

Financial Stability Report

November 2019

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This report is published pursuant to section 165A of the Reserve Bank of New Zealand Act 1989, which states that a financial stability report must:

- (a) report on the soundness and efficiency of the financial system and other matters associated with the Bank's statutory prudential purposes; and
- (b) contain the information necessary to allow an assessment to be made of the activities undertaken by the Bank to achieve its statutory prudential purposes under this Act and any other enactment.

In addition, under the Memorandum of Understanding between the Minister of Finance and the Governor of the Reserve Bank of New Zealand, the Reserve Bank's *Financial Stability Report* will report on matters relating to the soundness and efficiency of the financial system, including any build-up of systemic risk, and the reasons for, and impacts of, the use of macro-prudential policy instruments.

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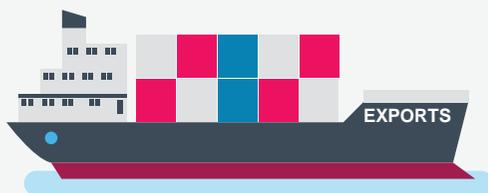
Financial Stability Report in pictures

November 2019

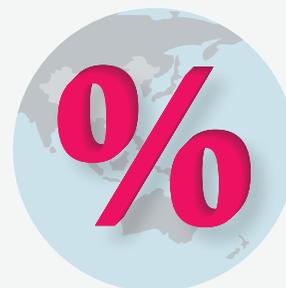


New Zealand's financial system is resilient to a range of economic risks

Global financial stability risks and domestic debt vulnerabilities remain. Prolonged low long-term interest rates could generate excess leverage and overheated asset prices.



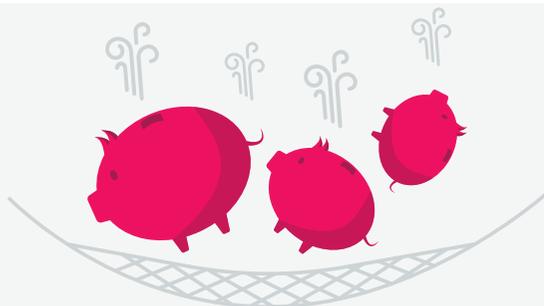
Continuing world trade uncertainty is slowing global growth



Global interest rates are expected to remain low



Housing debt risks have stabilised, and the current LVR policy remains appropriate



Higher bank capital will improve long-term resilience



More work needs to be done to improve bank risk management

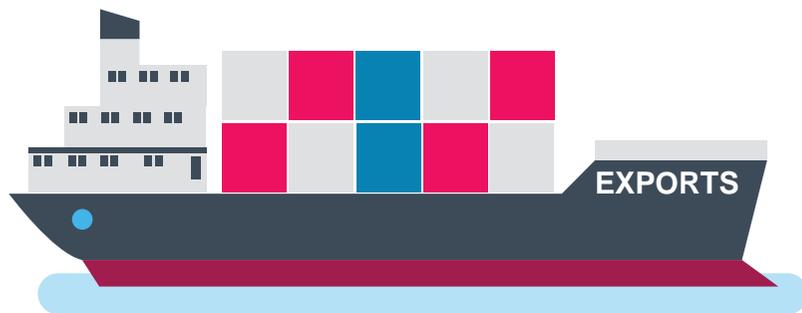


Some insurers have low solvency buffers

Continuing world trade uncertainty is slowing global growth

The New Zealand economy relies on international demand for our exports, and the financial system borrows money from international financial markets. This means that developments in the international economy and financial system can have important effects on New Zealand's financial stability.

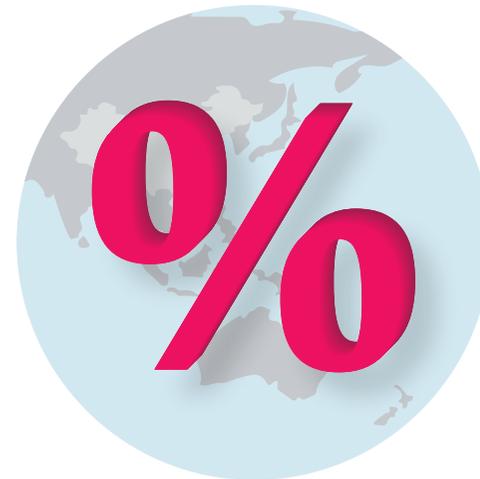
The global economy has slowed, largely due to uncertainty about trade policy. The global economy remains vulnerable to a more significant downturn, especially since there is relatively little room to further ease monetary or fiscal policies in many countries to support growth.



Global interest rates are expected to remain low

Long-term interest rates have declined in a number of countries, including New Zealand, and are expected to remain low for a prolonged period. Low rates are necessary, and have helped to cushion the New Zealand economy and borrowers from the effects of weaker global growth.

Over the longer term, prolonged low interest rates could lead to some borrowers taking on too much debt and for asset prices to become overheated. This could increase the vulnerability of the economy and borrowers to future economic downturns.



Housing debt risks have stabilised, and the current LVR policy remains appropriate

Some households have high debt and could face stress if their incomes fell or if interest rates increased. Banks could experience significant losses if a large number of borrowers became stressed in an economic downturn, particularly if house prices also fell significantly. This risk has remained stable recently but at an elevated level.

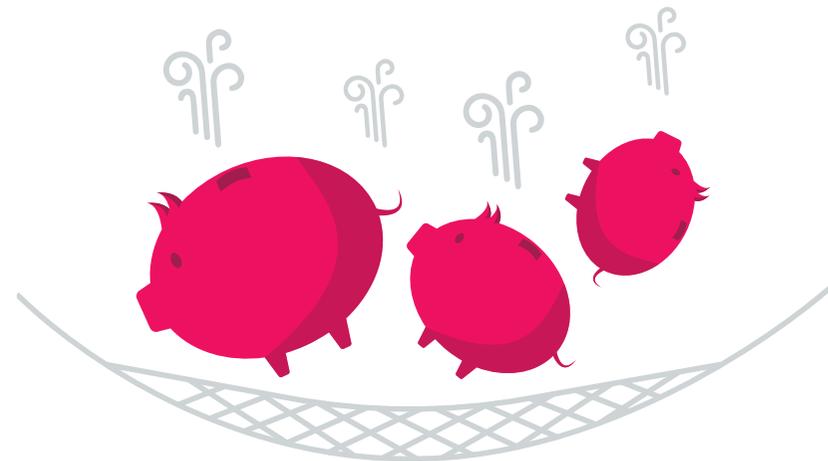
Restrictions on low deposit (or high loan-to-value ratio) loans have improved the resilience of banks and households by reducing the volume of loans with a higher risk of defaulting in a downturn. Current policy settings remain appropriate and we will be watching how risk evolves over the coming months.



Higher bank capital will improve long-term resilience

Capital is the equity funding that is provided by bank shareholders. Strong capital positions are important, as it provides a buffer for banks to absorb unexpected losses without threatening their ongoing viability.

Currently banks hold sufficient capital to withstand a range of economic risks. However, their viability may be threatened if very severe events were to occur. Bank failures can cause very large economic and social costs, and to improve resilience we have proposed increasing capital requirements for banks. Under the proposed changes, we believe banks would be able to withstand the kind of event that occurs about once every 200 years.



More work needs to be done to improve financial institutions' risk management

Resilience of financial institutions is underpinned by a sound understanding and management of the risks that they face. Recent reviews of the culture and conduct of banks and life insurers have found weaknesses in processes for managing conduct risks. Further risk management weaknesses have been revealed by a number of banks recently disclosing errors in their calculation of key regulatory requirements.

We expect institutions to improve their own assurance processes and controls, and we will work with them to ensure this happens. We will also be increasing the intensity of our supervision, with greater scrutiny of institutions' compliance.



Some insurers have low solvency buffers

The Reserve Bank sets minimum solvency requirements for insurers which requires them to maintain sufficient capital and reinsurance coverage to ensure they can meet their future obligations to policyholders with a high degree of certainty. Solvency ratios have declined for many general and life insurers, leaving a low buffer over minimum requirements.

Recent sharp falls in long-term interest rates are putting further pressure on some life insurers. Changes in long-term interest rates can affect the value of insurers' assets and liabilities, and low interest rates can also affect profitability by reducing investment returns. Affected insurers are preparing plans to improve their solvency and we have increased our supervisory engagement with these firms.



Financial Stability Report

November 2019



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Chapter 1

Financial stability risk and policy assessment



The financial system as a whole remains resilient to a broad range of economic risks. The banking sector maintains buffers of capital and liquidity over current requirements and has strong profitability. However, some parts of the life insurance and credit union sectors have less resilience and are facing current challenges. The Reserve Bank has a number of regulatory and supervisory initiatives underway to enhance the long-term resilience and performance of the financial system.

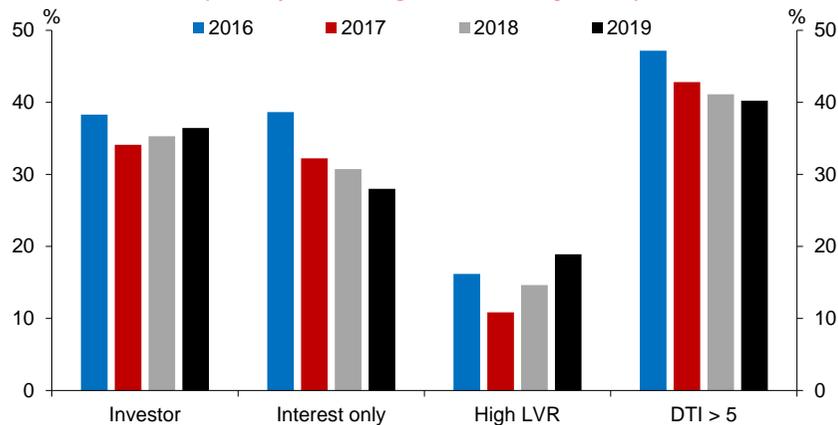
International risks to the financial system have increased in the past six months. Global growth has slowed amid continued uncertainty about the outlook for world trade. This has led to significant reductions in long-term interest rates, including in New Zealand. Lower interest rates have helped to cushion the New Zealand economy and borrowers from the effects of weaker global growth. However, prolonged low interest rates could exacerbate pre-existing debt and asset imbalances in the economy, threatening future financial stability. Low interest rates may also reduce profitability for some financial institutions, and is weakening some life insurers' solvency positions.

Household lending risks have stabilised...

Indebtedness in the household sector is high, and some households face particularly large debt burdens. High debt leaves borrowers exposed to cash flow stress in the event that interest rates rise or incomes fall. Banks could experience significant losses if a large number of borrowers became stressed in an economic downturn, particularly if this were accompanied by a significant fall in house prices. Restrictions on high loan-to-value ratio (LVR) mortgages are in place to limit the amount of high-risk lending and thereby reduce the vulnerability of banks from a severe downturn affecting the household sector.

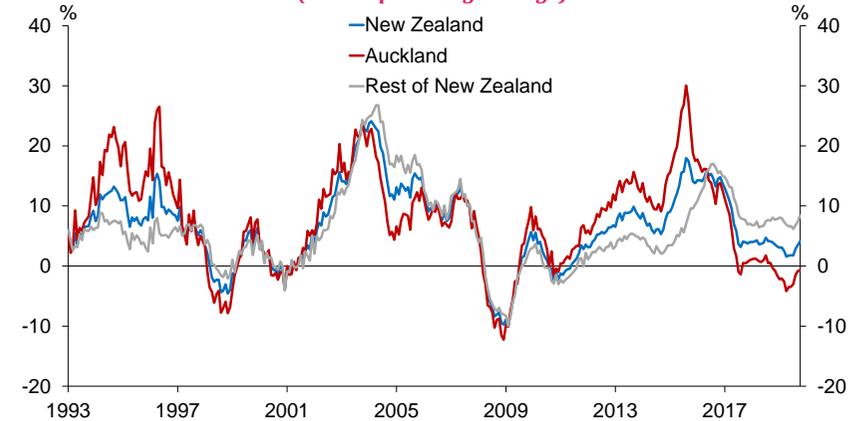
The risk of large housing losses has reduced somewhat over the past three years. House price inflation has slowed, particularly in Auckland, reducing the likelihood of a future sharp house price fall. And bank mortgage lending standards have tightened somewhat, reducing the volume of loans with a higher risk of defaulting in a downturn (figure 1.1). As the risk has eased, there has been less need for LVR restrictions, allowing for a gradual easing in the policy.

Figure 1.1
Risk characteristics of new mortgage lending
(Share of new lending, 3 months to September)



Source: RBNZ LVR New Commitments Survey, RBNZ DTI New Commitments Survey, private reporting.
 Note: 'DTI > 5' shows the proportion of new loans with debt-to-income (DTI) ratios above five. The improvement in DTI > 5 figures partly reflects data improvements. 'High LVR' shows the proportion of new loans to owner-occupiers with LVRs above 80 percent and new loans to investors with LVRs above 70 percent.

Figure 1.2
House price inflation
(Annual percentage change)



Source: Real Estate Institute of New Zealand.

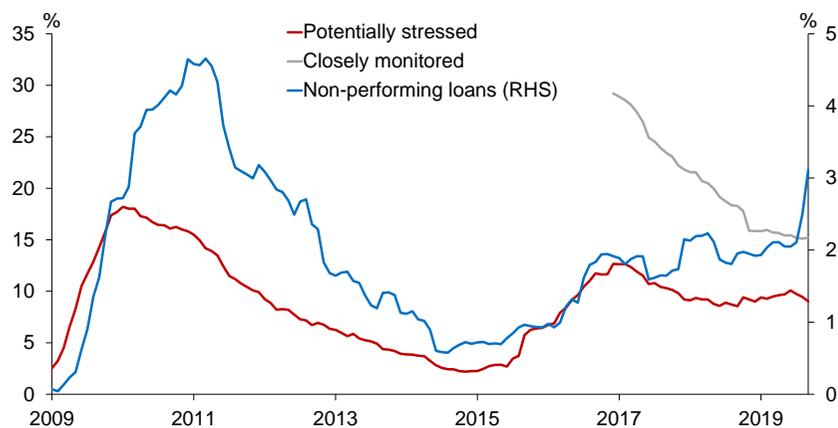
...but vulnerabilities may increase in the low interest rate environment.

However, there are early signs that housing lending risk may be increasing again. House price growth has strengthened in recent months, even with high price-to-income ratios, and it is unclear how long this strength will persist (figure 1.2). There are also early signs that banks are easing mortgage lending standards in response to the low interest rate environment. Given the uncertainty around the future trend in housing lending risk, it would not be appropriate to ease LVR restrictions further at this point. We will continue to review LVR restrictions, and will adjust them in line with changes in the overall risk environment.

The dairy sector remains vulnerable.

Despite above-average dairy commodity prices and reasonable profitability for the dairy sector as a whole, a significant share of the dairy sector remains financially vulnerable. Progress has been made by some borrowers in reducing debt and restoring balance sheet sustainability. However, the most indebted farms have struggled to achieve profitability and repay debt. A significant share of dairy loans are still being closely monitored by banks, and the share of loans that are non-performing has increased (figure 1.3). The sector faces longer-term cost challenges in reducing its environmental impacts and many farms have little resilience to weather another period of low commodity prices.

Figure 1.3
Dairy sector loan performance metrics



Source: RBNZ Bank Balance Sheet Survey.

More work is required to improve long-term bank resilience.

Banks maintain capital buffers to provide resilience to a wide range of risks. At current capital levels, banks are resilient to most cyclical risks. However, the Reserve Bank is working to improve the longer-term resilience of the financial system to severe risks, to reflect the high economic and social costs of financial crises. The Bank has proposed higher capital requirements for banks to ensure that they have sufficient capital to withstand a one-in-200 year event. Final decisions on the bank capital review will be announced on 5 December.

Long-term resilience also requires that banks have good governance and strong risk management practices. Recent reviews of the culture and conduct of banks and life insurers have highlighted areas where these processes need to be improved. The need to improve risk management processes has been reinforced over the past year by the disclosure of errors by a number of banks in the calculation

of capital and liquidity ratios, which in some cases have gone undetected for a number of years. The Reserve Bank is engaging with banks to ensure that they strengthen their own assurance processes and controls. Disclosure of compliance breaches will be enhanced through a new breach-reporting framework, with material breaches reported on a dedicated page on the Reserve Bank's website. We will also be adopting a more intensive supervisory approach, which will involve greater scrutiny of institutions' compliance.

Some insurers have low solvency buffers...

The Reserve Bank sets minimum solvency requirements for insurers to ensure they can meet their future obligations to policyholders with a high degree of certainty, and insurers maintain voluntary buffers over these minimum requirements. However, reported solvency ratios have declined for many life and general insurers, leaving low buffers over minimum requirements. Recent falls in long-term interest rates are putting further pressure on solvency ratios for some life insurers. Affected insurers are preparing plans to increase their solvency ratios and are subject to enhanced supervisory engagement. Solvency requirements for insurers will be reviewed alongside the upcoming review of the Insurance (Prudential Supervision) Act 2010.

...and pressures are emerging for some credit unions.

Pressures are also emerging for some credit unions with a number operating at a loss. Some have struggled with low economies of scale and have faced significant cost overruns in updating core banking systems. Several credit unions have merged over the past year in order to boost economies of scale, and further consolidation in the sector is likely.

Chapter 2

The New Zealand financial system's domestic vulnerabilities



The outlook for the New Zealand economy has softened since the last *Report*, but the Reserve Bank has cut interest rates to help stimulate the economy. This has supported financial stability in the near term. However, vulnerabilities remain, particularly in the household and dairy sectors, and may grow as a consequence of the current historically low interest rate environment.

The financial system is exposed to highly indebted sectors.

New Zealand's financial system is deeply integrated with the economy, particularly through the banking sector, which dominates the financial and economic landscape in New Zealand relative to many other jurisdictions.

It is therefore critically important to the performance of the economy that the banking sector continues to operate profitably and efficiently for the long term, as this supports the financing of investments that enhance the wellbeing of New Zealanders.

However, the relationship is symbiotic, in that the banking sector is heavily exposed to some sectors of the New Zealand economy. Problems in the domestic economy can weaken the financial system, if the problems cause large loan losses.

The banking sector's largest exposure is to households, particularly through mortgages. Household debt is high, and many new borrowers have taken on large mortgages. While house price growth has slowed in recent years, house price-to-income ratios remain elevated in some regions, particularly Auckland.

The agriculture sector represents the second most significant credit exposure of the banking sector. Dairy debt in particular is high and concentrated. Dairy prices are currently enabling the majority of farms to operate profitably, but the sector faces significant challenges. The banking sector also has material exposures to the commercial property sector, although debt levels in that sector appear more manageable.

The domestic economy has slowed and interest rates have continued to decline.

The domestic economy has slowed, with annual economic growth moderating over the past year from 3.2 percent to 2.1 percent, and survey measures of business confidence have declined. Whilst bank credit growth has remained relatively robust at 5.2 percent, credit conditions are expected to tighten for a number of sectors of the economy.

Interest rates have been low for some time, both globally and domestically. In its August 2019 review, the Reserve Bank cut the Official Cash Rate (OCR) by 50 basis points to a historical low of 1.0 percent. This follows an earlier cut of 25 basis points in May.

Low interest rates may mitigate financial stability risks in the short term...

A large proportion of the recent OCR cuts were passed on to borrowers. This has the effect of making it easier for borrowers to service their existing debts. Furthermore, the expectation that interest rates will remain lower for longer suggests that the risks associated with the existing stock of debt may have moderated slightly. However, lenders remain exposed to the risk of large losses if many borrowers become unable to service their loans due to a fall in incomes or an unexpected increase in lending rates.

...but could increase vulnerabilities.

The low interest rate environment poses a number of risks from a financial stability perspective. First, it supports higher asset valuations and facilitates higher levels of borrowing, which could drive a resurgence in house price inflation and exacerbate existing debt vulnerabilities. Second, it poses a range of challenges across the financial system that could lay the foundations for pockets of risk to develop. One such consequence might be an increasing trend for investors to seek out riskier investments in a search for yield. While this is consistent with the intended effects of monetary policy, it can have a destabilising effect on the soundness and efficiency of the financial system if it leads to unsustainable asset prices, or if the returns on offer are not commensurate with the risk profile of the investment (see chapter 4).

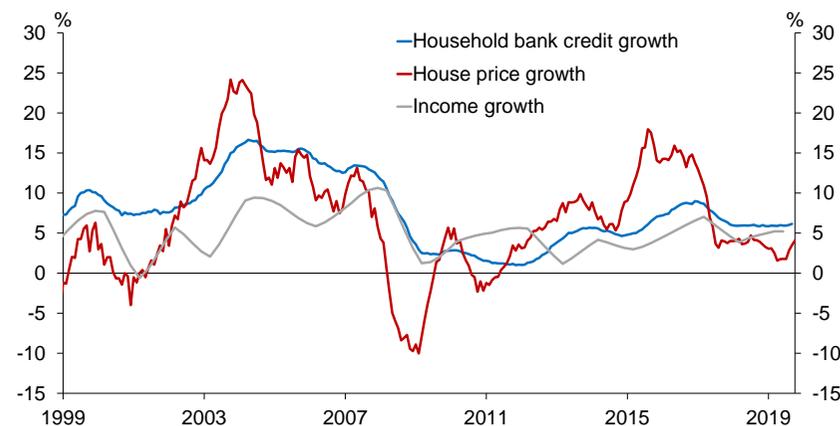
Household sector indebtedness

Household indebtedness has increased...

The high level and concentration of household sector debt remains the largest single vulnerability of New Zealand's financial system. Household debt makes up 60 percent of bank lending and has been growing at 6 percent per year (figure 2.1).

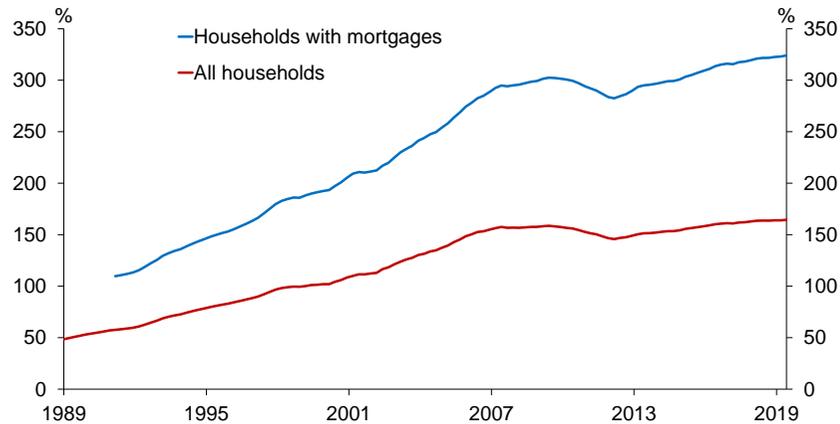
Household debt has risen substantially faster than incomes over the past 30 years (figure 2.2). Some households, particularly property investors and first-home buyers, have become highly indebted.

Figure 2.1
Annual income, house price and bank household credit growth



Source: RBNZ Bank Balance Sheet Survey, Real Estate Institute of New Zealand (REINZ), RBNZ Household Assets and Liabilities Survey.

Figure 2.2
Household debt-to-income ratio:



Source: Stats NZ, RBNZ Household Assets and Liabilities Survey, RBNZ estimates.

...partly due to falling mortgage interest rates.

In part, this growth in debt has been facilitated by falling mortgage interest rates, which have allowed households to service larger debts – debt servicing ratios for new buyers remain around 20-year averages despite the growth in debt (figure 2.3).

In the past six months interest rates have fallen further, and they are expected to remain low for the foreseeable future. This improves the sustainability of debt burdens for current borrowers, and suggests that the risk of carrying large debts may have decreased somewhat over time.

However, there is a risk that prolonged low interest rates will encourage new borrowers to take on excessive debt, exposing them to financial stress if they experience a loss of income, or if interest rates rise in the future.

Figure 2.3
Indicative debt servicing ratio:
(Percentage of gross income)



Source: REINZ, Stats NZ, interest.co.nz, RBNZ estimates.

Note: New buyer with an average income buying at the average house price with a 20 percent deposit.

LVR restrictions help to mitigate risks.

Mortgages are typically a safe form of lending, since they are secured against the value of the borrowers' houses. If a borrower has difficulty servicing a loan in a rising housing market, they (or the lender) will generally be able to sell the house to repay the loan. However, if a large number of households were to become financially distressed due to a severe recession, house prices could decline rapidly, causing consumption to fall further, creating a self-reinforcing cycle. This risk of severe house price falls is more pronounced following a period of rapid house price growth. Such a scenario could lead to large losses for lenders.

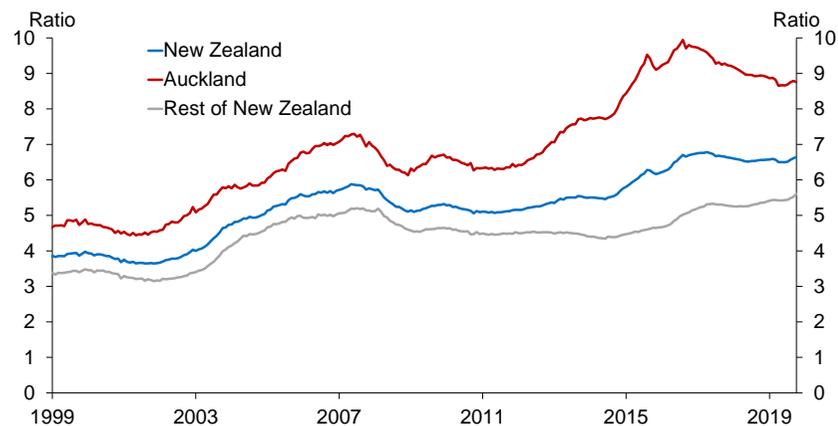
The Reserve Bank's loan-to-value ratio (LVR) restrictions help to mitigate these risks by restricting the flow of new lending to borrowers with low equity. This has helped to strengthen households' financial positions, reducing the likelihood and potential severity of a housing downturn.

Figure 2.4
House price inflation



Source: REINZ.

Figure 2.5
House price-to-income ratio



Source: REINZ, Stats NZ, RBNZ estimates.

House price inflation has been modest in recent years...

Average nationwide house price growth has been modest over the past three years. Prices in Auckland and Christchurch have been relatively flat, but the rest of New Zealand has experienced strong house price growth (figure 2.4).

This period of slower house price growth has led to a gradual reduction in housing market imbalances. Auckland's house price-to-income ratio has eased over the past three years, but remains well above historical norms (figure 2.5).

Some government policies have dampened investor demand for housing over the past two years, including extending the bright-line test for assessing capital gains tax to five years, ring-fencing tax losses, foreign buyer restrictions, and the Healthy Homes Guarantee Act 2017. These factors, together with tight LVR restrictions for investor lending, have contributed to the proportion of new lending to property investors remaining subdued. Meanwhile, the proportion of new lending to first-home buyers has doubled in the past five years.

...but the risk of resurgence remains.

Interest rates have fallen materially over the past six months, contributing to recent stronger housing market data. It is uncertain whether this recent momentum will be sustained. To some extent higher house prices are justified on the back of lower long-run interest rate expectations (see box A). However, a significant resurgence in house prices would still be concerning given that they remain elevated relative to incomes and rents.

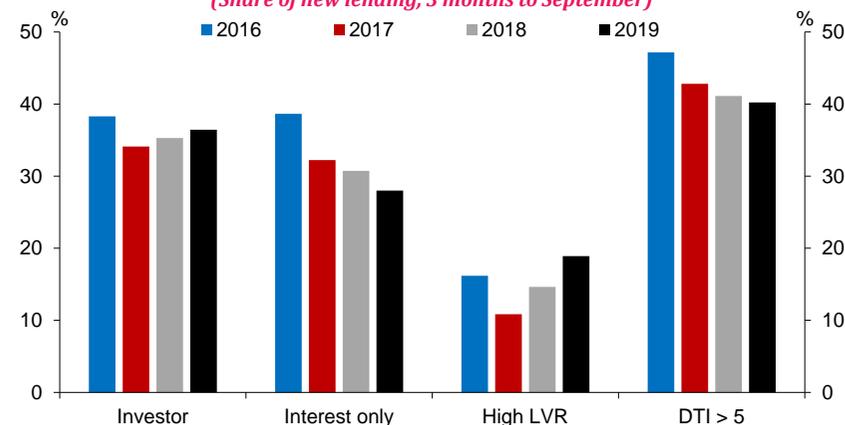
Other factors remain supportive of the housing market. A key driver of house price growth over the past decade has been strong population growth, which has outpaced growth in the housing stock. Annual net migration has remained above 50,000 for almost five years, which is high by historical comparison. Housing supply has been constrained for many years by restrictive planning rules and high construction and compliance costs. In addition, capital gains taxes have been ruled out, which removes an uncertainty that may have been weighing on investor demand.

Mortgage lending standards have been tightening...

A resurgence in the housing market would be particularly concerning if it were accompanied by an easing in bank lending standards and a rising concentration of high-risk lending.

Prior to the introduction of LVR restrictions in 2013, banks' lending standards appeared lax on several metrics. Since 2013, banks' lending standards have tightened in general, and we have seen continued improvement in some metrics, with less new mortgage lending on interest-only terms and to borrowers with debt-to-income (DTI) ratios over 5 (figure 2.6). However, LVR restrictions have been eased twice in the past two years, and banks have responded by increasing high-LVR lending. Furthermore, while high-DTI lending overall has reduced, the proportion of loans at both high-LVR and high-DTI has increased from around 2.6 percent to 3.5 percent over the past year.

Figure 2.6
Risk characteristics of new mortgages
(Share of new lending, 3 months to September)



Source: RBNZ LVR New Commitments Survey, RBNZ DTI New Commitments Survey, private reporting.
Note: 'DTI > 5' shows the proportion of new loans with debt-to-income ratios above five. The improvement in DTI > 5 figures partly reflects data improvements. 'High LVR' shows the proportion of new loans to owner-occupiers with LVRs above 80 percent and new loans to investors with LVRs above 70 percent.

...but we may be at a turning point.

In July, the Australian Prudential Regulation Authority (APRA) relaxed its rules on debt-servicing test rates, reflecting expectations that interest rates will remain low in the medium term. APRA regulations directly affect the four Australian-owned banks, and indirectly affect other banks through competition. This has contributed to a loosening of bank lending standards in New Zealand in the past few months, which has the potential to increase the supply of credit to the housing market.

In the current low rate environment, it is not unreasonable that banks should adjust their lending standards to incorporate a lower hurdle rate than previously adopted, but the effects of these changes will need to be monitored closely to ensure that they do not lead to an increase in vulnerabilities.

Box A

How have lower long-term interest rates affected housing valuations?

Rapid house price inflation over the past decade, particularly in Auckland, has led to concerns that a sudden house price correction could threaten financial stability.

House prices have been driven, in part, by substantial decreases in interest rates and increases in rents. One way to analyse the impact of these changes is to use a *discounted rents model*. This model estimates the present value of future rental income that a house could be expected to generate.¹ It does this by *discounting* future rental income at the expected long-term mortgage rate, with results highly sensitive to the long-term expectations for interest rates and rent inflation.

In the long term, interest rates and rent inflation are not independent. If long-term interest rates are low, it is cheaper to borrow money for building houses. This should cause the supply of housing to increase, putting downward pressure on rents and normalising house prices. However, supply constraints can prevent the market reaching equilibrium in the short term, causing rents and house prices to rise in response to lower interest rates.

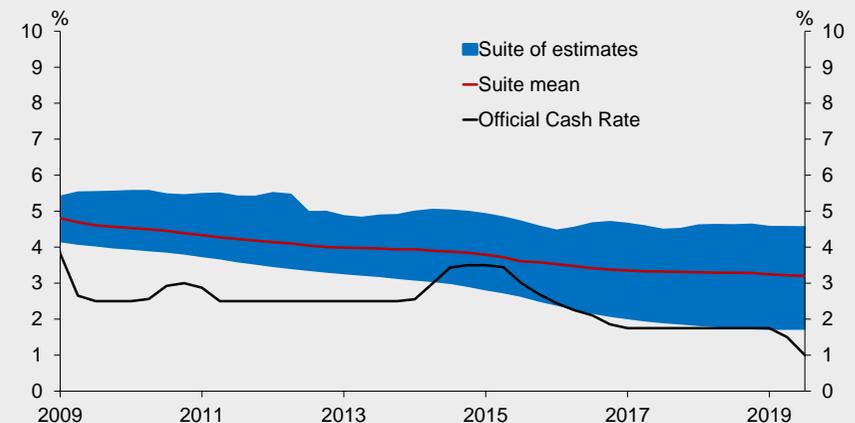
Rents have increased 3.7 percent per year since 2009, broadly in line with median income growth. Strong population growth and government subsidies (such as accommodation supplements) have contributed to high demand for housing. Meanwhile, the supply of housing has been constrained by restrictive planning rules and high construction costs.

¹ While this model is measuring the value of a house for a property investor, rents are also used as a proxy for the value that owner-occupiers receive from their housing.

Interest rates have fallen significantly since the GFC, and have fallen further in the past six months. Part of this decrease is *cyclical*, as the Reserve Bank has tried to stimulate the economy. But the Bank also believes that interest rates are now *structurally* lower than they were 10 years ago. The structural level of interest rates is affected by the international environment and long-term economic factors such as productivity and demographics.

Changes in the structural level of interest rates are reflected in our estimate of the 'neutral' Official Cash Rate (OCR), i.e. the OCR setting that would be neither stimulatory nor contractionary. The neutral OCR cannot be directly observed, so it must be estimated, and the components of our suite of estimates have been diverging over time (figure A1).

Figure A1
Suite of neutral OCR estimates



Source: RBNZ estimates.

As our estimate of the neutral OCR has drifted down, so too has our estimate of neutral mortgage rates (figure A2).²

Using the model, we can decompose the main drivers of house price growth over the past 10 years (figure A3). Increases in rents and the structural decrease in interest rates can explain most of the house price inflation we have seen in the past decade. These factors have been offset to some extent by a fall in long-term inflation expectations, which should be reflected in lower rental growth in the future. In Auckland however, house prices have risen beyond what these three factors can explain. This suggests some risk that Auckland houses are over-valued, although prices could be sustained by expectations of strong demand and constrained supply. However, risks could materialise if these factors wane or house price growth picks up again from current levels, exacerbating the risk of a future correction.

As noted above, the model is highly sensitive to changes in long-term interest rates. Uncertainty in the neutral OCR leads to the risk that house prices run up too far on the basis of cyclically low interest rates. While neutral interest rates have almost certainly come down since the GFC, it is unclear by how much, and it is possible that neutral rates have not fallen by as much as we think. This would increase the chance of a correction when interest rates return to their neutral levels.

² We calculate the neutral mortgage rate by adding the current spread between one-year mortgage rates and one-year swap rates to the neutral OCR.

Figure A2
Neutral mortgage interest rate estimates

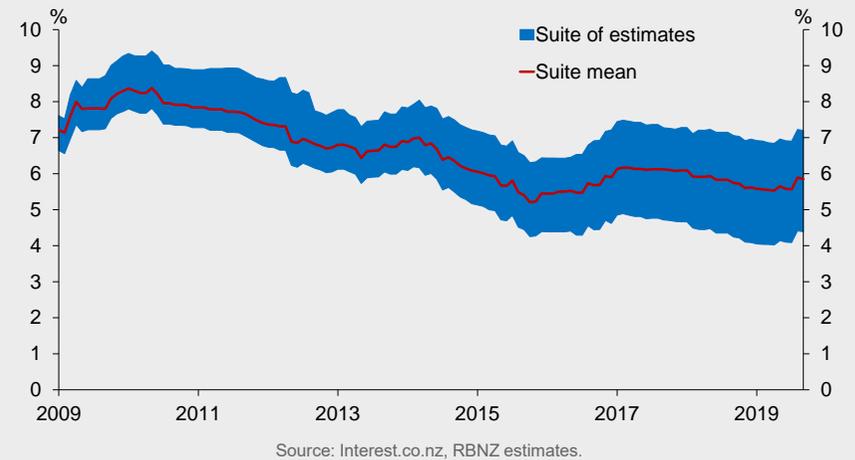
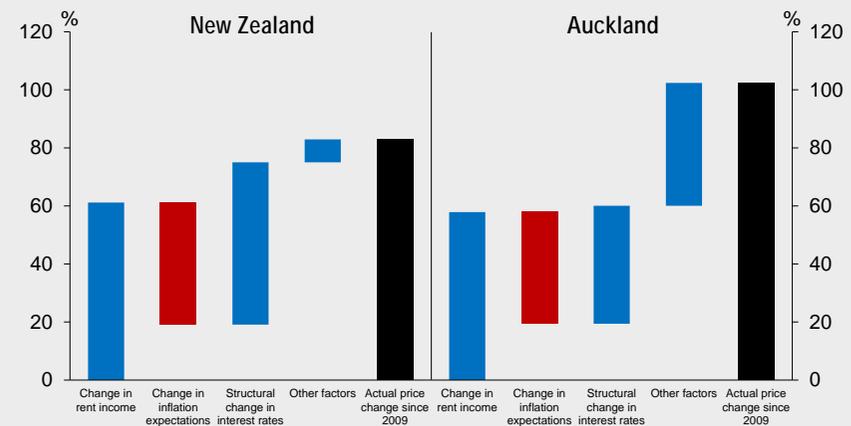


Figure A3
Decomposition of house price changes since 2009:



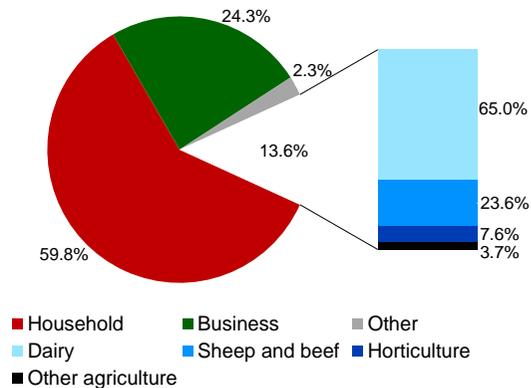
Agriculture sector indebtedness

The financial system is vulnerable to downturns in the agriculture sector.

The agriculture sector accounts for around 14 percent of financial system lending, with two-thirds of that to the dairy sector (figure 2.7). Debt in the dairy sector remains high and concentrated. While current prices are supportive of farm profitability, significant pockets of debt remain vulnerable to a price downturn and the sector is facing a range of challenges to its long-term outlook.

Lending to the horticulture sector accounts for a relatively small portion of financial system lending, but is growing quickly as banks look to diversify their agriculture books.

Figure 2.7
Composition of bank lending
(September 2019)



Source: RBNZ Bank Balance Sheet Survey.

Dairy prices have been reasonable and most farms have been profitable...

Most dairy farms have been profitable for the past three seasons, supported by reasonable dairy prices and stable production (figure 2.8). Fonterra confirmed a final payout of \$6.35 per kilogram of milk solids (kgMS) for the 2018-19 season, and is forecasting a payout in the \$6.55-7.55 range for the 2019-20 season.

...but debt in the dairy sector remains high and concentrated.

The sector has a high debt-to-income ratio at 350 percent, and debt in the dairy sector is concentrated, with 30 percent of debt held by highly indebted farms (>\$35 of debt/kgMS). Some dairy farms are financially vulnerable, as

Figure 2.8
Dairy commodity prices
(January 2014 = 100)



Source: GlobalDairyTrade.

reflected in the rise in dairy non-performing loan ratios over the past five years, with recent data showing a notable increase (figure 2.9). While the Reserve Bank understands that this latest rise is driven largely by re-classifications within some banks rather than a deterioration in underlying loan performance, the overall trend warrants ongoing monitoring as these loans reflect significant pockets of financial stress, despite the overall profitability in the sector.

Lending standards in the dairy sector have tightened significantly...

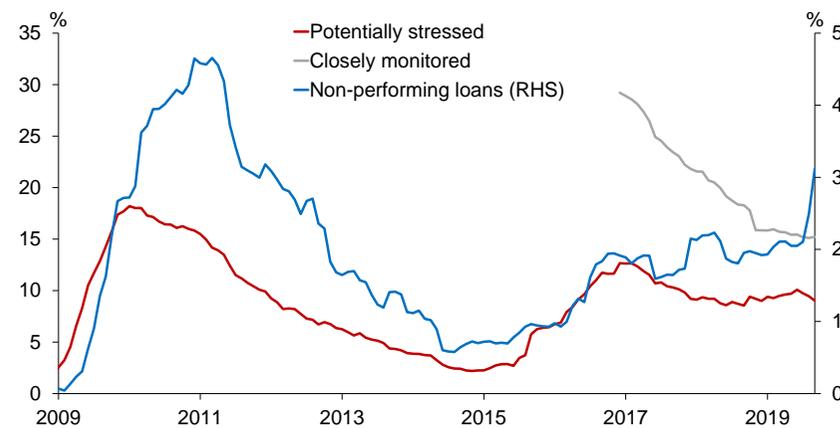
Dairy sector debt decreased by 0.9 percent in the year to September. The contraction in credit reflects banks' reduced appetite to lend to the sector (figure 2.10) and a decline in demand for new loans. Banks expect to tighten credit availability further over the next six months. A number of factors are contributing to this trend, including a desire to diversify agricultural exposures, and a re-evaluation of lending portfolios to manage the transition to higher capital levels (see chapters 4 and 5). In particular, banks may seek to reduce the availability of standby facilities that carry ongoing capital requirements irrespective of any drawdowns, and raise interest rates on riskier loans.

Meanwhile, reasonable dairy prices have reduced the need for some farms to borrow to cover operating costs and banks are actively working with farmers to amortise existing debt.

...and the sector faces longer-term challenges.

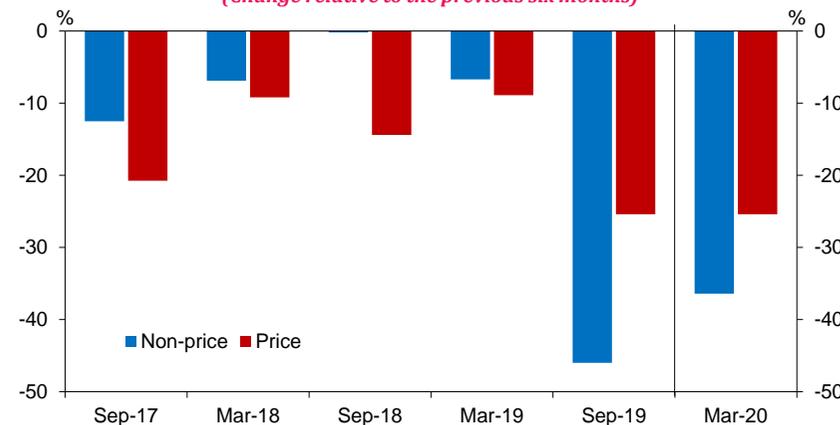
Despite overall profitability in the sector, highly indebted farmers remain particularly vulnerable to shocks such as a price downturn or an unexpected increase in interest costs. Furthermore, environmental regulations

Figure 2.9
Dairy sector loan performance metrics



Source: RBNZ Bank Balance Sheet Survey.

Figure 2.10
Credit availability to the agriculture sector
(Change relative to the previous six months)



Source: RBNZ Credit Conditions Survey.

Note: Data are market share-weighted net percentage changes. A negative value indicates tightening credit availability. Data after the vertical line reflect banks' expected changes over the next six months.

present challenges to the sector and may increase compliance costs. The Government has proposed tougher regulations for farmers to improve water quality, with the aim of achieving a noticeable improvement within the next five years, and has announced a plan to work with the sector to measure and price greenhouse gas emissions at the farm level by 2025.

Additionally, Fonterra made a record loss after writing down some assets by \$826 million and announced that it will not pay a dividend for the 2019 financial year. This announcement raises concerns surrounding its ability to pay dividends in the coming years.

The dairy sector has limited options to address debt overhang.

Low interest rates should help many farmers to pay down debt by reducing interest costs. However, a number of banks are seeking to increase their margins by imposing fees for the provision of various facilities to farmers and through repricing higher-risk borrowers. This means that the most financially vulnerable farms are unlikely to see significant relief in their financing costs.

Currently, options to address excessive debt are limited as farm sales are at historically low levels. Farm price inflation is low and tighter restrictions on foreign investment may reduce demand for dairy farms. Farmers cannot therefore easily sell dairy farm land to repay debt.

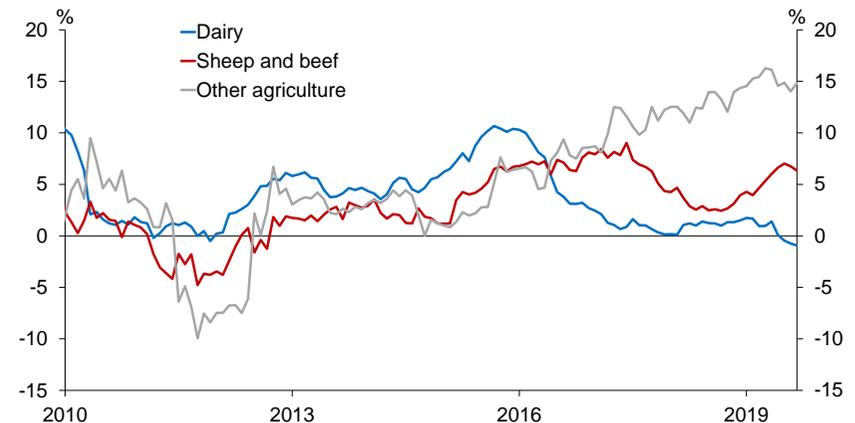
While it is important that banks seek to manage their own exposures to the dairy sector from a systemic risk perspective, it is also important that they continue to work constructively with farmers wherever possible. The current profile of dairy debt reflects a degree of poor decision-making by borrowers

and lenders, but it is important that banks are not overly cautious when implementing new lending policies. Lending always entails a degree of risk but excessive risk aversion by financial institutions when risks crystallise can introduce unnecessary pro-cyclicality into the system, and despite the challenges in the sector, most operations will continue to be viable investments unless payouts decrease significantly.

Banks have been diversifying their agriculture lending.

In recent years, credit growth to the agriculture sector has been driven by lending to non-dairy sectors such as horticulture and sheep and beef. Horticulture credit grew by 18 percent while lending to the dairy sector decreased by 0.9 percent in the year to September (figure 2.11). This is helping to diversify banks' agriculture lending, which decreases their exposure to shocks in a particular sector, such as a dairy price

Figure 2.11
Annual agriculture sector credit growth



Source: RBNZ Bank Balance Sheet Survey, private reporting.

downturn. Although horticulture loans continue to make up a small proportion of agriculture sector lending, rapid growth can be a sign of overly fast expansion, and banks should continue to monitor closely the risks associated with the growth in these sectors.

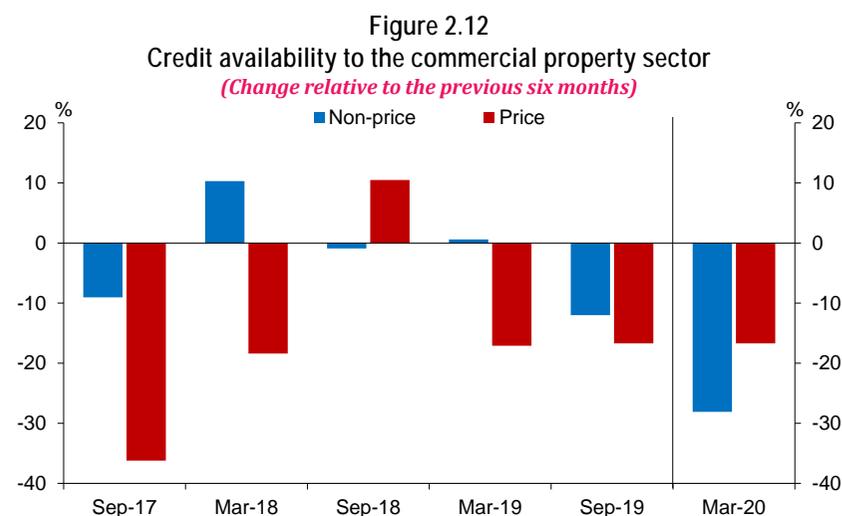
Commercial property

The financial system is vulnerable to downturns in the commercial property sector.

Nine percent of financial system lending is to the commercial property sector, with 87 percent of that to commercial property investment and the rest to property development. Historically, the commercial property sector has been a source of significant bank losses, especially during economic downturns. However, recent lending to the sector has generally been relatively conservative, and the banking sector has a less dominant role than in other sectors. As such, problems in the sector are unlikely to threaten financial stability, but they could exacerbate downturns and weaken financial system resilience, particularly if losses are incurred as risks in other sectors are crystallising.

Banks are tightening lending standards to the property development sector...

Credit growth to the commercial property sector has been relatively flat over the past six months. Banks have tightened credit availability for commercial property loans and further tightening is expected in the next six months (figure 2.12). In particular, they have reduced their appetite for development loans, which are relatively risky, in recent years.



Source: RBNZ Credit Conditions Survey.

Note: Data are market share-weighted net percentage changes. A negative value indicates tightening credit availability. Data after the vertical line reflect banks' expected changes over the next six months.

...but vulnerabilities remain.

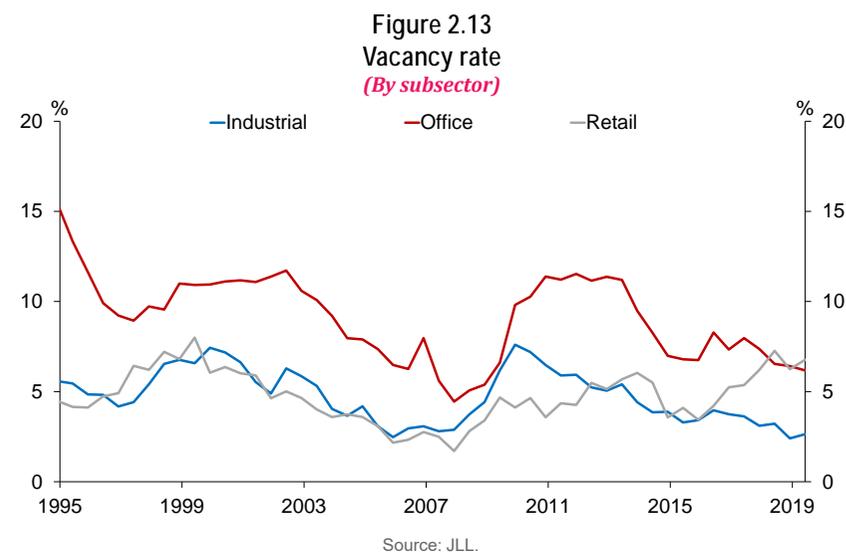
Commercial property prices are sensitive to changes in interest rates. While yields have been falling they remain attractive, particularly in the current environment of low interest rates. The price-to-rent ratio for commercial properties has continued to increase and has exceeded the pre-GFC peak, supported by low interest rates and low vacancy rates. While these factors are helping to mitigate the imminent risk of a sharp repricing, the overall trend is contributing to a build-up in the vulnerability to future shocks, such as unexpected increases in interest rates or an economic downturn.

The commercial property market has also seen changes in market dynamics and new entrants. In an environment of low interest rates, investors have been searching for yield. International interest in New Zealand commercial property has remained high, reflecting relatively attractive yields. There is also anecdotal evidence that domestic household investors have increasingly sought commercial property investments. While this represents an example of monetary policy transmission operating as anticipated, it is important that households understand the nature of the risks they are taking on.

Retail properties face longer-term challenges.

Although the commercial property sector as a whole is currently performing well, retail properties have under-performed relative to industrial properties and offices. The price of retail properties fell by 3 percent while the vacancy rate increased to 7 percent in the year to June 2019 (figure 2.13).

The retail sector is facing increasing competition from online shopping and there is a significant new supply of retail properties nearing completion in some regions. Consequently, the price of some retail properties may be affected, particularly if accompanied by a broader economic downturn. This represents a pocket of vulnerability in the sector.



Chapter 3

The New Zealand financial system's international vulnerabilities



International risks to New Zealand have increased since the last *Report*. Global growth has slowed, and elevated uncertainty has weighed down business confidence and investment. The chance of a further global slowdown or recession has increased, and this comes on the back of a gradual build-up of financial risk in the form of high asset prices, high debt levels, and increased risk-taking across many key financial markets. This means that a downturn could be amplified by significant declines in asset prices and repricing of risk. Any subsequent global recovery would then be weighed down by debt overhang, with limited headroom for monetary or fiscal policy responses in many jurisdictions.

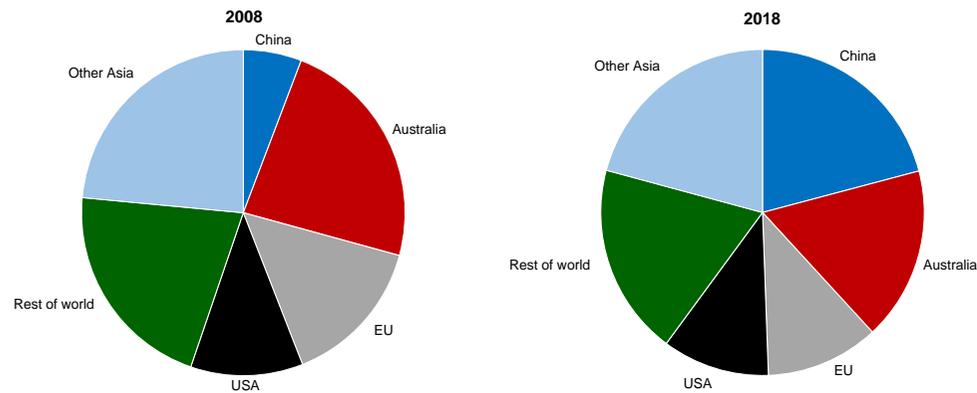
As a small open economy, New Zealand is vulnerable to these external risks. The performance of New Zealand's economy and financial system depends both on economic conditions abroad that determine demand for its exports, and the availability of funding from international financial markets that the banking sector relies on to support consumption and business investment. In addition, there is increasing evidence of a correlation between New Zealand's economic performance and global developments even when our trade channels are performing well.

New Zealand is exposed to global shocks through trade links...

Over a quarter of New Zealand's output is exported. The prices received by New Zealand's exporters depend on economic conditions in its trading partners.

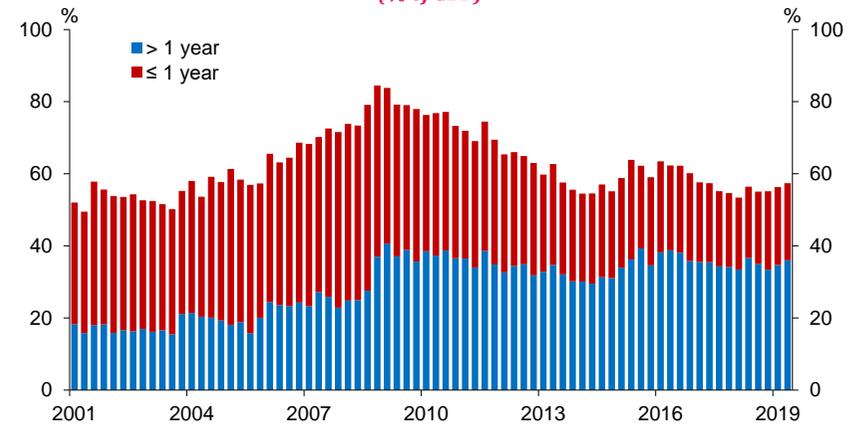
In the last decade the share of New Zealand's exports that go to China has increased substantially (figure 3.1). Additionally, a large share of New Zealand's exports go to other Asian countries and Australia, which also have large and growing trade links with China. These links have helped to boost New Zealand's total exports, a source of resilience in the years following the GFC. However, it also means that New Zealand has considerable exposure to risks in the region.

Figure 3.1
New Zealand's export trading partners
(% of total exports)



Source: Stats NZ.

Figure 3.2
Offshore funding of New Zealand banks by maturity
(% of GDP)



Source: Stats NZ.

...and through reliance on offshore funding.

A persistent gap between savings and investments in New Zealand results in banks relying on offshore funding to finance the difference. Changes in the availability or price of offshore funding can disrupt banks' ability to lend, a key channel by which events in global financial markets are transmitted to the domestic economy.

During the GFC, disruptions to funding markets caused liquidity problems for New Zealand banks. Since then banks have reduced their reliance on offshore funding, especially short-term funding, which needs to be rolled over more frequently and thus is more vulnerable to market disruptions (figure 3.2).

This year there has been a slight increase in offshore funding, spurred by slowing deposit growth and low funding costs in international markets. Looking ahead, New Zealand banks may feel encouraged to tap offshore funding markets more aggressively if the very low interest rate environment continues to make deposit funding relatively more expensive (see chapter 4). This trend will need to be monitored closely.

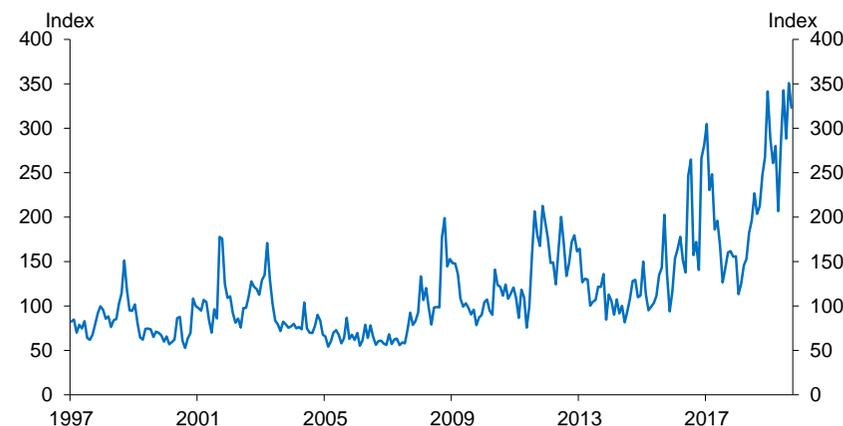
International risks

Global trade tensions and uncertainty are elevated...

Global risks are heightened, due in part to protracted trade tensions. Uncertainty around economic policy recently hit recorded highs, and has contributed to reductions in business confidence, investment, and economic growth across New Zealand's trading partners (figures 3.3 and 3.4). The headroom for central banks and governments to respond to a further slowdown or recession is limited in many jurisdictions, with low or negative policy rates and constrained fiscal space already prevalent.

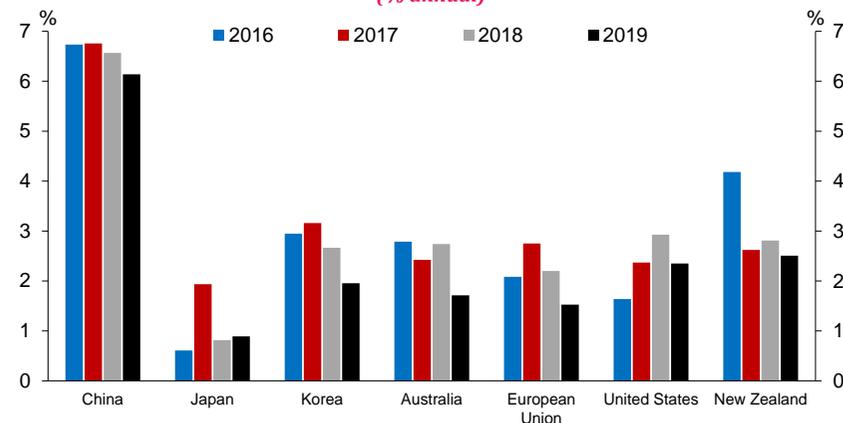
The heightened uncertainty has centred on trade policy, especially around the US-China trade dispute, but also tensions between the US and several of its other main trade partners; Brexit; and various geopolitical risks, for example in the Middle East and Hong Kong. New Zealand's direct exposure to disruptions in global supply chains is moderate, given that a high share of its exports comprises final goods and services for consumption rather than intermediate or investment goods. However, China and other Asian economies are important buyers of New Zealand's exports, and the indirect impacts of a further worsening of trade disputes could be large.

Figure 3.3
Global economic policy uncertainty



Source: Latest update of Baker, S (2016), 'An Index of Global Economic Policy Uncertainty', NBER Working Paper No. 22740.
Note: The index is a GDP-weighted average of sub-indices constructed for 16 major countries, each based on own-country newspaper coverage of policy-related economic uncertainty in that country.

Figure 3.4
Economic growth
(% annual)



Source: IMF World Economic Outlook.
Note: The growth estimates for 2019 are based on forecasts and will be subject to revision.

...but New Zealand has been largely sheltered from the impacts so far.

Global demand and supply conditions have been positive, on the whole, for New Zealand's exporting industries over the last few years. Prices of the commodities exported by New Zealand have tended to outstrip broader global commodity prices (figure 3.5). This trend may continue in the near term; for example, the contraction of the Chinese pork industry due to African swine fever is favourable for New Zealand's lamb and beef export prices, but the confluence of market conditions that is supporting meat, dairy, and horticultural prices will not continue indefinitely.

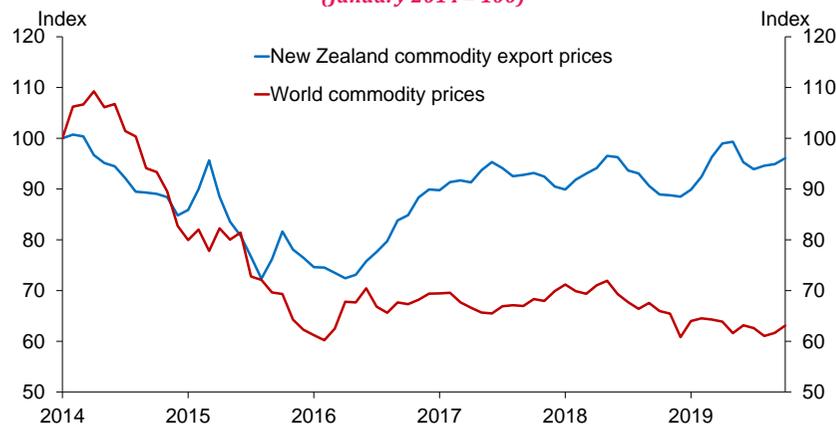
Furthermore, risks that the global economy will deteriorate significantly, bringing demand for New Zealand's exports down with it, have increased as trade disputes drag on and economic data weaken. And while a strong global monetary policy response has helped to counterbalance the direct effects

to date, it leaves little space for further easing, and may be contributing to a build-up of vulnerability by supporting elevated asset prices and low pricing of risk.

Asset prices are elevated, and compensation for risk is low...

The prices of financial assets and property in a number of countries with important links to New Zealand have increased significantly as estimates of neutral interest rates have fallen (figure 3.6). However, current prices likely also reflect the extended period of stimulatory and/or unconventional monetary policy that continues to apply on a cyclical basis. To some extent, this is a desirable outcome for facilitating the recovery of advanced economies from the GFC. However, this ramp-up in asset prices and the search for yield that has pushed investors towards riskier assets raise the risk of large, potentially destabilising corrections.

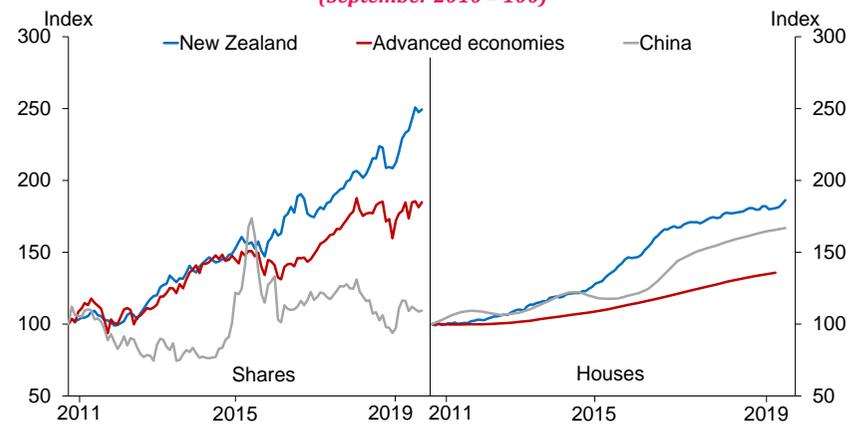
Figure 3.5
Relative performance of New Zealand commodity export prices
(January 2014 = 100)



Source: Bloomberg, ANZ, RBNZ.

Note: The ANZ Commodity Price Index covers the prices of the main categories of commodities exported by New Zealand: dairy, meat and fibre, horticulture, forestry, and aluminium.

Figure 3.6
Asset prices
(September 2010 = 100)



Source: OECD, Real Estate Institute of New Zealand, RBNZ.

Note: House prices for OECD members serve as a proxy for advanced economies.

A significant further global economic slowdown would likely be accompanied by falls in some asset prices and repricing of risk. This could erode wealth, destabilise financial markets, and amplify the downturn. House prices in Australia, China, and a number of other markets appear elevated. US equity prices are high. Corporate bond prices are heightened, with low yields reflecting an expectation of not only continued low interest rates but also low compensation for risk. Corporate bond spreads have risen only modestly this year in response to the worsening global outlook, and remain well below their recent highs in 2011 and 2015 to 2016 (figure 3.7).

A sharp increase in the pricing of risk could make it more costly for borrowers overseas to roll over and service debt, and could have direct impacts on interest rates and debt serviceability in New Zealand by raising banks' offshore funding costs.

...and households and corporates are highly indebted.

Several countries that the New Zealand economy relies on for export earnings or offshore funding have pockets of high debt (figure 3.8). In an economic downturn, many highly indebted borrowers may need to deleverage, amplifying the downturn and the potential spillover to New Zealand. China, the US, and parts of Europe have historically high levels of corporate debt. Australian households are highly indebted. China's household debt has increased rapidly, albeit from a low initial level.

Figure 3.7
Credit spreads on high-yield corporate bonds

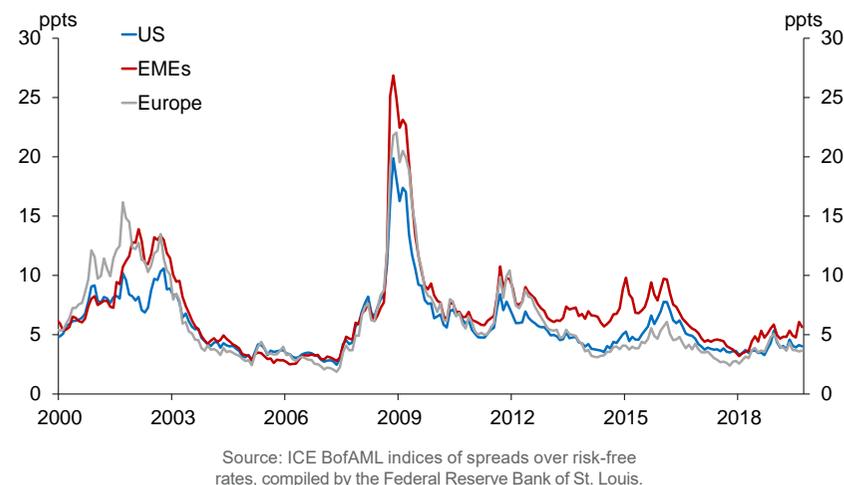
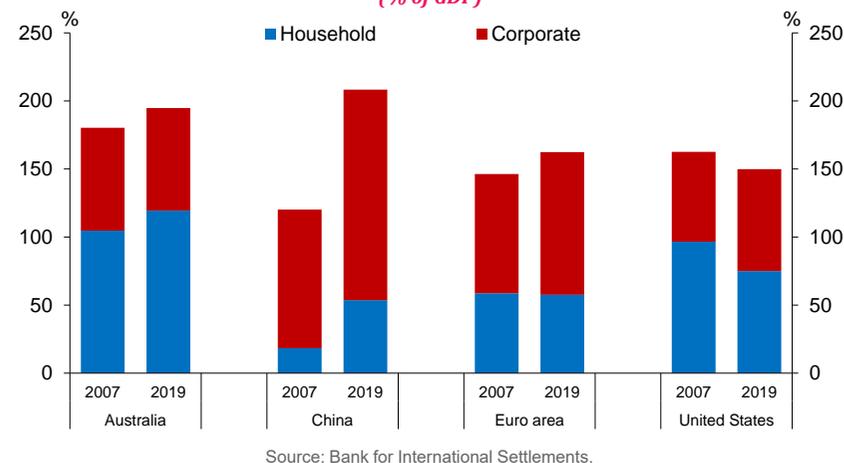


Figure 3.8
Global non-financial corporate and household debt levels
(% of GDP)



Global interest rates are expected to stay low for some time, and there has been a lengthening of maturities of some debt, both of which improve borrowers' ability to service a given debt load. But when longer maturities go hand in hand with increased borrowing, this raises concerns that future debt servicing needs may weigh on investment across the economy for an extended period, particularly if interest rates rise.

The persistent low interest rate environment is contributing towards a range of developments within financial markets. While innovation is an essential component of an efficient system, there are risks associated with new developments, particularly where products grow rapidly and are untested in a full economic cycle. One such example is the growth of loans to already highly indebted corporate borrowers, known as leveraged loans. These have the potential to be a significant area of vulnerability for the global financial system. Estimates of the size of the combined US and European leveraged loan markets range from US\$1.4 trillion to US\$2 trillion, compared to advanced economies' outstanding non-financial corporate bonds total of around US\$10 trillion.³ Roughly half of these outstanding loans are securitised into collateralised loan obligations (CLOs).

CLOs are similar to the mortgage-backed securities and collateralised debt obligations (CDOs) that were central to the GFC,⁴ but are not as complex or as opaque as those products, and therefore appear to be somewhat safer overall. While New Zealand's direct exposure to CLOs is likely minimal, their rapid growth raises concerns around interconnectedness, because they are held by a range of bank and non-bank entities across the global financial system. It remains to be seen whether the market for CLOs stays

liquid in times of stress. In the event of an acute global downturn, a surge of bankruptcies concentrated among the most highly leveraged borrowers might disrupt the market for CLOs, amplifying the downturn and the spillover to New Zealand through trade and funding channels.

New Zealand is vulnerable to financial stability risks in China...

The Chinese banking sector is showing signs of weakness, with three regional banks requiring government assistance this year. The combination of banking sector fragility, high debt, and high property prices points to an accumulation of financial vulnerability as China faces slowing domestic growth, a protracted trade dispute, and heightened uncertainty. This is an area of risk for New Zealand given its direct and indirect exposures to China through trade.

Fiscal and monetary policy in China has so far been effective in cushioning the effects of the trade dispute, helping to moderate the slowdown. But policymakers face a delicate balancing act as they continue their efforts to reduce financial and corporate leverage, rein in shadow banking, and reduce financial interconnectedness. These objectives are in tension with the need to support economic growth by not inadvertently choking off credit to firms, and through further fiscal and monetary stimulus. A further moderate slowdown in China, in line with current expectations, should have limited impacts on the New Zealand economy. However, a scenario in which China suffers an acute financial crisis or recession could have major consequences.

³ Bank for International Settlement (BIS) Quarterly Review, September 2019 and BIS data.

⁴ The BIS September 2019 Quarterly Review includes a box that provides background information on CLOs and a comparison of CDOs and CLOs. www.bis.org/publ/qtrpdf/r_qt1909.pdf.

...and to household sector risks in Australia.

New Zealand's exposure to risk from the Australian housing market and household debt has moderated somewhat, but remains a key external vulnerability. Australia has important financial and trade linkages to New Zealand's economy, and New Zealand's largest banks and insurers are Australian owned.

During the earlier run-up in Australian house prices, household debt reached high enough levels to raise serious concerns about the ability of some households to service their debt in the event of an economic slowdown. A period of moderation in prices in Sydney and Melbourne, combined with continued economic growth, has helped to mitigate the risks overall. However, some households' balance sheets are distressed, especially in Western Australia and the Northern Territory where prices have continued to fall. In these regions, the share of housing loans in negative equity has reached nearly 20 percent and may increase further.⁵

Overall, Australian banks appear to be in a reasonably strong position, but risks remain. A decline in households' ability to service their debts could weaken Australian banks and drive up funding costs, potentially spilling over to funding conditions faced by their New Zealand subsidiaries. Moreover, house prices in Sydney and Melbourne have started to increase again rapidly in recent months, and when combined with a recent easing of monetary policy settings in Australia and a loosening of lending standards, there is a risk that vulnerabilities could increase.

⁵ See the Reserve Bank of Australia's October 2019 Financial Stability Review.

Chapter 4

Developments in New Zealand's financial system



The financial system underpins the health of the economy. A properly functioning financial system allows households and firms to invest or consume, by intermediating funds from savers to borrowers. It also allows for the efficient distribution of risks through time, across people, and internationally.

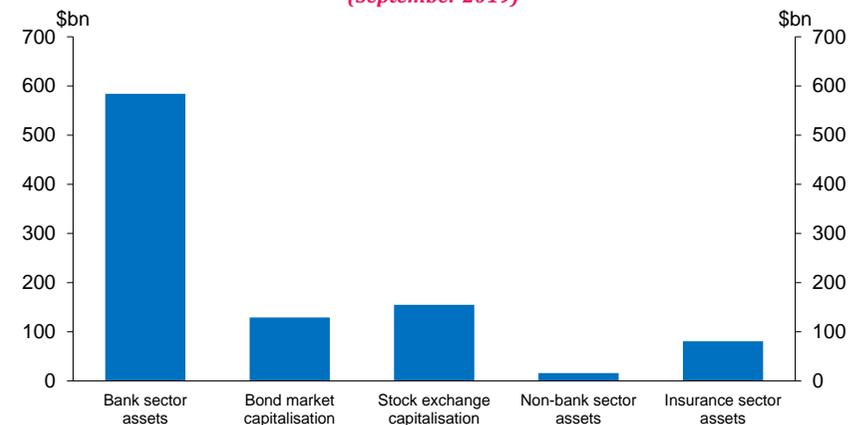
The Reserve Bank is tasked with promoting a sound and efficient financial system. Soundness relates to the resilience of the financial system to shocks. Efficiency relates to how well the system allocates resources to their best use. To achieve these goals, the Reserve Bank regulates and supervises banks and insurers, regulates non-bank deposit takers and oversees financial market infrastructures.

The banking sector is profitable and all banks are meeting current minimum regulatory requirements, but the system needs to be more resilient to shocks to reduce the probability of future financial crises. The insurance sector has low solvency margins and some parts of the sector appear to be relatively inefficient, resulting in high premiums for policyholders.⁶

The New Zealand financial system is highly concentrated and is dominated by the banking sector.

The New Zealand financial system is dominated by the banking sector (figure 4.1). The banking sector facilitates consumption and investment in the economy, and the provision of banking services is high, with over 99 percent of adults having access to bank accounts. The sector is

Figure 4.1
Size of financial sectors in New Zealand
(September 2019)



Source: RBNZ, NZX.

Note: Bond market capitalisation excludes private debt placements. Stock exchange capitalisation excludes unlisted share holdings. Insurance sector assets are for June 2019, and contain unlicensed insurers, including ACC and EQC, as well as licensed insurers.

⁶ This will be discussed further in an forthcoming *Bulletin* article.

concentrated, with the largest four banks accounting for 86 percent of bank lending. The non-bank lending sector is small, accounting for around 3 percent of lending.

Insurance coverage softens the impacts on policyholders of unexpected risk events, allowing them to maintain their wealth and living standards. General insurance products are widely available in New Zealand, but like the banking sector, the insurance sector is highly concentrated.

A resilient and efficient financial system is integral to New Zealand's economic wellbeing.

Financial instability can be very costly for affected countries, in terms of lost economic growth, increased indebtedness, and higher unemployment, which ultimately translate into lasting impacts on social cohesion and wellbeing.

New Zealand's banking sector was exposed indirectly to the GFC in the form of significant liquidity challenges, but did not experience the levels of credit losses that banks in many other countries faced. The system is now more robust to liquidity stresses than it was pre-GFC, but attention has now shifted to ensuring that the system is sufficiently resilient to reduce the probability of future financial crises.

However, prior to the GFC New Zealand did face its own domestic crisis in the finance company sector, with many finance companies failing, exposing investors to significant losses. This period demonstrated the risks to individuals of investing in products where the risk-return trade-off is not well understood, or mispriced, and its lessons are prescient for the current low rate environment where many investors may begin to seek out higher-yielding opportunities.

Banking sector

Because of its large size, the health of the banking sector underpins the soundness of the financial system. The banking sector is profitable and meeting current minimum regulatory requirements, which form an important line of defence against adverse shocks. However, the system is facing a challenging operating environment, and there is increasing evidence of compliance issues that suggest weak governance and assurance frameworks in many banks. If left unaddressed, these issues could compromise the long-run resilience of the sector. This is discussed in box B.

Box B

Increased regulatory scrutiny of banks' compliance processes

Over the past year, a number of banks have disclosed breaches of their conditions of registration. Many of these have related to errors in the calculation of capital adequacy and liquidity ratios, and in some cases have gone undetected for a number of years. The sizes of the errors have varied, but none has yet caused a breach of minimum regulatory requirements. The prevalence and duration of calculation errors indicate weaknesses in the governance and control processes of the banks involved.

This trend is also concerning from a systemic risk perspective. While minimum capital and liquidity requirements have not been breached, the pattern of failure to calculate regulatory requirements correctly points to inadequacies in banks' broader risk management frameworks. Weaknesses in risk management were also highlighted in the recent review of bank culture and conduct. This brings into question the long-term resilience and efficiency of the financial system.

The New Zealand regulatory framework relies on three pillars: regulatory discipline, market discipline, and self-discipline. The Reserve Bank is strengthening all these pillars. In particular, the Reserve Bank will be adopting a more intensive supervisory approach, which will involve greater verification of banks' compliance with their conditions of registration.

Currently, a key component of the regulatory framework is the requirement for directors to attest that their bank is complying with all regulatory requirements. In 2017, the Reserve Bank conducted a review of the bank director attestation process and noted that many banks were attesting to compliance on the basis of negative assurance, i.e. they did not have evidence to suggest that they were not in compliance. Consequently, the Reserve Bank prompted banks to review their assurance processes, and to move from a negative assurance to a positive assurance framework. In this process, breaches have been identified. Some banks have also commissioned independent consultants to review their calculation processes.

The Reserve Bank will continue to monitor these reviews to ensure that the root cause of each error is found and that learnings are adopted widely within each bank. In some cases, the Reserve Bank expects the disclosure of compliance breaches to continue. As a precaution, the Reserve Bank has applied capital overlays to some banks, which will provide buffers against further errors. Larger buffers or enforcement action may be required if significant new errors emerge as the result of the banks' assurance reviews.

The Reserve Bank will continue to engage with banks on their assurance processes and, if necessary, work with banks to strengthen their assurance processes and controls. Given the fundamental importance of accurate capital and liquidity calculations, the Reserve Bank expects directors to continue to focus on these as part of their attestation process.

Banks meet current regulatory minimum requirements...

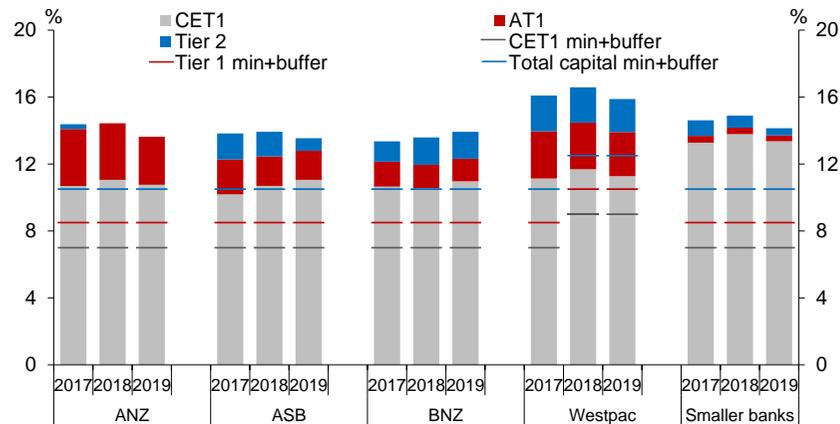
While there is a range of compliance issues currently facing the banking sector, all banks are meeting current minimum capital and liquidity requirements (see table 4.1). Capital requirements ensure that the owners of the bank have a meaningful stake in the business and provide a buffer to absorb losses. All banks have capital funding in excess of the current regulatory minimums (figure 4.2). However, the Reserve Bank is concerned that the current capital requirements are unable to deliver a sufficient level of bank resilience that will meet society's risk appetite. Therefore, the Reserve Bank has proposed increasing minimum capital requirements.

...but are exposed to credit risks in an economic downturn.

The immediate risks that banks face from credit losses are low, with non-performing loans (NPLs) representing just 0.6 percent of the banking sector's lending. However, NPLs for consumer and housing loans have increased slightly over the past two years from low levels (figure 4.3). Agricultural NPLs have continued to rise following the dairy downturn of 2015 and 2016. The banking sector's loan portfolio is at risk of further deterioration if the economy continues to slow, which would increase banks' exposure to credit losses and weaken their resilience.

Figure 4.2
Bank regulatory capital ratios

(% of risk-weighted assets, September quarters)

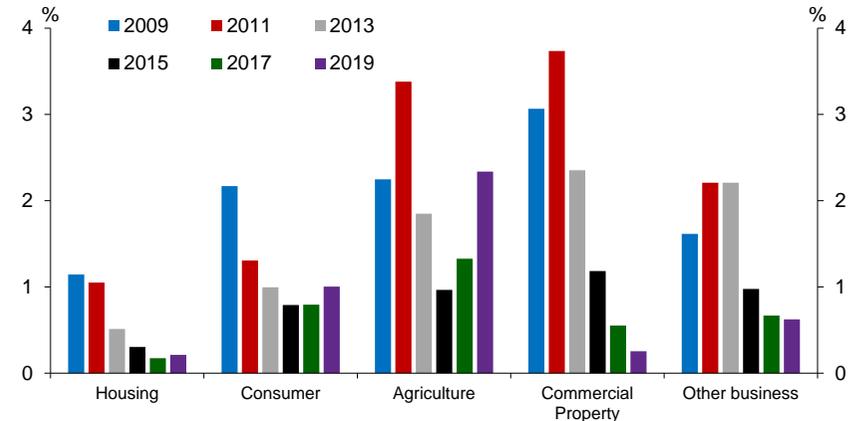


Source: Registered banks' disclosure statements, RBNZ Capital Adequacy Survey.

Note: The capital ratios of individual banks and other key metrics can be found in the *Bank Financial Strength Dashboard*. CET1 stands for Common Equity Tier 1 capital – the highest quality form of capital, and AT1 stands for Additional Tier 1 capital. The Reserve Bank will amend Westpac's conditions of registration from 31 December 2019 to remove the 2 percentage-point overlay on its minimum capital requirements.

Figure 4.3
Banks' non-performing loans

(% of gross loans)



Source: RBNZ Bank Balance Sheet Survey.

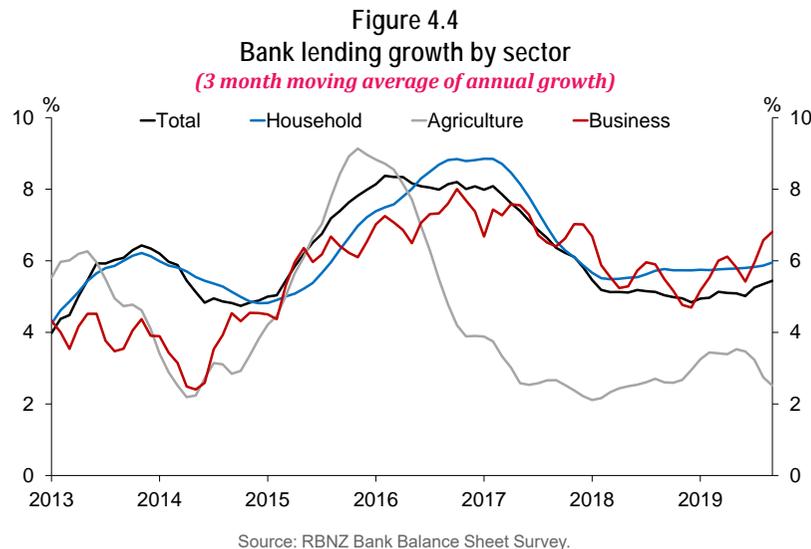
Prudent lending standards and capital buffers help to mitigate risks.

Banks can manage their exposure to credit risk by adopting appropriate lending standards. Lending standards have tightened in most sectors over recent years. Annual growth in bank lending rose from 5.0 percent in September 2018 to 5.2 percent in September 2019, but remained lower than in 2016 and 2017. A similar pattern can be observed across bank lending to most sectors (figure 4.4). Compared to a year ago, credit availability has continued to tighten for commercial property and agricultural lending, but is loosening for residential mortgages.

Banks can also boost their resilience by increasing their capital. Current capital levels provide comfort that the banking sector is robust to near-term

risks, as evidenced by the positive results from recent stress tests. While the stress tests are calibrated to a severe downturn event, the Reserve Bank is seeking to ensure that the system will be resilient to even larger shocks. This reflects increasing evidence that the costs of bank failures to society are higher than previously understood, and extend beyond the loss of output and employment. This suggests that a broader view of society's risk appetite is warranted. In the capital review, the Reserve Bank has sought to calibrate requirements to a one-in-200-year stress event, and as a result has proposed to increase the minimum Tier 1 capital requirement to 16 percent of risk-weighted assets (for large banks), from 8.5 percent currently, to strengthen banks' resilience.

The Reserve Bank will release final decisions on the capital review on 5 December (see chapter 5). This will remove a degree of uncertainty in the market that is currently affecting banks' decision-making in a number of sectors.

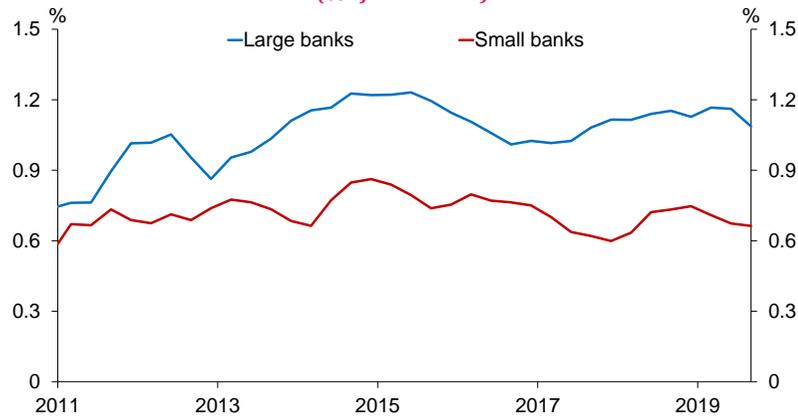


The profitability of the banking sector supports resilience...

New Zealand's banking sector remains highly profitable relative to other countries in the OECD. The system's return on assets has been largely stable over the past year (figure 4.5). Historically, the four large banks have been more profitable than the smaller banks on average, reflecting the large banks' greater economies of scale and better access to offshore funding markets.

Bank profitability provides another important buffer against losses. The Reserve Bank's stress tests show that the assumption of strong profitability is key to banks' ability to withstand credit losses in an economic downturn, and to rebuild their capital buffers. However, bank profitability under stress is uncertain and depends on several factors, including changes in funding costs, exposure to operational risks, and the underlying competitive landscape.

Figure 4.5
Average return on assets by banks
(% of total assets)



Source: Registered banks' disclosure statements, RBNZ Income Statement Survey.

...but profitability may come under pressure if interest rates fall further.

Weak global growth has led to highly accommodative, and in some cases unconventional, monetary policy in advanced economies. The resulting environment of very low interest rates has the potential to affect bank profitability, including in New Zealand.

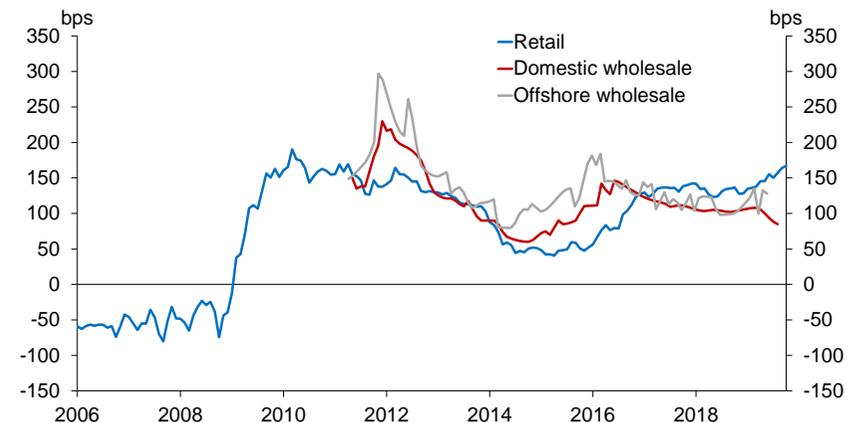
The spread between the cost of new bank funding and the 90-day bank bill rate has widened, driven by a larger spread on retail deposits (figure 4.6). This widening has occurred because banks have not reduced deposit rates to the extent of the fall in the OCR,⁷ which is the primary driver of movements in the 90-day bank bill rate.

⁷ The Reserve Bank monitors funding spreads relative to the 90-day bank bill rate, rather than the absolute funding cost. This spread represents developments in funding cost not directly influenced by monetary policy, and over which the Reserve Bank has little control. This makes the funding spread the risky component of the funding cost.

To mitigate the pressure on funding costs, banks may gradually lower their deposit rates to reflect the low interest rate environment. This may make it harder for them to attract retail funding as households look to maximise their returns. Annual growth in household deposits has already fallen, to 5.1 percent in September from 6.9 percent in September 2018, and is now lower than credit growth.

In an environment where interest rates continue to decline, if banks' deposit rates fall by less than lending rates, their net interest margins will be compressed. At this stage, banks are continuing to compete for deposits, in order to meet internal targets for stable funding. Box C reviews the international evidence on the impacts of very low or negative interest rates on bank profitability. It finds that household deposit rates tend to be sticky and may present a risk, but that overseas banks have generally maintained their profitability using a number of strategies, including increased lending volumes.

Figure 4.6
Marginal funding spread by source



Source: RBNZ Liquidity Survey, RBNZ Retail Interest Rate Survey.

Note: Wholesale spreads are the difference between the cost of new market funding by the large banks and the 90-day bank bill rate, averaged across the large banks. Retail spreads are represented by the spread between the six-month deposit rate and the 180-day bank bill rate.

Large banks may be better placed to respond to the low interest rate environment.

The large banks may respond to the low interest rate environment by sourcing more of their funding in wholesale funding markets, as this currently represents a relatively cheap source of funding. Providing that banks secure funding at relatively long terms, this would help banks to maintain their share of stable funding and reduce rollover frequency, which has a positive stability impact.

Compared with the large banks, the small domestic banks are on average less profitable, owing to their smaller economies of scale and higher operating expenses, and are more reliant on retail deposit funding. These characteristics tend to increase the vulnerability of the small banks to very low interest rates, in terms of their profitability and resilience.

The financial system is increasingly exposed to a number of operational risks...

Operational risk is the risk of losses as a result of deficiencies in internal processes and people, or from external events related to banks' business operations. The Reserve Bank incorporates operational risks in banks' capital requirements, and assesses banks' risk management as part of regular supervision.

Operational risks that have gained prominence in recent years include loan misconduct, IT disruptions, and non-compliance with regulatory requirements.

Misconduct in the sale of banking products can result in reputational and legal costs for banks. A joint review by the Financial Markets Authority (FMA) and the Reserve Bank in 2018 found significant weaknesses in banks' management of conduct risk.⁸ The Government has announced a new financial conduct regime, which will require institutions to meet standards for fair customer treatment.

The failure of key IT infrastructure can disrupt services for firms and households, and incur reputational costs for banks. Some banks are vulnerable to IT disruptions due to outdated and complex IT systems.

...with cyber threats growing as technological advances continue.

Cyber risk poses an increasingly complex challenge for financial institutions, as the evolution of technology increases the avenues for successful attacks. Although New Zealand's financial system has not been affected by a major cyber-attack to date, this should not be interpreted as readiness. According to the Computer Emergency Response Team, the number of reported cyber incidents is increasing. Indicative estimates by the Reserve Bank put the expected annual cost of cyber incidents for the banking and insurance industry at about \$140 million, while potential losses could be as high as \$2 billion, or about 35 percent of the banking sector's net profits. These estimates do not include losses from extreme but plausible cyber incidents. The growing threat posed by cyber risk is discussed in box D.

⁸ See box B, November 2018 Report.

Table 4.1*Key metrics for New Zealand's banking sector (September 2019)*

Metric	Value (%) Current	Value (%) 1 year ago	Regulatory minimum (%)	Comment
Tier 1 capital ratio	13.3	13.5	8.5*	Banks' capital ratios, which measure their ability to withstand losses, remain above regulatory minimums. The Tier 1 capital ratio has been stable over the past year.
Mismatch ratio (one month)	6.8	6.4	0	All banks are compliant with their minimum mismatch requirements and are therefore expected to be resilient to both one-week and one-month periods of liquidity stress.
Core funding ratio	87.4	88.0	75	All banks have buffers of stable funding over what is required by the core funding ratio requirements. This helps to protect them against a disruption in funding markets.
Return on assets	1.0	1.1		Banks remain profitable relative to most OECD countries' banks. Strong profitability can support the resilience of New Zealand's banking sector.
Net interest margin	2.0	2.1		Banks' gross profits from their borrowing and lending activities are high by international standards. These have been relatively stable over the past year.
Non-performing loan ratio	0.60	0.48		Banks' loan portfolios are generally performing well, reflecting the benign economic environment. The system's non-performing loan ratio has risen slightly, but remains low by historical standards.
Cost-to-income ratio	41.6	40.0		The banking sector's costs are low relative to its income when compared to other countries. The cost-to-income ratio has increased slightly over the past year.

* This includes the capital conservation buffer requirement of 2.5 percent of risk-weighted assets, which banks must maintain to avoid dividend restrictions.

Source: RBNZ Capital Adequacy Survey, RBNZ Liquidity Survey, RBNZ Income Statement Survey, RBNZ Bank Balance Sheet Survey.

Notes: Mismatch ratio (one month) is presented as a three-month moving average to remove short-term volatility.

Box C

The impact of very low interest rates on bank profitability

Slowing global growth in recent years has led central banks internationally to maintain or adopt very low policy rates, including in New Zealand. Some have taken their policy rates to negative levels, including in the euro area, Denmark, Switzerland and Sweden. At the same time, global 'neutral' interest rates have also fallen, reflecting demographic and structural trends affecting the demand for and supply of savings. Low interest rates are likely a 'new normal' for the New Zealand and global economies for the foreseeable future.

Low interest rates can affect the stability of the banking sector through several channels. Low interest rates can encourage financial institutions to search for higher returns and increase their lending volumes, which are intended ways for monetary easing to stimulate the economy. However, higher bank lending may be achieved by investing in riskier assets, and reducing their lending standards. Low interest rates can also affect bank resilience by reducing their profitability, including by compressing net interest margins (NIMs). This box examines the impacts of low interest rates on bank profitability internationally.

On balance, international research has found that low interest rates tend to reduce the NIMs of banks.⁹ A portion of banks' retail deposit funding is on-call accounts that generally pay little or no return, and are insensitive to monetary policy settings. A fall in interest rates tends to compress the lending margins associated with this funding. Furthermore, low interest rates tend to flatten the yield curve, which can be negative for net interest incomes, reflecting the fact that banks tend to borrow short term and lend long term.

Other effects of low interest rates can be positive for bank profitability. Evidence from the US, Europe, and other advanced economies suggests that low interest rates induce banks to shift from net interest incomes to non-interest revenue, including fee-based and trading activities. Each interest rate decline also provides a one-off boost to asset valuations, which has supported bank profitability. Borio et al (2019), using 1994-2015 data on 113 large banks in 14 advanced economies, estimate that on average each 1 percent decline in the policy rate is associated with an increase in income from fees and commission of 0.93 percent.

9 Borio, C., Gambacorta, and L., Hofmann, B. (2015), 'The influence of monetary policy on bank profitability.' *BIS Working Papers*, No. 514.

Borio, C., Brei, M., and Gambacorta, L. (2019), 'Bank intermediation activity in a low interest rate environment.' *BIS Working Papers*, No. 807.

Bikker, J., and Vervliet, T. (2017), 'Bank profitability and risk-taking under low interest rates.' *International Journal of Finance Economics* 23:1, pp. 3-18.

Further, a sustained period of low interest rates tends to lower credit risks, by reducing the debt servicing burdens for variable-rate and newly fixed loans. While low rates may encourage bank risk-taking on the flow of new loans, the effects of this on credit losses take time to materialise on the stock of lending. Therefore, low interest rates should reduce banks' level of loan-loss provisions, which will support the profitability of the banking sector.

The balance of evidence suggests that the overall impact of low interest rates on bank profitability is broadly neutral.

There is relatively less evidence of the impact of negative interest rates on bank profitability, reflecting the small number of jurisdictions that have implemented negative rates to date. Negative rates may cause NIMs to contract further if banks cannot pass on negative rates to depositors. In countries where banks are sound, banks have generally been able to maintain similar funding spreads on corporate deposits as interest rates turned negative.¹⁰ In Switzerland and Denmark corporate deposit rates have been negative. Household deposit rates have also generally fallen. However, where the policy rate is heavily negative, for example in Switzerland, evidence is emerging that household deposit rates may be sticky at above zero.¹¹ This suggests that households, which incur relatively low costs from holding cash, may be unwilling to accept a negative deposit rate.

On the lending side, banks have generally passed on the fall in funding costs to borrowers, leading to lower lending rates. Aggregate lending rates remain generally positive, although negative mortgage rates and short-term rates to institutional borrowers have been reported in Denmark and Switzerland respectively. Overall, those countries that have implemented negative interest rates have not experienced significant falls in bank profitability.

Many of the factors supporting bank profitability in a low interest rate environment in the international context would also apply to New Zealand banks. We expect lower NIMs to be balanced out by low credit loss expenses and potentially increases in other revenue sources. A negative OCR is not currently a central scenario in the Reserve Bank's published forecasts. Given that unconventional monetary policy tools have not been used in New Zealand, we are less certain of the impacts of negative interest rates for New Zealand banks. The Bank is considering the potential impacts of unconventional monetary policy tools on bank profitability in its current preparatory work on unconventional monetary policy.

¹⁰ Altavilla, C., Burlon, L., Giannetti, M., and Holton, S. (2019), 'Is there a zero lower bound? The effects of negative policy rates on banks and firms.' *ECB Working Paper Series*, No. 2289.

¹¹ Madaschi, C. and Pablos Nuevo, I. (2017), 'The profitability of banks in a context of negative monetary policy rates: the cases of Sweden and Denmark.' *ECB Occasional Paper Series*, No. 195.

Box D

The Reserve Bank's role in supporting cyber resilience

The frequency and severity of cyber security incidents are on the rise in New Zealand and abroad. While the financial system is a frequent target of cyber criminals, there is also a broader threat to the economy and the wellbeing of New Zealanders. These far-reaching impacts mean that a range of public bodies has taken an interest in combating this risk, including the National Cyber Security Centre, established in 2011, and the Computer Emergency Response Team, established in 2017. New Zealand's market conduct regulator, the Financial Markets Authority, has also become more active and published a report on the cyber-resilience of its regulated entities.

Cyber risk is a well-recognised source of operational risk for financial institutions and there are strong incentives for businesses to protect themselves from cyber-attacks. Previously, the Reserve Bank took the view that public and private interests on cyber risk were relatively well aligned, but that a useful role for prudential regulators was not yet clear.¹²

However, cyber risks are evolving as digitalisation of the financial system deepens, and there is now broad acceptance that cyber risk presents particular challenges that set it apart from other operational risks. For instance, cyber-attacks are seen to be inevitable, rapidly evolving, and highly contagious. Among other things, these features mean that sharing information about cyber events and coordinating responses are crucial to help mitigate impacts and promote the resilience of the financial system.

¹² For details, see 2017 speech by Toby Fiennes (www.rbnz.govt.nz/research-and-publications/speeches/2017/speech-2017-07-19).

¹³ www.bis.org/bcbs/publ/d454.pdf.

Individual firms may be reluctant to voluntarily disclose cyber events promptly because they could face adverse reputational costs if the event becomes widely known before it has been remedied. There are also high costs involved in establishing a trusted information-sharing system, which further disincentivises the sharing of information. In response, prudential regulators are becoming more proactive in promoting the cyber resilience of the financial system.

While a commonly agreed 'best practice' framework has yet to emerge for addressing cyber risks, a range of practices have recently been documented by the Bank for International Settlements.¹³ Publishing cyber resilience guidance and standards and promoting information-sharing are now common in many jurisdictions. Information-sharing requirements may include detail on both the internal resourcing applied to cyber resilience and data on actual incidents that have occurred.

While the Reserve Bank continues to see close alignment between public and private interests on cyber risks, it also recognises that a combination of promoting information-sharing and developing principle-based guidance is likely to enhance cyber resilience in the New Zealand financial system. In developing risk management guidance the Reserve Bank would draw from the range of international practices, tailored to New Zealand circumstances, and in consultation with industry and other stakeholders. Consultation is expected to take place in the first half of 2020.

Non-bank lending institution sector

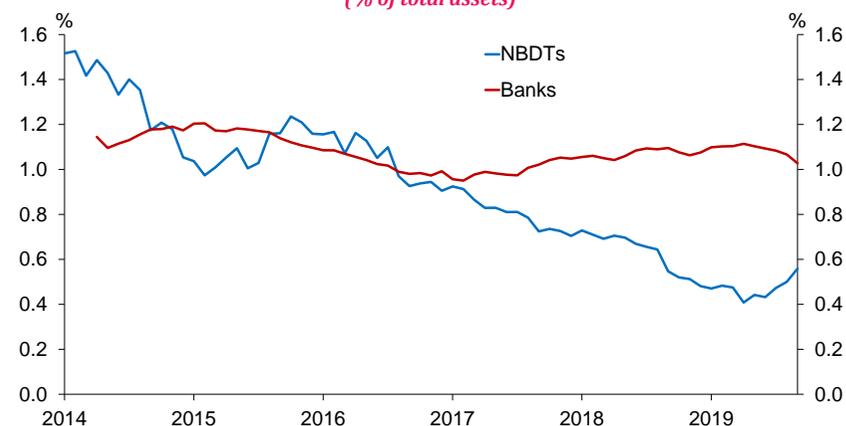
Non-bank lending institutions (NBLIs) include building societies, credit unions, and finance companies, as well as non-retail-funded lenders. Since 2010, the Reserve Bank has been regulating the non-bank deposit taking institutions (NBDTs) subset of the sector, but does not regulate or supervise NBLIs that do not take deposits. The NBLI sector is small, accounting for 2.9 percent of total lending and 0.6 percent of total deposits.

The NBDT sector is generally meeting its regulatory requirements (see table 4.2), although some entities appear fragile and are operating with low buffers. The Reserve Bank regulates NBDTs for the purposes of promoting the maintenance of a sound and efficient financial system, and avoiding significant damage to the financial system from the failure of an NBDT. While this results in a conservative regulatory environment, the Bank does not operate a 'zero failure' regime, and it is plausible that some NBDTs may fail. However, while NBDT failures could have significant impacts on individual investors, they would be unlikely to threaten the overall financial system.

The sector is facing a number of difficult long-term challenges...

Most non-bank lenders are very small, and therefore the sector does not benefit from economies of scale like the banking sector, which weighs on their competitiveness. Compared to banks, the NBLI sector is more exposed to risky lending, including property development, small and medium-sized enterprises loans, and consumer loans. Small lenders are also vulnerable to large single-loss events.

Figure 4.7
Return on assets of NBDTs and banks
(% of total assets)



Source: RBNZ Income Statement Survey, RBNZ Non-bank Deposit-Taker survey.

Note: Excludes firms that have exited the sector between 2015 and 2019. NBDT series excludes UDC Finance Limited.

These factors and, more recently, cost overruns on IT investments by a number of institutions have weighed on the profitability of some non-bank lenders. The return on assets for NBDTs is down from over 1 percent in 2015 to 0.6 percent in September 2019 (figure 4.7).¹⁴ Low profits and a lack of means to raise regulatory capital threaten the resilience of some non-bank lenders.

In the longer term, traditional non-bank lenders also face competitive challenges from FinTech, with uncertain impacts at this stage. The emerging peer-to-peer lending platforms and the buy-now-pay-later services are some of the potential competitors to the established products.

¹⁴ This measure excludes the firms that have exited the sector in this period.

...eliciting a range of NBLI responses that vary in effectiveness.

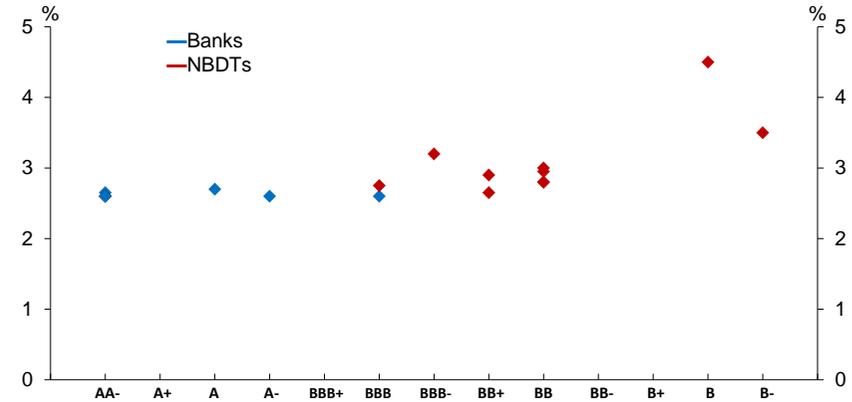
The total assets of finance companies and building societies have increased from a year ago (see table 4.2). Non-bank lenders were able to expand in a number of areas, including residential mortgages and consumer lending. The three-month average value of mortgage loans held by non-bank lenders has increased 88 percent over the past three years, although their share of the mortgage stock remains small at just 1.1 percent. Consumer lending by NBLIs grew 4.5 percent in the year to September, increasing their market share in a sector where bank lending fell 1.8 percent over the same period. NBLIs currently account for a third of the value of consumer loans. This growth in lending activity in the NBLI sector carries risk, but also helps to support their revenue.

NBDTs such as credit unions have sought to improve competitiveness through technological upgrades. For some credit unions this process has been expensive and prolonged. In the past year, several credit unions have merged, seeking to capitalise on economies of scale and to boost their resilience.

Investors may under-appreciate the risk in the non-bank sector.

If interest rates continue to decline, investors may switch from lower-yielding assets, like bank deposits, to other investments in search of higher yields. This may increase the supply of wholesale and deposit funding for NBLIs, helping them to compete for borrowers. However, rapid lending growth can create risks if it is facilitated by a relaxation in credit standards. Furthermore, deposit rates in the sector may not always fully reflect the levels of risk. Figure 4.8 shows that the relationship between the credit ratings of financial institutions and their deposit yields is quite weak at shorter maturities. While there is a more pronounced relationship at longer terms, there remains a concern that risk may be mis-priced for some retail deposits.

Figure 4.8
Financial institution credit ratings and 1-year deposit rates



Source: Interest.co.nz.

Note: Gross yields on a term deposit of \$10,000.

Table 4.2*Selected metrics for the NBDT sector*

Metric	September 2019			September 2018		
	Building societies	Credit unions	Finance companies	Building societies	Credit unions	Finance companies
Total assets	\$1,044m	\$1,141m	\$471m	\$965m	\$1,151m	\$394m
Capital ratio*	12.0%	14.7%	13.7%	10.9%	14.9%	14.3%
Non-performing loan ratio	0.2%	2.4%	5.7%	0.3%	2.5%	4.4%
Return on assets	1.1%	-0.2%	1.3%	0.9%	0.0%	1.4%

Source: RBNZ Non-bank Deposit-Taker Prudential Return.

Note: Excludes UDC Finance Limited, which is consolidated into the Reserve Bank's banking sector statistics.

* The minimum capital ratio is 8 percent for licensed NBDTs with a credit rating from an approved rating agency. For those without a credit rating from an approved rating agency, the minimum capital ratio is 10 percent.

Insurance sector

Insurers provide a valuable risk management function for both individuals and businesses by spreading risks. There are three main types of insurance – life insurance, health insurance, and general insurance.

General insurance is the largest type of insurance, with around 62 percent of total premiums in New Zealand. Life insurance has around 24 percent of the total and health insurance around 14 percent. The market is highly concentrated. Within each market, more than 50 percent of premiums and liabilities are with three or fewer insurers. New Zealand is largely reliant on foreign-owned life and general insurers, and there are few large New Zealand-owned private insurers.

New Zealand has high exposure to natural hazard risk. General insurance penetration is high relative to other countries/regions with equivalent levels of natural hazard risk, and the market is dependent on offshore foreign capital, in the form of reinsurance, to support existing coverage levels.

Like the banking sector, the insurance sector is currently experiencing a high degree of compliance-related issues. This, together with the disappointing response to the recent conduct and culture review of the life insurance sector, raises concerns about the quality of governance within the sector.

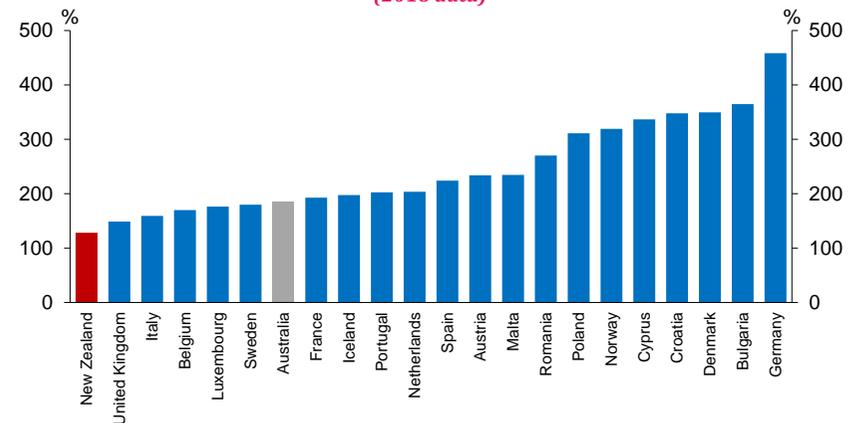
Insurers' solvency ratios are low by international standards...

Solvency refers to the ability of an insurer to meet its obligations to policyholders when they fall due. The Reserve Bank sets minimum solvency standards that are intended to ensure that insurer obligations to policyholders and other creditors will be met in full with a high probability.

The Reserve Bank requires New Zealand insurers to maintain a solvency ratio above 100 percent. Reported solvency ratios have declined for many life and general insurers, leaving insurers with low buffers over regulatory minimums, and further falls are likely for some life insurers due to recent falls in interest rates.

Solvency ratios are risk adjusted. As such, decreasing solvency ratios generally translate into a riskier operating landscape. However, many factors affect the risk profiles of individual insurers and solvency ratios need to be considered alongside any forward-looking mitigation strategies that insurers have in place. The recent trend, though, contributes to the weak aggregate solvency ratios for New Zealand insurers relative to international comparators (figure 4.9),

Figure 4.9
Solvency ratios of international life insurers
(2018 data)



Source: EIOPA Insurance Statistics, RBNZ Insurer Solvency Return, APRA Quarterly Life Insurance Performance Statistics.

Note: Solvency ratios are not directly comparable due to differences in solvency standards between jurisdictions.

and exceptionally low solvency buffers do raise concerns about the ability of insurers to meet the minimum requirements in the event of an adverse shock or a major loss event.

Alongside the forthcoming review of the Insurance (Prudential Supervision) Act 2010 (IPSA), the Reserve Bank will consider the case for a requirement for insurers to maintain additional solvency buffers in New Zealand.

...and may be compressed further in the low interest rate environment.

Sharp changes in interest rates can put pressure on insurer balance sheets and solvency in situations where assets and liabilities are mismatched by duration.

Long-term interest rates have declined sharply to historically low levels (figure 4.10). While some insurers benefit from low interest rates, others are adversely affected. Some of the adverse impacts arising from a fall in interest rates may be a reduction in net assets due to mismatches between assets and liabilities, and reduced future profitability due to a lower investment return on cash and fixed interest investments.

To understand the impacts, the Bank has sought information from 22 life insurers on their sensitivity to interest rate movements, and detail on how they are managing the risks. Initial analysis shows material impacts on the solvency positions of some New Zealand life insurers. The Reserve Bank is actively discussing the impacts with the most affected insurers and has requested that they prepare plans to mitigate and manage the impacts.

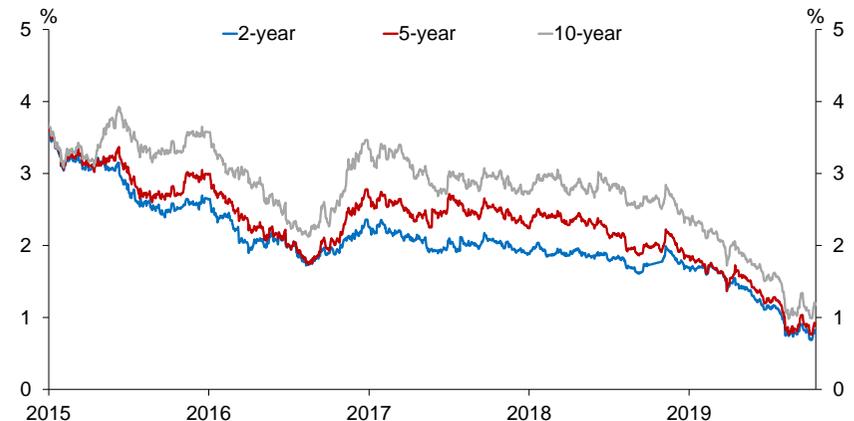
The current difficulties highlight the potential need for stronger solvency standards to be incorporated within the supervisory framework.

A number of insurers are repricing risk...

Sound pooling and pricing of risk is a fundamental feature of an efficient and sustainable insurance sector. However, the Canterbury and Kaikōura earthquakes highlighted New Zealand's susceptibility to natural disasters. This has led some New Zealand-based general insurers to actively review their portfolios, especially in parts of New Zealand that face higher risks of natural disasters, and shift to a more risk-based pricing model for home and contents insurance.

Since mid-2019 some general insurers have been undertaking 'property-by-property' assessments in highly exposed regions. The Wellington and Marlborough regions are examples where some insurers have sought to reduce their aggregate exposures in portfolios such as commercial properties and residential apartment buildings. Owners of properties that are deemed to be more exposed to earthquake damage are finding it more difficult and expensive to obtain cover. In other regions, such as Auckland, that are considered low seismic zones, premium increases, if any, have been smaller.

Figure 4.10
New Zealand government bond yields



Source: Reuters.

On average, dwelling insurance premiums have increased by 8 percent in the last year, and 40 percent in the last three years.

In addition, policyholders should be aware that as climate risks escalate, high-risk assets such as coastal properties and those assets prone to regular flooding could become increasingly difficult to insure.

Increasing premiums could have a potential knock-on effect on mortgage availability in the home buying process where insurance property cover is a prerequisite of any mortgage. They may also affect the ability of existing homeowners to maintain appropriate levels of insurance coverage. An increase in underinsurance could have implications for lenders in a major loss event. There is currently limited coordination between insurers and lenders, and it will be important that processes improve as the full effects of repricing are absorbed, so that risks are appropriately priced and managed throughout the financial system.

...contributing to a significant increase in profitability.

Premium income is growing strongly in the general insurance sector, due to a combination of higher underlying asset values and premium increases, while growth in the life insurance sector is modest.

In the year to June 2019, insurance sector profits grew 42 percent to \$1.2 billion, their highest level since reporting began in June 2016.¹⁵ Non-life insurers' profits have doubled in the past year, with returns on net assets rising to 23 percent (figure 4.11). In contrast, life insurers' profits have fallen by 1 percent, with returns on net assets relatively stable at 12 percent.

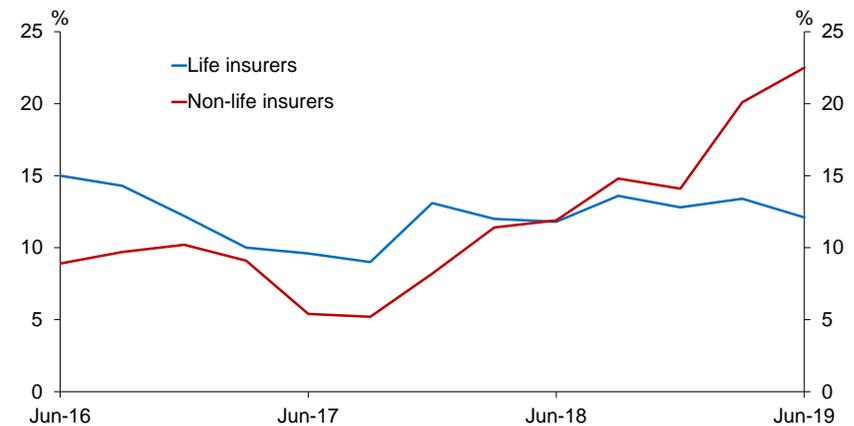
¹⁵ All figures are drawn from the RBNZ Quarterly Insurer Survey, which covers the top 27 insurance companies. Companies that do not participate in this survey make up 10-20 percent of the market based on premium. Survey data is available from June 2016.

Current levels of non-life insurance profits, to some extent, reflect recent benign conditions (a lack of bad storms and earthquakes) resulting in low claims expenses for insurers. However, they also represent recent margin expansion as increases in premiums for high-risk properties have not been fully offset by premium declines for lower-risk properties.

Excessive commissions in the life insurance sector create inefficiency...

The New Zealand life insurance sector has high commissions relative to other countries, with first-year commissions around 200 percent of annual premium. This adds significant cost to customers, and risk to insurers because the business needs to persist for a number of years before acquisition costs are recovered. If advisers churn their customers from one insurer to another, this crystallises losses to insurers and further increases

Figure 4.11
Return on net assets



Source: RBNZ Quarterly Insurer Survey.

costs through the payment of another set of commissions by the second insurer. High commissions also act as a barrier to new entrants and competition because securing market share requires substantial capital to fund acquisition costs.

The Government recently announced a new financial conduct regime in response to some issues with bank and insurer conduct, and gaps in existing regulations. The new regime will prohibit sales incentives based on volume or value targets and require licensed institutions, such as life insurers, to meet a fair treatment standard.

...and there are significant concerns around compliance processes.

During 2018, the Reserve Bank and the FMA conducted a review of conduct and culture within the life insurance sector. At the conclusion of this review, 16 life insurers were tasked with formulating individual plans to address the findings. In September, the regulators reported back on their review of the insurer responses and expressed disappointment that the industry's response had been underwhelming, and that the sector overall had failed to demonstrate the necessary urgency and prioritisation, around investment in systems, to provide effective governance and monitoring of conduct risk.

The generally poor response to the conduct and culture review by some of the insurers falls against a backdrop of ongoing compliance issues within the broader insurance sector. In the year to 30 September 2019, 77 compliance breaches were identified. While many of these were minor in nature, the pattern of breaches raises similar concerns to those identified in the banking sector (box B) in that they indicate poor governance and control processes for the insurers involved.

The Reserve Bank continues to have dialogue with the sector around raising and improving the level of compliance, and setting out the Bank's expectations, and has hosted compliance workshops in Auckland, Wellington and Sydney this year.

The reinsurance market continues to support the price and availability of insurance in New Zealand.

Reinsurance is insurance that is purchased by an insurance company from another insurance company (the reinsurer) to manage risk. New Zealand is a small market with high exposure to natural hazard risk, thus it is highly dependent on offshore reinsurance to support the insurance sector.

This was demonstrated by the Canterbury and Kaikōura earthquakes, for which global reinsurers funded over half the claim costs. Despite these large events, property reinsurance continues to be readily available to New Zealand insurers. The amount of catastrophe reinsurance cover for New Zealand property insurers (excluding the Earthquake Commission and Lloyd's) has grown from \$20 billion in 2011 to \$33 billion in 2019.

New Zealand remains relatively unusual internationally, as property insurance for seismic events is generally not available in most regions with equivalent risk profiles. This reflects the fact that New Zealand is seen as a diversification risk, and that the maximum probable loss in New Zealand is dwarfed by the maximum probable loss in locations such as California and Japan. However, this assessment may change should another major catastrophe affect New Zealand.

Table 4.3*Key metrics for New Zealand's insurance sector (June 2019)*

Metric	Value (%) Current	Value (%) 1 year ago	Regulatory minimum (%)	Comment
Non-life insurers				
Solvency ratio – general	151	137	100	Almost all general insurers are meeting the Reserve Bank's solvency requirements. Buffers have improved slightly on average, but are falling for many insurers.
Solvency ratio – health	344	356	100	Health insurers have stronger capital buffers than general insurers, reflecting that many are mutual companies with restricted access to capital.
Profit margin	9.7	5.7		Profit margins for both general and health insurers have increased over the year.
Expense ratio	13.5	13.8		Expense ratios compare favourably with those of international peers. Expense ratios for health insurers are lower than those for general insurers.
Life insurers				
Solvency ratio	129	124	100	Life insurers are meeting the Reserve Bank's solvency requirements. Buffers have improved slightly on average, but are falling for many insurers, in some cases materially.
Profit margin	17.3	17.9		Profit margins appear to be high relative to international peers. Bancassurers* and mature traditional businesses tend to have higher profits than insurers that distribute through advisors.
Expense ratio	22.0	20.6		Bancassurers have expense ratios in line with international averages. Expense ratios for other types of life insurer are significantly higher.

Source: RBNZ Insurer Solvency Return, RBNZ Quarterly Insurer Survey.

Note: Solvency ratios are as at 31 March 2019 and are for the whole sector. Profit margin and expense ratios are for June 2019 and cover 88 percent of the insurance sector by premium. Profit margin is profit after tax divided by gross premium (expressed as a percentage); note that this measure overstates profitability for mature traditional life insurers with large balance sheets and low levels of premium. Expense ratio is non-commission expenses divided by gross premium (expressed as a percentage).

* Bancassurers are insurers that distribute products largely through banks.

Financial market infrastructures

Financial market infrastructures (FMIs) – such as payment systems, settlement systems, central counterparties, central securities depositories, and trade repositories – deliver services that are vital to the smooth functioning of the financial system. The services provided by FMIs enable payments for goods and services to be made, allow equities and securities to be held and sold, and facilitate risk management.

Our approach to FMI supervision is evolving to reflect a new regulatory framework.

The anticipated enactment of the FMI Bill, combined with a review of supervision resources, will provide an opportunity for a new approach to FMI supervision to be developed and implemented by the Reserve Bank and FMA as joint regulators of FMIs.

To date, FMI supervision has been largely reactive in nature. Greater legal powers and increased resourcing would allow an increased focus on FMI supervision (see chapter 5).

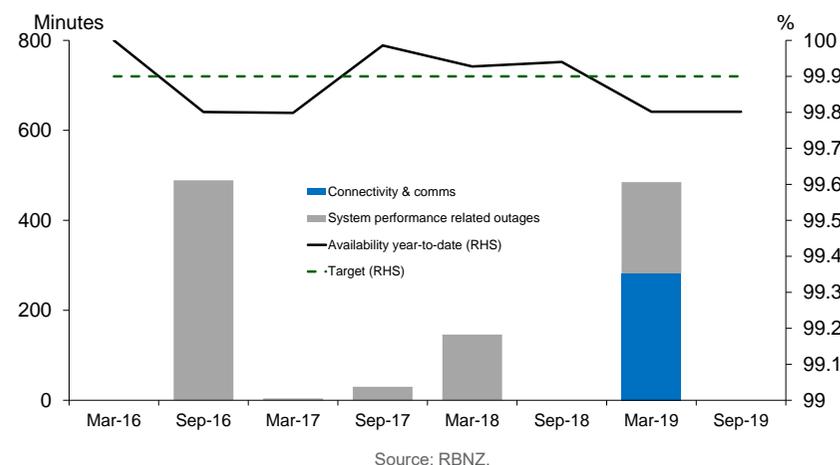
Work continues to improve the resilience of ESAS and NZClear...

The two Reserve Bank-operated FMIs, the Exchange Settlement Account System (ESAS) and NZClear, are going through a major system upgrade. These FMIs are critical to the New Zealand financial system, allowing individuals, businesses, and institutions to settle their financial obligations safely and efficiently. It is a key priority for the Reserve Bank to manage the transition to minimise disruptions.

After a series of delays caused by software development complications, the Reserve Bank is now commencing go-live preparations. The target implementation date is February 2020. The Reserve Bank is working with user entities and the broader industry to ensure all institutions are ready for the launch. However, the new systems will not go live until rigorous testing has been completed, and the Reserve Bank is satisfied with the robustness of the new systems.

The availability of ESAS and NZClear was 99.8 percent over the 12 months ended 30 September, slightly below the Reserve Bank's target of 99.9 percent availability (figure 4.12). This below-target performance reflects three periods of impaired system performance over the 12 months. In all these cases the issues were fixed on the day.

Figure 4.12
ESAS/NZClear availability and outages



Source: RBNZ.
Note: System performance outages and connectivity and communications outages are for the six months to the end of the given month. Availability is for the 12 months to the end of the given month. ESAS and NZClear availability are reported together because of the close links between the two systems.

...and API standards are now available for use.

Payments NZ Limited (PNZ) has been coordinating an industry-led project called 'Payments Direction' to identify the future for payments and develop strategies on how to get there. It includes initiatives to extend the processing of retail payments to weekends and public holidays and speed up the processing of payments.

A key work stream has been to develop common standards for Application Program Interfaces (APIs) and a framework to facilitate the use of those standards. Standardised APIs provide a way for organisations such as banks and FinTechs to exchange customer data securely. In May this year, PNZ launched the API Centre, a hub that offers technological and management standards for those that would like to engage in open banking. Two standards are currently available for use, a payments initiation standard and an account information standard. Both standards are designed to give customers greater access to and control over their banking data, and to enable banks to give third parties access to their systems.

The success of the API framework will depend, to a large extent, on the level of commitment by banks, the willingness of FinTechs to develop applications that use APIs, consumer awareness of and demand for those applications, and take-up by merchants of payments-related applications. Banks are generally supportive of the development of APIs, but still have work to do to build their technical and risk management capabilities. While software developers have been eager to make use of APIs, to date, consumer demand and the interest from merchants have been muted. The Reserve Bank will continue to monitor developments as the API Centre continues to mature with new and updated standards.

Chapter 5

Regulatory developments and initiatives



The Reserve Bank undertakes a wide range of initiatives to ensure that its policies and practices best meet its statutory objective of promoting the maintenance of a sound and efficient financial system, and respond to the evolution of the domestic and international financial system and to changes to international regulation and law.

Deposit-taking sector

The phase 2 review will strengthen the regulatory framework.

The Government is reviewing the Reserve Bank of New Zealand Act 1989 to ensure that the Bank's legislative framework is up to date. Phase 1 focused on monetary policy arrangements and concluded on 1 April 2019. Phase 2 focuses on the Reserve Bank's institutional arrangements and financial policy framework.

The first consultation closed in January 2019. It resulted in a number of 'in principle' decisions by the Minister of Finance, including: retaining the prudential regulation and supervision functions within the Reserve Bank, replacing the existing 'soundness' and 'efficiency' objectives with a single,

overarching financial stability objective, establishing a new governance board, merging the prudential regimes for banks and NBDTs, and establishing a depositor protection scheme.

The second consultation closed in August 2019. In addition to following up on topics from the first round of consultation, it canvassed views on a second group of topics, including:

- The Reserve Bank's regulatory tools and powers.
- How the Reserve Bank should supervise and enforce regulations (including whether the Reserve Bank has appropriate enforcement tools).
- The role of the Reserve Bank in macroprudential policy.
- The features that New Zealand's crisis management regime should have.
- A range of operational matters (including how the Reserve Bank should be funded and resourced).

The Government expects to announce decisions related to the second consultation before the end of the year. A third (and final) consultation paper for phase 2 is expected to follow in early 2020. This will consult further on both prudential regulation issues and depositor protection issues.

The Reserve Bank is enhancing the resilience of the banking sector by revising bank capital requirements...

Capital is a critical safeguard for the financial system. It is the form of funding that stands first in line to absorb losses, protecting depositors and other creditors. Having sufficient capital in the banking sector promotes financial stability by reducing the likelihood of bank distress and supporting the provision of credit to the real economy through a range of conditions.

The Reserve Bank is in the final stages of the capital review process, which began in 2017. A summary of the submissions received on the proposals was published in July 2019. The Reserve Bank also released reports from three external experts in October, which reviewed the analysis and advice underpinning the proposals.¹⁶ All three signalled their overall comfort with the direction proposed in the capital review, but identified areas for further analysis.

The Reserve Bank is considering the comments and suggestions made by submitters and the external experts and has a number of processes underway to address the points raised. These include:

- Considering the alternative options put forward by submitters and the external experts.
- Refining estimates of the costs and benefits of the proposals.
- Considering a range of perspectives about possible interest rate impacts.
- Assessing the transitional impacts of the final settings.

¹⁶ The Summary of Submissions and External Experts Reports are available on the capital review page of the RBNZ website: www.rbnz.govt.nz/regulation-and-supervision/banks/consultations-and-policy-initiatives/active-policy-development/review-of-the-capital-adequacy-framework-registered-banks.

The Reserve Bank plans to release final decisions on 5 December along with the regulatory impact analysis, which will include a full cost-benefit assessment.

...by conducting supervisory stress tests on bank resilience...

The Reserve Bank undertakes stress tests as part of its supervision of banks. The stress tests help to better our understanding of the resilience of banks, improve their internal risk management, and identify emerging risks to financial stability. The 2017 test focused on the four Australian-owned large banks, and this year the focus is on the domestic banks.

The Reserve Bank held a workshop with the domestic banks in early September 2019, outlining the motivations, methodologies, and key milestones of the test. Banks will be submitting results shortly and the aggregated results of the stress test are expected to be published in the *Financial Stability Report* for May 2020. However, as highlighted previously, stress test outcomes are subject to significant modelling uncertainties around bank profitability and the magnitude of credit losses. Therefore, the headline results should be viewed as only one of many indicators of bank resilience. Over the coming year, the Reserve Bank intends to review its stress-testing framework to ensure it is maximising its contribution to financial stability.

...and reviewing the operation of the existing liquidity policy.

Liquidity is the ability of a firm to meet its financial obligations as they fall due and to finance growth in its business. Strong liquidity profiles are important for all companies, but are particularly critical for banks, given the maturity transformation role that is inherent in much of their business.

In January 2010 the Reserve Bank introduced a liquidity policy that imposes minimum prudential standards on banks, addressing the degree of liquidity risk that they can take on, and their approach to managing that risk. The policy has operated well to date, and has been effective in strengthening the banking sector's liquidity profile by driving a shift towards more stable funding sources, such as longer-maturity market funding and deposit funding. However, there have been examples of inconsistent application, and international standards have been introduced in the intervening period.

As a result, the Reserve Bank is conducting a thematic review of the liquidity policy. The review commenced in July 2019 and will assess banks' compliance with the quantitative and qualitative requirements of the policy, as well as provide broader insights into the banking industry's liquidity management practices. The Reserve Bank expects to publish a thematic report by the end of June 2020, and the findings from this work will feed into a policy review that will follow.

The Reserve Bank is reinforcing market discipline through a new breach reporting process...

The regulatory framework in New Zealand places significant weight on self and market discipline to buttress the effects of the core regulatory requirements. This model works more effectively when all stakeholders are able to find and compare information about banks' compliance history easily.

Following a public consultation and series of workshops with banks, the Reserve Bank recently published its final policy decisions on a new framework for the reporting and disclosure of banks' breaches of regulatory requirements. The framework formalises the current expectation that banks should promptly notify the Reserve Bank of breaches, and will draw on this reporting to publish collated information on material breaches, on a new dedicated page on the Reserve Bank website.

The breach reporting obligation will be imposed on banks from 1 January 2020. The requirements include a materiality cut-off to encourage bank directors to focus on significant issues and the management of key risks. A corresponding change to the bank disclosure statement regime will modify the current requirement of banks to disclose all breaches in their disclosure statements.

...and promoting financial inclusion through ongoing development of the dashboard tool.

The *Bank Financial Strength Dashboard* (the dashboard) has been live since May 2018. It allows side-by-side comparisons of banks on a range of key metrics, to help the public and investors judge the relative safety of banks. The Reserve Bank is developing a te reo version of the dashboard to ensure that it is more widely accessible to the New Zealand public. In addition, the Bank will be undertaking a broader review of the tool in 2020 to identify potential improvements to the content and publication process.

Insurance sector

The Reserve Bank will be reviewing the legislative framework underpinning the insurance sector...

The Reserve Bank regulates the insurance sector for the purposes of promoting the maintenance of a sound and efficient insurance sector, and promoting public confidence in the insurance sector.

In 2017, the Reserve Bank initiated a review of the Insurance (Prudential Supervision) Act 2010 (IPSA) and held an initial consultation. The review was designed to see how the Act was performing after several years in operation, and in light of the findings of an IMF report on New Zealand's financial sector and regulatory framework. The review was placed on hold in 2018, however, to allow resources to be focused on phase 2 of the review of the Reserve Bank of New Zealand 1989 Act. The Bank now intends to re-initiate the IPSA review in the first half of 2020.

In light of upcoming accounting changes and concerns around the resilience of the insurance sector solvency standards (including the possible introduction of buffers) will also be reviewed.

...and is conducting a review of the critical role played by appointed actuaries.

IPSA currently requires each insurer to have an 'appointed actuary' who is responsible for a number of functions, including reviewing elements of financial statements. The Reserve Bank is conducting a thematic review

of the appointed actuary regime. The review aims to (a) better understand how the appointed actuary role works in practice for insurers, actuaries and supervisors, and (b) identify potential areas for improvement, such as policy changes or guidance, that would make the role more effective.

Fifteen insurers and their appointed actuaries are participating in the review. Initial desk-based reviews and on-site interviews with the appointed actuary and the key people they interact with are now complete, and follow-up meetings are being held with other stakeholders. The Bank will publish a thematic report in the first quarter of 2020 setting out general findings, and provide feedback to the insurers that participated. The findings from the review will also inform the broader IPSA review process.

Payments and market infrastructures

New legislation will maintain New Zealand's access to global OTC derivatives markets.

New rules being introduced across the G20 require each counterparty to an over-the-counter (OTC) derivative to exchange margin (i.e. collateral), to protect themselves from financial loss in the event that the other counterparty to the derivative defaults. These rules are part of a package of measures adopted following the GFC in order to address systemic risks in financial markets. In certain circumstances, they also have extraterritorial reach, and as a consequence cover important New Zealand financial institutions.

The Financial Markets (Derivatives Margin and Benchmarking) Reform Amendment Act 2019 passed into law on 30 August 2019. Part 1 of the Act amends a number of aspects of New Zealand law that would otherwise prevent compliance with the new margining rules. In doing so, it ensures that large New Zealand counterparties can maintain access to global OTC derivatives markets (which is particularly important for large New Zealand banks in order to hedge the foreign currency risk associated with their overseas funding programmes). The Act was jointly progressed by the Reserve Bank and the Ministry for Business, Innovation and Employment.

The framework for overseeing FMIs is being modernised...

Financial market infrastructures (FMIs) are multilateral systems or networks that provide trading, clearing, settlement, and reporting services in relation to payments, securities, derivatives, and other financial transactions. Well-managed and operated FMIs are essential to the sound and efficient operation of the financial system.

The Government has agreed to the adoption of a new regime for the regulation and supervision of FMIs, which will be implemented by the forthcoming FMI Bill. The Bill is expected to be introduced before the end of this year and passed before the end of 2020. It will provide for information-gathering powers that apply to all FMIs, and a more wide-ranging set of regulatory powers that will apply to designated FMIs (i.e. FMIs that are identified as systemically important, or that opt-in to designation). Crucially, the Bill includes a comprehensive set of crisis management powers, which are absent in our current legislative settings.

It is anticipated that a more focused approach to FMI supervision will take the form of more engagement with the management and board of FMI operators, and increased participation in the oversight of designated FMIs

domiciled overseas. It may also include more proactive encouragement of FMIs to observe international best practice as embodied in the Principles for Financial Market Infrastructures (particularly in respect of risk management and governance), and verification of information provided by designated FMIs.

Engagement with currently designated FMIs will be enhanced prior to the enactment of the FMI Bill, as resourcing increases. Preparations for designation under the Bill, such as determining which FMIs are systemically important, and developing standards to be applied under the Bill will start in early 2020.

The Bank is working with the Financial Markets Authority (the joint regulator of most types of FMIs under the Bill) on plans to operationalise the framework. The joint regulators will continue to engage with stakeholders as the new supervisory approach is developed.

...and the role that cash plays in the financial system and for broader society is being reviewed.

While innovation continues to drive new developments in the payments landscape, physical currency remains an important transaction channel for New Zealanders. The Reserve Bank published an issues paper in June, analysing the trends in cash use in New Zealand and identifying the negative effects of a decline in the availability of cash, both on certain groups of people and across New Zealand society as a whole. The paper also noted the cost to the economy of the cash-handling infrastructure. We received feedback from nearly 2,400 individuals and groups. In addition, 3,100 people randomly selected from the electoral roll have responded to a survey designed to update our understanding of how cash use is changing in light of new technologies and payments innovations.

The Reserve Bank released a consultation paper on 2 October seeking views on whether it should have an expanded stewardship role for cash. This would include increased information-gathering powers over cash system participants, setting banknote quality management standards for machines that recycle cash, and an ability to recommend to the Government that requirements be imposed on banks to provide cash services.

The Reserve Bank is working towards a final package of proposals in December that will reflect the feedback received in the two consultations, the public survey results, and the results of extensive other research that is underway. Within this package, the Bank will signal the actions it is proposing to take in response to these findings, including any ongoing cross-government work and potential legislative change.

Climate change

The Reserve Bank is working to implement its climate change strategy. The Bank is continuing to develop a process to identify, measure, and publish its own emissions, and recently invested \$100 million into a BIS green bond fund. The Bank will continue to work towards enhancing its own reporting and seek opportunities to green the financial system, both through its own operations and through working constructively with others to facilitate broader market developments. In addition, the Bank is working to develop its in-house capacity to roll out an expanded supervisory programme for the financial system in 2020. This is likely to include enhanced data collection and monitoring, and further engagement with management and boards.

The Reserve Bank continues to engage with the Central Banks and Supervisors Network for Greening the Financial System (NGFS) and the Sustainable Insurance Forum on global initiatives to strengthen the financial system's response to climate change risk. The Bank is an active participant in the NGFS's work to analyse the macroeconomic and financial stability implications of climate change. In July, the NGFS published a technical report setting out options for assessing the risk, and is now working to produce reference scenarios and guidelines for scenario analysis. The Bank will leverage this work in its future assessments of systemic risk and stress testing. In addition, the Bank recently participated in a joint event with the NGFS and other central banks in the region to ensure emerging trends, supervisory practices, and sustainable finance insights are shared with central banks in the South Pacific region.

The Reserve Bank is also engaging with other agencies domestically to help advance broader government initiatives to address climate change. The Ministry for the Environment is currently consulting on mandatory disclosure of climate related financial risks. The Reserve Bank places significant weight on disclosure as part of its broader regulatory framework, and supports efforts towards credible and workable climate change reporting.

Appendix

Compliance and other supervisory actions



Westpac's internal capital models

In November 2017, the Reserve Bank imposed a capital overlay on Westpac New Zealand Limited (Westpac) after an independent review found Westpac had failed to comply with regulatory obligations relating to its status as an internal models bank, including failing to meet requirements around model governance, processes, and documentation.

Since the finalisation of the independent review, Westpac has worked to remedy the issues identified, and has developed a number of new internal credit risk models. It has also made changes to its internal processes, governance and resourcing.

The Reserve Bank provided feedback to Westpac on its remediation work throughout this period. In June 2019, Westpac provided the Reserve Bank with a submission detailing the actions it has taken to address the identified non-compliance.

As a result of this remediation process, Westpac has retained its accreditation as an internal models bank. The Reserve Bank will amend Westpac's conditions of registration from 31 December 2019 to remove the capital overlay.

ANZ model for operational risk capital, and governance, risk management and internal controls

In May 2019, the Reserve Bank revoked ANZ Bank New Zealand Limited's (ANZ's) accreditation to model its operational risk capital requirement due to a persistent failure in its controls and attestation process. As a consequence, ANZ is required to use the standardised approach for calculating its operational risk capital requirement.

The Reserve Bank has required ANZ to provide two reports by an external reviewer, in accordance with section 95 of the Reserve Bank of New Zealand Act 1989. The first report will cover ANZ's compliance with the Reserve Bank's current and historic capital adequacy requirements. The second report will assess the effectiveness of ANZ's directors' attestation and assurance framework, focusing on internal governance, risk management and internal controls.

The Reserve Bank has been engaging with ANZ and the appointed external reviewer. A summary of each report will be published when finalised.

BNZ capital governance and control

Between 30 May and 28 June 2019 the Bank of New Zealand (BNZ) informed the Reserve Bank of three breaches of its conditions of registration arising from miscalculation of its risk capital. While BNZ's minimum capital requirements have not been breached at any point, the errors raised concerns regarding BNZ's ability to provide positive assurance to its board, and to the Reserve Bank, of its compliance with its regulatory capital requirements. The prevalence and duration of calculation errors indicated that weaknesses in governance and control processes had gone undetected for a number of years, increasing the prudential concern.

The errors were identified in the course of a BNZ-initiated internal review, in support of its transition from a negative to a positive compliance assurance regime.

In response to the errors, and to reflect the potential for further issues to arise during the course of the review, the Reserve Bank has increased the floor in BNZ's operational risk model from \$350m to \$600m.

Liquidity and capital calculation errors

There has been a general increase in institutions uncovering instances of non-compliance over the last few months, with a number of instances being disclosed to the Reserve Bank and in public disclosure statements. These have tended to be the result of calculation errors, which have not yet resulted in breaches of minimum regulatory requirements.

Kiwibank Limited (Kiwibank) recently undertook an internal review of its capital and liquidity calculations, which identified errors in the way it calculated its regulatory capital and liquidity. Kiwibank is continuing its review and working to rectify these errors. The Reserve Bank is satisfied that Kiwibank would have met its minimum capital and liquidity requirements during this period.

Heartland Bank Limited (Heartland) has identified that it had been incorrectly calculating its risk-weighted assets and regulatory capital, as well as its liquidity ratios. Heartland remained compliant with all of its minimum regulatory capital and liquidity ratios, and has engaged an external consultant to undertake a review of its calculation of its regulatory capital and liquidity requirements.

The Reserve Bank continues to work with the banks concerned to ensure that errors are remediated, and any underlying issues are appropriately addressed. While the Reserve Bank is supportive of banks' initiatives to improve compliance with regulatory obligations, it is disappointed that the non-compliance was not uncovered previously.

