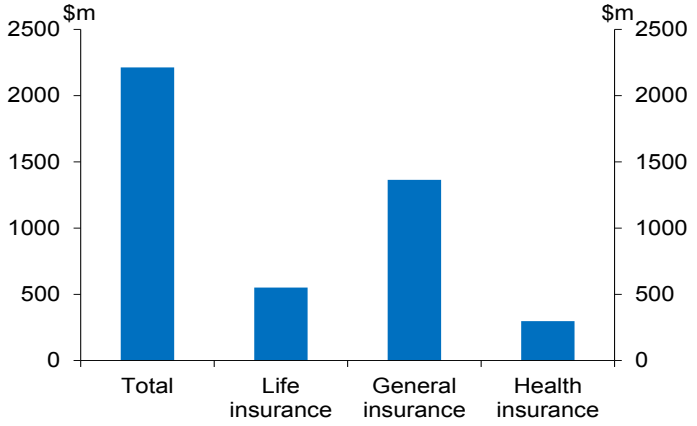
Note: Estimated range of ultimate costs does not include the full extent of potential costs of remediating faulty repairs/rebuilds, which are currently not well quantified.

Insurance sector data collection is progressing.

As noted in the November *Report*, the Reserve Bank is now receiving insurance sector data, with licensed insurers providing financial, solvency, and liquidity data. While the full range of data is not yet ready for use, available information from the *Quarterly Insurer Survey* can provide some insight into the composition of the New Zealand insurance sector.

Based on premium revenue earned in the December quarter of 2015, general insurance constitutes more than 60 percent of reported large private insurer business in New Zealand (figure 5.19), while life insurance and health insurance represent around 25 and 13 percent respectively. New Zealand's life insurance share of total insurance business is low by international standards, due in part to New Zealand's well-developed welfare system and the use of life insurance as a tax efficient savings vehicle in other jurisdictions. The Reserve Bank plans to report on further

Figure 5.19 Insurance policy and premium revenue earned by sub-sector ***(December 2015 quarter)***



Source: RBNZ *Quarterly Insurer Survey*.

Note: Data include the 30 largest licensed private insurers, excluding Lloyd's of London.

data in the November 2016 *Report*, and to eventually publish aggregate insurance sector statistics.

Financial market infrastructure

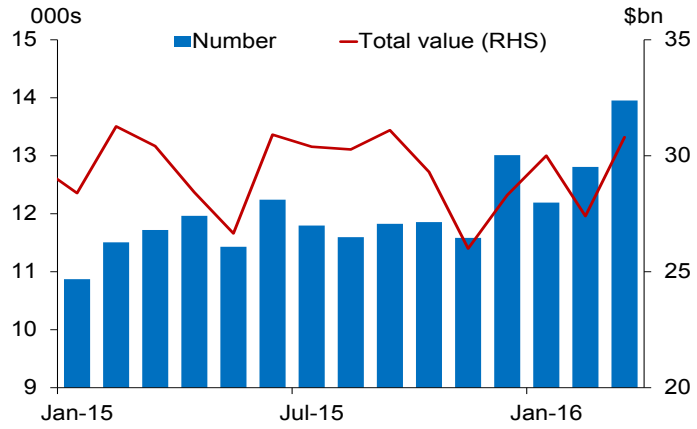
Payment and settlement systems have performed effectively.

Payment and settlement systems play a key role in the New Zealand financial system. Over the past six months the most important of those systems have continued to perform effectively, processing transactions without significant incident.

The Exchange Settlement Account System (ESAS) operated by the Reserve Bank is used to settle inter-bank New Zealand dollar transactions, including higher-value payments related to financial market transactions and the net value of retail payments. Given its importance to the financial system, ESAS must have the capacity to process all transactions submitted for settlement reliably. While the number of transactions processed in ESAS has increased modestly over the past year (figure 5.20), the number of transactions remains well within ESAS's capacity.

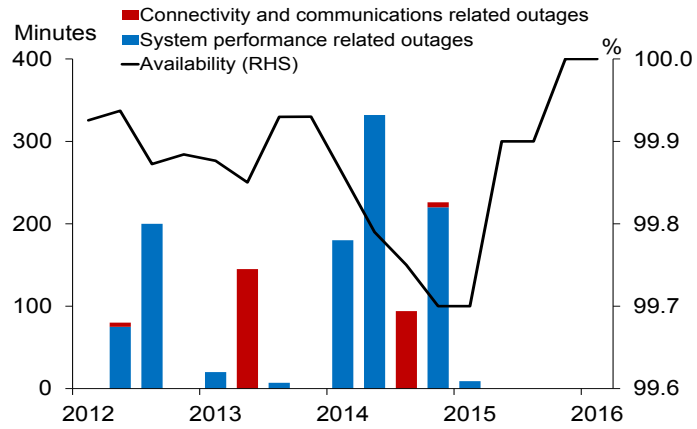
ESAS has also delivered the expected high degree of operational reliability in recent months (figure 5.21). On only one occasion was there a disruption to the normal operation of the system. On 4 April, although payments were still being settled, a system problem interrupted the delivery to participants of messages confirming settlement. Consequently banks did not know in a timely fashion when funds had been received. The Reserve Bank is investigating the cause of the problem and will take any necessary remedial action.

Figure 5.20 Average daily ESAS transactions



Source: RBNZ.

Figure 5.21 ESAS/NZClear availability and outages

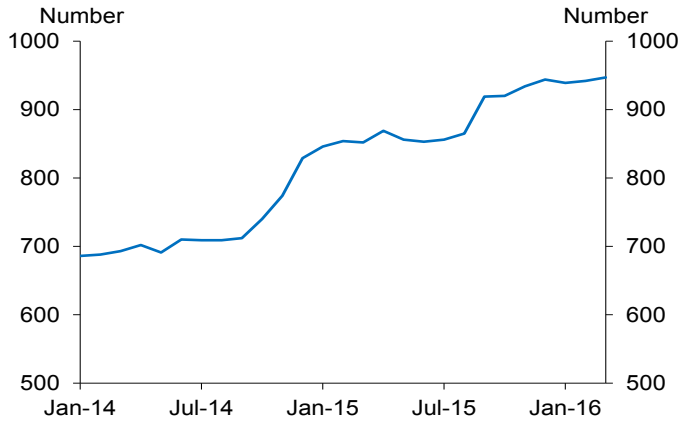


Source: RBNZ.

The pattern of retail payments is changing.

Although the exchange of the net value of retail payments between banks makes up only a small proportion of the total number of transactions settled in ESAS, the Reserve Bank has noted with interest the growing number of retail payment files being exchanged between banks using the Settlement Before Interchange (SBI) arrangements (figure 5.22). This suggests banks are exchanging files of retail transactions more frequently. Banks thus appear to be making progress on addressing the Reserve Bank's concerns about the length of time taken to settle transactions after a payment instruction is issued by a customer and the value of unsettled transactions at any point in time. The Reserve Bank has also expressed concern about the majority of retail payments being settled late in the banking day. The banks have agreed to address all three matters by the end of this year.

Figure 5.22 SBI-related transactions in ESAS *(average files per day)*



Source: RBNZ.

Reserve Bank to upgrade ESAS and NZClear.

The Reserve Bank has begun work on replacing the existing ESAS technology with the aim of ensuring that the system remains reliable and can accommodate future changes in the New Zealand payments landscape. Also, after a strategic review of its securities settlement system, NZClear, the Reserve Bank has decided to retain the NZClear business and to invest in a new platform to provide securities settlement and depository services. The replacement of both systems will represent a major technology project that will require careful management.

Co-operative oversight of cross-border financial market infrastructures.

Financial market infrastructures that are based in other countries and that operate across national borders play an important role in the New Zealand financial system. Where appropriate, the Reserve Bank participates in international co-operative oversight arrangements for such infrastructures. Co-operative arrangements help promote the safety and efficiency of cross-border FMIs by facilitating efficient and effective communication and consultation between interested authorities.

The Reserve Bank has been an active participant in the co-operative oversight arrangements for the CLS system (an international system for the settlement of foreign exchange transactions) since the New Zealand dollar became eligible for settlement in that system in 2004.

Recently, New Zealand banks have moved to centrally clear over-the-counter New Zealand dollar interest rate swaps through the SwapClear service operated by LCH.Clearnet Limited (LCH). The Reserve Bank's preliminary assessment is that LCH is a systemically important financial market infrastructure for New Zealand and the Reserve Bank has

therefore taken steps to become involved in the global supervisory arrangements for LCH co-ordinated by the Bank of England.

Major banks consider selling Paymark.

Paymark is the company that processes the majority of point of sale card transactions. Although the Reserve Bank does not currently consider Paymark to be systemically important, the company's system does play an important role in the retail sector. The Reserve Bank is therefore interested in the system's performance, risk management and governance arrangements. The Reserve Bank is watching developments as Paymark's existing shareholders (the four major banks) consider selling their shares.

Industry moves to facilitate wider direct participation in the payment system.

In the previous *Report*, the Reserve Bank encouraged Payments NZ Limited (PNZ) and its existing participants to address outstanding issues to facilitate wider direct participation in the New Zealand retail payment system. This work is consistent with the policy goal of promoting fair and open access to financial market infrastructures. The Reserve Bank welcomes the progress made since November, including the adoption by PNZ of revised access rules. Nevertheless, there remain issues to be resolved and the Reserve Bank will continue to monitor progress.

Box C

Results of the 2015 common scenario ICAAP stress test

Stress tests play two important roles in the Reserve Bank's prudential framework. First, stress tests help the Reserve Bank identify and assess risks to the financial system. Second, stress tests are used to identify and manage risks to individual institutions' capital and liquidity buffers. Individual institutions are expected to use stress tests to assess the viability of current business plans, including as part of their Internal Capital Adequacy Assessment Process (ICAAP). Stress test outcomes are also an important input into supervisory discussions with participating institutions.

In late 2015, the four largest banks in New Zealand participated in a common scenario ICAAP test. This test was a hybrid between an internal test (conducted regularly with each institution choosing their own scenarios) and a regulator-led stress test (occurring every 2-3 years with common scenarios and assumptions). Due to the use of a common scenario across banks, the results of the test provided insights for the financial system as a whole. However, the test featured less standardisation of methodology than a full regulator-led exercise. For example, there was no 'phase 2' where loss rates were standardised.

As with previous regulator-led tests, the stress scenario was a severe macroeconomic downturn. Over a three-year period, real GDP fell by 6 percent, unemployment rose to 13 percent, and dairy incomes remained at low levels. Residential property prices fell by 40 percent (with a more severe fall of 55 percent assumed for Auckland); and both commercial and rural property values fell by 40 percent. Finally, the 90-day interest rate fell by about 3 percentage points due to monetary policy easing, although banks typically assumed a partially offsetting increase in funding spreads above risk-free rates. Banks were asked to simulate the impact of this scenario on loan portfolio performance, and to trace through the implications for their balance sheet and profit and loss statement.

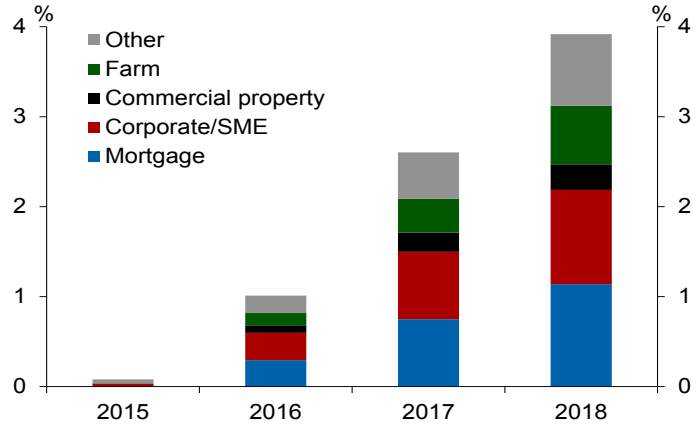
Banks reported a steady increase in bad debt expenses throughout the scenario, as would be expected under a severe economic contraction. This reflected a combination of deteriorating credit quality (increasing collective provisions) and rising defaults (increasing specific provisions). The cumulative hit to profits averaged around 4 percent of initial assets (figure C1), which is a similar outcome to phase 2 of the full regulator-led exercise conducted in late 2014.[1] About 30 percent of total losses were related to mortgage lending, with half of this due to the Auckland property market. SME and rural lending accounted for most of the remainder of financial system losses. Loss rates for mortgage lending were around 2 percent, significantly lower than the 5 percent loss rate observed for most other sectors.[2]

The underlying profitability of banks – earnings from core activities, prior to accounting for bad debt expenses – is a first line of defence against rising loan losses. On average, banks assumed a moderate decline in net interest margins during the scenario, reflecting rising defaults reducing interest income and the assumed increase in funding spreads. However, in line with the experience of the GFC, banks expect to be able to maintain net interest margins at around 2 percent by eventually passing on higher funding spreads to customers (rather than reducing

1 See box A from the November 2014 *Financial Stability Report*, http://www.rbnz.govt.nz/financial-stability/financial-stability-report/fsr2014-11/stress-tests-of-the-new-zealand-banking-system

2 Relatively low loss rates on mortgages are common in international crises, and the Reserve Bank considers them credible in this scenario. Because homeowners are personally liable for mortgages and lose their own home when in default, they generally keep servicing their mortgages if they can, even if they are in negative equity.

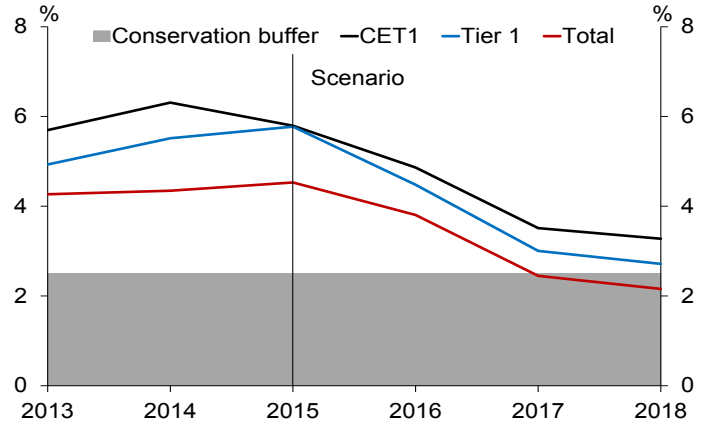
Figure C1
Cumulative bad debt expense
(% of initial assets)



Source: RBNZ.

Note: Other includes consumer lending, lending to financial institutions, and holdings of financial securities.

Figure C2
Capital ratios relative to respective minimum requirements
(% of risk-weighted assets)



Source: RBNZ.

mortgage rates by the same amount as the OCR). As a consequence, underlying earnings during the scenario were of a similar magnitude to reported credit losses, so that return on assets averaged around zero.

Although projected credit losses were largely absorbed with underlying profitability, capital ratios were expected to decline throughout the scenario. This reflected an increase in the average risk weight from around 50 to 70 percent, due to negative ratings migrations (rising probability of borrower defaults) and falling collateral values (rising losses given default). Although remaining well above the regulatory minimum, the average Common Equity Tier 1 (CET1) capital ratio declined from 10.3 to 8 percent as a result. The total capital ratio came under more pressure, due to smaller initial buffers to the regulatory minimum. As a result, the average bank reported falling into the upper end of the capital conservation buffer in the final year of the test, which would trigger restrictions on dividend payments to shareholders (figure C2). The results of the test suggest that individual institutions would remain well away from the point of economic failure. However, the results also suggest that the financial system would be far from fully functioning in a way that would support a swift economic recovery. The combined impact of bank responses to the scenario appears to risk a material worsening in the economic downturn, or to push the boundaries of realism:

- Deleveraging: Banks assumed that they could reduce credit exposures by around 11 percent (amounting to a decline of around 8 percent of nominal GDP over the scenario). While this could reflect a reduction in customer demand, there is a risk that such a sharp decline could be associated with a range of feedback effects not captured in the tests. For example, the associated increase in stressed sales and tightening in origination standards could further reduce prices and liquidity in property markets. Alternatively, less aggressive deleveraging would tend to lower reported capital ratios.

- Increased reliance on retail deposits: All banks assumed that they could achieve an increase in the proportion of funding sourced from retail deposits, with the average retail deposit share increasing from 62 to 70 percent. While this can be rationalised as a flight to safety in a crisis, a more limited availability of retail deposits is possible. For example, the scenario could generate concern among depositors about bank safety, or there could be more significant reductions in deposits associated with weak new lending activity. These alternative assumptions would increase the risk of a tightening in credit supply in the event that banks' ability to raise wholesale funding was impaired.
- Issuance of Tier 2 capital: All banks assumed that the market environment would allow them to issue new Tier 2 capital instruments, both to replace expiring instruments and to increase the total amount outstanding. In the scenario, this may not be plausible, particularly with most banks operating within their capital conservation buffer.

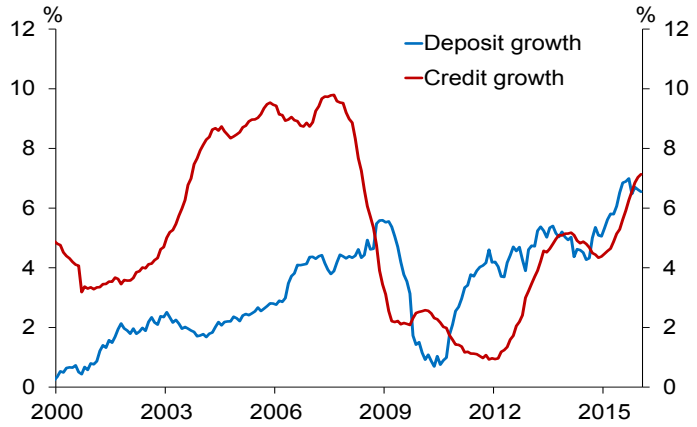
These issues highlight the significant uncertainties involved in assessing the implications of the stress scenario for the financial system as a whole. A careful consideration of recent stress test results will be an input into the upcoming review of bank capital requirements.

Box D

Recent developments in household deposits

Household deposits within the banking system have grown strongly since the GFC. In dollar terms, household deposit growth has outstripped household credit growth for most of the period since 2009 (figure D1), a key factor allowing banks to reduce their reliance on wholesale funding, particularly from offshore. With more recent data suggesting a reversal in this trend, this box examines the underlying drivers of strong household deposit growth post-crisis and considers whether banks may have to rely more heavily on alternative funding sources in the future.

Figure D1 Household credit and deposit growth *(% of GDP)*

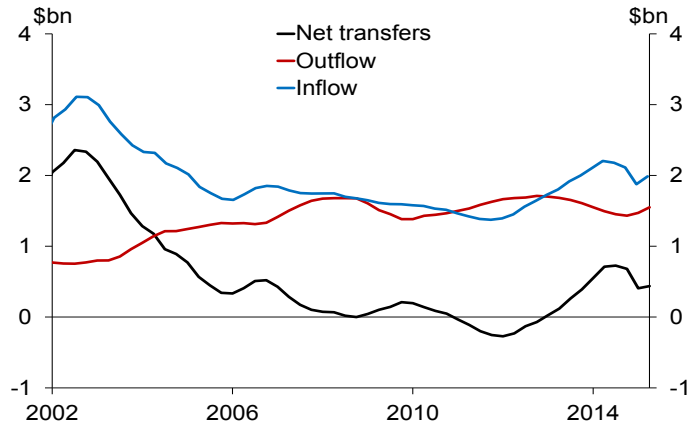


Source: Statistics New Zealand, RBNZ *Standard Statistical Return*.

Strong growth in household deposits is likely to occur when there is a rapid increase in the amount of money in an economy and households choose to hold their money in bank deposits. In a modern and open banking system, such as New Zealand's, money is created when commercial banks extend loans to customers, and credit their deposit accounts in return, and when money is transferred into the banking system from abroad.[1] Conversely, money is destroyed when households repay principal from a loan and when money is transferred abroad.

These factors have helped drive money creation in New Zealand in recent years. Household credit growth has been strong, partly due to high house price inflation, which generally causes households to borrow more heavily. In addition, net inward migration is at record levels, with over 67,000 more people moving to New Zealand than leaving in the year to March 2016. Statistics New Zealand estimates that over the past year, this net inflow of migrants has brought around $500 million into New Zealand (figure D2).

Figure D2 Migrant transfers *(annual total)*



Source: Statistics New Zealand.

This estimate, however, may understate the amount of funds that migrants bring to New Zealand. Survey data indicate that around one-third of migrants have assets of more than $100,000, some of which will remain offshore for some period as migrants typically shift their assets

1 Money can also be created in a number of other ways, such as banks purchasing government bonds or banks issuing debt or equity. For further discussion, see McLeay, M, A Radia and R Thomas (2014) 'Money creation in the modern economy', Bank of England *Quarterly Bulletin*.

to New Zealand gradually. Therefore, we expect the measured value of migrant transfers to increase over time, particularly since the strength in net migration is likely to persist, adding to the New Zealand deposit base.

Money created by credit growth and migrant transfers will typically enter the financial system in the form of bank deposits, but whether the money remains as a bank deposit depends on household behaviour. In recent years, households have consumed less of their income, with some of the increased saving remaining in banks as household deposits. When looking at the factors behind this trend, there is reason to believe it may continue for the near-term.

The 'baby boomer' generation is starting to enter retirement age, and some will be looking to trade down their family home for something smaller. The difference in price between properties bought and sold can result in a large bank deposit being created, especially for Auckland retirees downsizing outside the region. As 'baby boomers' are in or approaching retirement, it is likely that a proportion of the deposit generated will remain within the banking system rather than be quickly spent. This may partly explain strong growth in high value deposits recently. With the demographic effects well under way and house prices continuing to grow strongly, this trend suggests household deposit growth is set to continue.

Precautionary motives have also caused households to increase their saving rate. While some savers have chosen to save using bank deposits, it appears that a significant number of households have instead chosen to save by paying-down mortgage debts. This form of saving limits net credit growth, but has little impact on household deposits. Additional debt repayment is expected to continue while households remain cautious, for example due to weak commodity prices and low global growth, and interest rates are at low levels.

In addition, some households may have chosen to save using investment alternatives to bank deposits. Post-GFC, bank deposits appear to have been favoured over non-bank deposits and other investments due to their relative safety and increased household caution. But more recently, the value invested in domestic equities and other investment vehicles has increased, suggesting that households may be viewing them more favourably. Kiwisaver balances, for example, continue to increase as more people join the scheme. However, it is difficult to disentangle flows into these investments from revaluation effects (which can be large in the case of equity markets). Nevertheless, deposit growth could slow if risk appetite increases, or if financial market volatility subsides.

In summary, it appears that strong credit growth and net migration has increased the amount of money in the New Zealand economy, and is likely to continue to do so for the near future. This has helped generate strong growth in household deposits, as many households have chosen to use bank deposits to save part of their income or proceeds from house sales. But the flow of money into household deposits could reduce in the future, for example, if households' appetite for other savings instruments increases or inward migration falls.

It is uncertain how banks would respond to a decline in deposit growth. They could, for example, sustain the current growth rate in credit by becoming more reliant on less stable sources of funding, such as international wholesale funding, or they could reduce the supply of credit. The implications for the resilience of the banking system, and the macroeconomy, will depend on the response taken. The Reserve Bank will therefore continue to monitor the growth in household deposits and the potential impact on the banking sector.

Chapter 6
Key developments in financial sector regulation

Work continues on a broad range of policy initiatives. The Reserve Bank plans to shortly release a second consultation paper on changes to the outsourcing policy for registered banks. This policy aims to ensure that a bank is able to continue to provide basic banking services in the event of the failure of a service provider, or if the bank itself or its overseas parent fails. These policy changes have been designed to better align with the Open Bank Resolution policy.

The Reserve Bank will be consulting soon on a 'dashboard' approach to disclosure for locally owned banks. This approach is being designed to make quarterly disclosure more efficient for banks, while reinforcing market discipline through timely, standardised disclosure of key metrics. Work is also well advanced on a crisis management regime for systemically important financial market infrastructures.

6.1 Proposed changes to bank outsourcing policy

Current policy

The Reserve Bank's outsourcing policy regulates the use of external service providers by locally incorporated 'large banks'.[1] The objective of the policy is to ensure that a bank has the legal and practical ability to control and execute outsourced functions, such that it can continue to provide basic banking services (such as liquidity, payment and transaction services) if one of its service providers fails or becomes dysfunctional, or if the bank itself or an overseas parent of the bank fails. This is important to minimise the impact of such events on the wider economy, and to preserve options for the resolution of bank failures.

Reviewing the policy rationale

Last year, the Reserve Bank released a consultation paper proposing changes to the current policy. In 2014 the Reserve Bank undertook a stocktake of the operation of the outsourcing policy and found that the policy was not being consistently interpreted and applied by banks. Consequently, revisions to the policy are seeking to: 1) clarify the

1 Large banks are defined as those whose New Zealand liabilities, net of amounts due to related parties, exceed $10 billion.

outcomes sought by the policy; and 2) increase the Reserve Bank's engagement with banks on the policy and its outcomes.

When the policy was developed, the emphasis was on maintaining liquidity in the financial system if one of the largest banks, or a service provider to one of the largest banks, failed. Since that time, the Reserve Bank has introduced the Open Bank Resolution (OBR) policy which is intended to maintain, on an ongoing basis, the basic services of a failed bank.[2] Apart from clarifying the outsourcing policy, the proposed changes are intended to improve alignment with OBR and other crisis management policies by putting more emphasis on a bank's ability to continue operating basic services for an indefinite period in the event of its failure, or the failure of a service provider.

The first consultation paper reviewed the underlying rationale for regulatory intervention in banks' outsourcing arrangements, in light of the Reserve Bank's objective of promoting the maintenance of a sound and efficient financial system; or avoiding significant damage to the financial system that could result from the failure of a registered bank. The paper identified potential threats to this objective arising from banks' outsourcing arrangements, particularly in the context of the failure of a bank or a parent bank.

Bank management will generally have incentives to ensure that outsourcing arrangements are robust, to minimise the risk of their bank failing. However, there may be situations where the incentives facing a bank's management are not so well-aligned with the public interest. A bank's management may have less interest in how outsourcing arrangements work after the bank has failed. Complex outsourcing arrangements may make it more difficult for a statutory manager to ensure continuity of outsourced functions. Incentives may also be weaker for management to put in place arrangements to allow continued availability of outsourced services from a parent company, in the event that the parent fails or is otherwise unable to continue supplying the services.

It is not the intention of the proposed policy clarifications and amendments to prevent outsourcing in general, but to manage any wider risks that may arise from outsourcing particular functions. The Reserve Bank acknowledges that appropriately robust outsourcing arrangements can improve a bank's efficiency and risk management by allowing access to technology and know-how that would not otherwise be available to it.

Next steps

In the coming weeks the Reserve Bank intends to release another consultation paper on the review of the outsourcing policy. In light of consultation feedback on the 2015 paper, the Reserve Bank has reconsidered some proposals to mitigate their impact on banks while still addressing the policy concerns. Following the release of the consultation paper, the Reserve Bank expects to hold bilateral meetings with stakeholders, and industry workshops. The Reserve Bank appreciates the constructive contribution that the banking industry is making to the consultation process. A final version of the outsourcing policy is anticipated to be released by the end of the year.

6.2 Dashboard approach to quarterly disclosure

In December the Reserve Bank published the conclusions of its Regulatory Stocktake, along with a summary of written submissions.[3]

2 See http://www.rbnz.govt.nz/-/media/ReserveBank/Files/regulation-and-supervision/banks/policy/5340579.pdf?la=en

3 See http://www.rbnz.govt.nz/regulation-and-supervision/regulatory-stocktake

The primary objective of the stocktake was to ensure the efficiency, clarity and consistency of prudential requirements applying to banks and NBDTs.

Public disclosure requirements for locally incorporated banks

A key focus of the stocktake was the existing disclosure regime for banks, which requires them to publish disclosure statements quarterly. A bank is currently required to publish full and half-year disclosure statements, and also 'off-quarter disclosure statements' covering the first three and the first nine months of the financial year respectively.

Market discipline is one of the 'three pillars' that make up the Reserve Bank's approach to banking supervision (the others being regulatory discipline and self-discipline). The Reserve Bank continues to view market discipline as a vital component of delivering its financial stability objectives in an efficient way, and good quality disclosure is one of the prerequisites for effective market discipline.[4] However, the Reserve Bank considered whether off-quarter disclosure statements added sufficient marginal benefit to market discipline to justify the burden they imposed on banks. After extensive consultation with banks and other stakeholders, the Reserve Bank concluded that, for locally incorporated banks, the balance of arguments remained in favour of retaining some form of quarterly disclosure.

While considering how to reduce the burden of off-quarter disclosure, the Reserve Bank has also identified ways in which the disclosure regime could contribute more effectively to market discipline. The Reserve Bank is about to consult on a new 'dashboard' approach.

4 A recent *Bulletin* article discusses the role of market discipline and what is needed for it to be effective, see O'Connor-Close, C and N Austin (2016) 'The importance of market discipline in the Reserve Bank's prudential regime', Reserve Bank of New Zealand *Bulletin*, 79(2), February, http://rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Bulletins/2016/2016feb79-2.pdf

The dashboard

The proposed dashboard is an electronic form of reporting that should not only make quarterly disclosure more efficient for banks, but is also intended to enhance market discipline in two key ways:

- Comparability: The dashboard would make it easier for depositors and investors to compare the relative risks of different banks and take decisions accordingly. The dashboard would compare banks side-by-side according to key metrics, in a dedicated location on the Reserve Bank's website. This would be easier to find and understand than the current summary drawn from banks' quarterly disclosure statements.[5]

- Timeliness: The proposed dashboard disclosure would be more timely than the current summary information, which is published with a lag of about four months. The dashboard would involve electronic delivery of data that banks are already producing. Consequently, depositors and investors would be making decisions based on more up-to-date (and therefore relevant) information.

The dashboard is intended to suit the needs of the key users of bank disclosure statements, such as retail depositors, financial journalists, ratings agencies and institutional investors. The aim is to present summary information for less sophisticated users, while allowing more sophisticated users to pull out additional detail. By making the data better targeted and more accessible, the dashboard could expand the base of users who exert market discipline on banks. Some of the key design issues for the dashboard are:

5 The current report is available at: http://www.rbnz.govt.nz/statistics/g1

- Content: A broad range of information could be included. The Reserve Bank is developing proposals with the aim of best meeting the needs of the users of the information, while also having regard to the costs to banks in producing it.

- Mechanics: The Reserve Bank is considering how the dashboard will interrelate with the full and half year disclosure statements that banks will still be preparing. The dashboard will need to be published every quarter rather than only in the off-quarters, as the banks have diverse financial years and only a quarterly approach would allow cross-bank comparison for a given period.

- Timing: The Reserve Bank will seek views on how soon after the end of each quarter the dashboard should be published.

Alternative option and timing

The consultation will also propose an alternative option of continuing with an off-quarter disclosure requirement using the existing mechanism, but scaled back to summary capital and asset quality disclosure. This is not the Reserve Bank's preferred option as the dashboard is likely to better promote market discipline. The Reserve Bank aims to make final decisions on the dashboard during Q3 2016, although it would not be implemented until 2017. The Reserve Bank is redeveloping its registered bank monthly balance sheet data collection, and currently expects the revised collection to begin officially during the first quarter of 2017. This new reporting will need to be in place before the dashboard can be implemented, as the aim is that a significant number of items in the dashboard will be extracted directly from this new collection, on a quarterly basis.

Public disclosure requirements for branches

The Reserve Bank does not intend to include branches of overseas banks within the dashboard approach, instead removing off-quarter disclosure requirements from them altogether. Branch disclosure statements only report on the activities of the overseas bank in New Zealand, and so give investors very little insight into the health of the whole bank. These investors have little ability to influence the behaviour of the whole bank in any case. The marginal contribution that off-quarter disclosure makes to market discipline is therefore much less for branches than it is for locally incorporated banks. The Reserve Bank aims to implement this decision once the new bank balance sheet collection is in place in 2017.

6.3 FMI crisis management proposals

Financial market infrastructures (FMIs) are the channels through which financial institutions, governments, businesses and individuals transmit money and financial instruments. They are generally sophisticated systems that centralise certain activities, handling significant transaction amounts both by volume and value. Because of the services they provide, the volume of transactions they can handle, and their interconnections with the rest of the financial system, some FMIs are systemically important; a disruption in the services they provide could undermine the soundness and efficiency of the financial system as a whole. FMIs can be subject to various types of market failures. For example:

- Negative externalities: The costs of an FMI failing can be very large given the scale of transactions handled by FMIs and their interconnectedness with the rest of the financial system. Because

the FMI itself does not bear all of these costs, it may have insufficient incentives to manage the risks of failure.

- Co-ordination issues: Participants in an FMI may have incentives to focus only on their own private costs and benefits, and so may not act in a way that improves the FMI as a whole. For example, in a stress scenario, participants may focus primarily on minimising their own costs, and their actions might not align with the broader public interests and could make the handling of a crisis less efficient.

- 'Club behaviour' and anti-competitive practices: FMIs often have monopolistic or quasi-monopolistic characteristics, and in some cases this can result in them acting like a club (for instance, limiting access to the system), and can mean that they lack the incentives to invest in underlying infrastructure or innovate in the provision of services.

The Reserve Bank currently has only limited regulatory powers over FMIs. These powers currently do not extend beyond the gathering of information, except for FMIs that opt in to the voluntary designation regime. That regime provides legal certainty around settlement finality, but does not include all systemically important FMIs. As a consequence, the Reserve Bank has to rely on moral suasion to address any systemic concerns it has. This puts New Zealand out of line with international recommended practice, as set out in the *Principles for Financial Market Infrastructures*.

To address the risks that systemically important FMIs (SIFMIs) pose to financial stability, the Reserve Bank has been working on an enhanced oversight regime for SIFMIs. In December 2015 the Reserve Bank published its conclusions on most of the key elements of this oversight regime, which include the following:

- The Reserve Bank and the Financial Markets Authority (FMA) would have enhanced powers to oversee SIFMIs, via a revised Designation Regime, including powers for investigation and enforcement, setting standards and rules, and crisis management.

- FMIs that are classed as systemically important would have to be designated under the new Designation Regime.

- Payment and settlement systems that are currently designated FMIs would continue to be able to seek legal protection for netting and settlement, by opting in to the revised Designation Regime.

A key part of the proposals is a crisis management regime for SIFMIs. However, the proposals published in December did not go into significant detail on the design of this crisis management regime.

In March 2016, the Reserve Bank published the consultation document *Crisis Management Powers for Systemically Important Financial Market Infrastructures*, which sets out the proposed crisis management regime in detail. This consultation paper notes that the purpose of crisis management powers in this area is to ensure the continuity of essential services (rather than to resolve the affairs of the operator, unless this is necessary to ensure the continuity of those services). It also notes a variety of other matters that distinguish crisis management in this area from the approach for registered banks, licensed insurers and licensed NBDTs (for example, most FMIs have loss allocation mechanisms in their rules).

Given this context, the consultation paper proposes a two-tier approach to crisis management for SIFMIs. The first tier of this framework would be a requirement for an operator of a SIFMI to prepare a business continuity plan to achieve rapid recovery and timely resumption of essential services or to facilitate the replacement of the SIFMI's operator(s); and a recovery and orderly wind-down plan to respond to financial threats to the continued provision of essential services.

This first tier recognises that a SIFMI that has put in place preventative measures and appropriate recovery plans is more likely to address problems without public intervention. This approach also has the merit of building on the existing rules and plans that many SIFMIs will already have in place, and allowing for certain matters, such as loss allocation, to be agreed in advance between participants and operators. It is proposed that the regulators would be able to set out, at a high level, certain matters these plans must address, and that the regulators would have the power to direct operators to amend these plans.

The second tier of the framework would be a set of statutory powers that could be used by joint regulators when the SIFMI's business continuity plans, and/or recovery and resolution plans are, for various reasons, not sufficient to address the situation. In summary, these statutory powers are for joint regulators to:

- issue directions to the operator(s) of a SIFMI with the consent of joint Ministers;
- appoint, replace or remove the directors of an operator with the consent of joint Ministers; and
- recommend that a SIFMI be placed into a specially designed statutory management regime (the design of this statutory management regime is also laid out in the consultation document).

The consultation paper notes that the design of the statutory management regime in particular requires tailoring to the circumstances of FMI crisis management.

FMIs can be structured in diverse ways. Given this, the application of the two-tier framework may be influenced by the nature of the crisis, the legal form of the FMI, and how large a presence the FMI has in New Zealand. The consultation document discusses how the framework would be applied in these different circumstances. Submissions on the consultation document close on 20 May 2016. Once final policy decisions have been made on the design of the crisis management regime, Cabinet agreement will be sought to the entire proposed oversight framework, and work will commence on an exposure draft of a Bill implementing the framework.

6.4 IPSA Review

The Reserve Bank will undertake a review of the Insurance (Prudential Supervision) Act (IPSA) during 2016-2017. IPSA provided the first comprehensive framework for the prudential regulation and supervision of entities carrying on insurance business in New Zealand. The Reserve Bank considers that IPSA has had a positive effect on the soundness of the insurance industry in New Zealand and that the legislation has worked well in most areas.

However, good regulatory practice requires the timely review of any new legislative regime, to ensure that the regime is working as intended and is fit for purpose. It has been more than five years since IPSA was passed,

and over this period the Reserve Bank and the industry have gained sufficient experience with IPSA to make it worthwhile to undertake a review.

The Reserve Bank considers that the legislative purposes of IPSA remain appropriate. The review will therefore be undertaken on the basis of the existing purposes of IPSA, namely to promote the maintenance of a sound and efficient insurance sector and to promote public confidence in the insurance sector.

The Reserve Bank has released a Terms of Reference for the review, along with other relevant information.[6]

The review seeks to ensure that IPSA provides for a cost effective, risk-based supervisory regime that promotes the soundness and efficiency of the insurance sector. The Reserve Bank considers that there are likely to be opportunities to reduce the administrative costs associated with IPSA, for example by reducing the fragmentation of policies across regulatory instruments or through greater use of generally applied, as opposed to individually applied, requirements. The review will also consider whether the requirements for overseas insurers adequately balance the goals of recognising home country regulation, and adequately protecting New Zealand policyholders.

Public consultation will be a key element of the review. The Reserve Bank intends to publish an *Issues Paper* in late 2016 to seek views from interested parties, and will then hold consultation meetings with the industry during 2017 before issuing an *Options Paper* for public consultation. Any legislative change would not occur before 2018 at the earliest.

6 See http://rbnz.govt.nz/regulation-and-supervision/insurers/review-of-the-insurance-prudential-supervision-act-2010

6.5 Update on other regulatory projects

Financial Sector Assessment Programme

As signalled in the last *Report*, the IMF will be undertaking a comprehensive review of New Zealand's financial system, focussing in particular on the quality of the regulatory framework for both prudential supervision (the responsibility of the Reserve Bank) and market conduct (the responsibility of the FMA).[7]

This review, under the auspices of the Financial Sector Assessment Programme (FSAP), will take place over two separate 'missions' in late August and early November. In relation to the functions of the Reserve Bank, the 2016 FSAP will involve:

- a detailed (graded) assessment against the relevant international standards that have been developed for the banking and insurance sectors;
- a more limited (non-graded) assessment against the international standards for financial market infrastructure;
- an evaluation of the macro-prudential policy framework;
- an evaluation of the Reserve Bank's crisis management and resolution framework; and
- a stress-testing exercise to assess the resilience of the banking system to a series of large but plausible 'shocks'.

7 For a further discussion on the scope of the New Zealand FSAP, see Hunt (2016) 'The 2016 New Zealand Financial Sector Assessment Programme (FSAP)', Reserve Bank of New Zealand *Bulletin*, http://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Bulletins/2016/2016apr79-7.pdf

The August and November missions will involve meetings with various stakeholders, including regulated entities and industry bodies. Publication of the IMF's findings and recommendations is expected some time early in 2017.

Review of bank capital requirements

The Reserve Bank plans to review the capital requirements of New Zealand banks to ensure they are appropriate given the current domestic environment and the emerging international regulatory regimes. The review will take account of recent changes to the Australian bank regulation regime following the Financial System Inquiry and the international standards set out by the Basel Committee for Banking Supervision (BCBS) in the Basel III framework. The BCBS has proposed significant changes to the framework, but final decisions on these have been delayed. This may affect the timetable for the review of the domestic regime, as the Basel III framework is the basis for New Zealand's current bank capital requirements.

The Reserve Bank is also undertaking a project to compare the capital models of the four largest New Zealand banks. ANZ, ASB, BNZ and Westpac are authorised to use complex internal ratings-based models to estimate how much capital they should hold for regulatory purposes. The benchmarking project will help the Reserve Bank understand differences between these models by using them to estimate the capital requirements on an identical portfolio of residential mortgage and rural loans. Because the Reserve Bank has imposed various calibrations to achieve a degree of consistency in the model outputs, and because the portfolios are identical, the four banks should generate very similar capital requirements. If there are significant differences, it is likely they will be explained by model form.

Review of bank liquidity requirements

New Zealand imposed minimum liquidity requirements on locally incorporated banks in 2010. Since then the BCBS has finalised standards which include conceptually similar (but not identical) ratios. The New Zealand requirements appear to be working well, but in light of international developments it is timely to review the existing liquidity policy, and consider whether there would be benefits in harmonising more closely with the international approach. As part of the review, the Reserve Bank will also consider whether there should be liquidity requirements for New Zealand branches of foreign banks, and will review requirements for the disclosure of liquidity positions. Internal preparatory work for the review is under way, with public consultation expected to take place early in the second half of 2016.

Appendices

Appendix 1

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 responding to identified non-compliance by an entity, the Reserve Bank may consider it appropriate to take enforcement action.

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

- October 2015 – a formal warning was issued to Kiwibank Limited under section 80 of the Anti-Money Laundering and Countering Financing of Terrorism Act 2009.[1]

1 See http://www.rbnz.govt.nz/news/2015/10/enforcement-action-under-the-aml-cft-act-2009---kiwibank-limited

Appendix 2

Presentations November 2015-April 2016

The Reserve Bank presented on Financial Stability and related topics to the following sectors and regions:

Financial services (9)	Auckland, Wellington
Sectors (9)	Auckland, Wellington
Advisers (5)	Auckland, Wellington
Business groups (5)	Auckland, Wellington, Masterton, Christchurch, Timaru
Universities	Wellington
International finance	Hong Kong

The Reserve Bank also speaks to a range of audiences on Monetary Policy and related topics. They are reported in the *Monetary Policy Statement*.