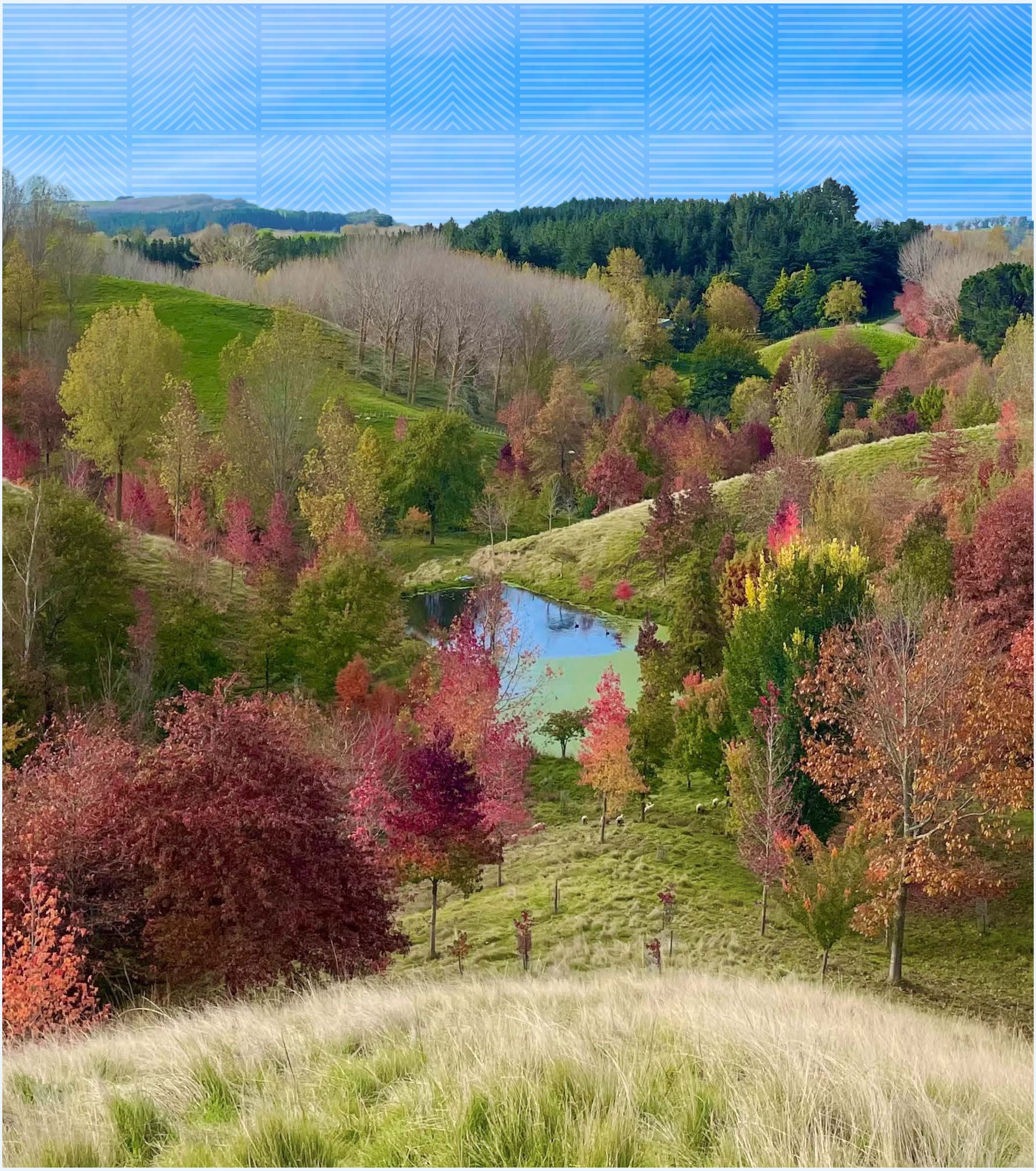
Reserve Bank of New Zealand
Te Pūtea Matua

11/2023

Financial Stability Report



Purpose of the Financial Stability Report

The *Financial Stability Report* outlines our assessment of the state of, and risks to, financial stability. The *Report* is one of our key publications, and aims to raise public awareness of developments in the financial system. It is published pursuant to section 170 of the Reserve Bank of New Zealand Act 2021, which states that the *Report* must:

- report on matters relating to the stability of New Zealand's financial system, and other matters associated with the Reserve Bank's prudential objective; and
- contain the information that is necessary or desirable to allow an assessment to be made of the effectiveness of the Bank's use of its powers to protect and promote the stability of New Zealand's financial system, and achieve the prudential objective.

Our prudential objective is to protect and promote the stability of New Zealand's financial system. Financial stability means having a resilient financial system that can withstand severe but plausible shocks and provide the financial services that we all rely on. This ensures everyone in Aotearoa can safely save their money, make everyday transactions, access credit to consume and invest, and insure against risks.

The *Report* outlines our assessment of the state, resilience, and vulnerability of the financial system and its component parts. We assess how global and domestic developments are affecting the financial health of New Zealand's households and businesses, and the financial performance and resilience of our financial institutions. We also highlight longer-term risks and issues that may affect financial stability.

This analysis feeds into setting our strategy and priorities for pursuing our financial stability objectives. These priorities, and progress towards achieving them, are also outlined in the *Report*, including actions to strengthen the regulatory framework, the use of our macro-prudential policy tools to mitigate the build-up of systemic risk, work to enhance the risk management of regulated entities, and our enforcement activities.

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This *Report* uses data available up to 27 October 2023.

ISSN 1176-7863 (print)
ISSN 1177-9160 (online)

Thank you to staff in the Financial Stability Group for the photography in this *Report*.
Cover image: Hawke's Bay farm. Photo: Angus McGregor

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Financial Stability Report

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CHAPTER 01

Red Rocks, Wellington. Photo: Zoe Robinson

CHAPTER 1
Financial stability risk and policy assessment

Key points

- Globally, core inflation remains elevated and central banks are expected to keep monetary policy tight for some time. While the global economy's adjustment to higher interest rates has been relatively benign so far, the full impact is still to be seen and there are several tail risk scenarios. Key global risks in the near term include the possibility that central banks need to tighten monetary policy further, unanticipated impacts from previous tightening, potential spillovers from the current slowdown in the Chinese property market and escalation of the war in the Middle East.
- New Zealand households and businesses continue to face higher debt servicing costs. The share of mortgages in arrears is increasing from low levels. Pockets of stress are likely to grow in the medium term as highly-indebted households continue to be tested by higher debt servicing burdens. A key risk to financial stability would be a significant deterioration in the labour market.
- The New Zealand housing market has stabilised following a decline in prices and activity since late 2021. Recent months have seen house prices rise modestly across most regions, supported by strong net immigration, though high interest rates continue to suppress buyers' borrowing capacity.
- A lower milk payout and increased costs are likely to see some dairy farmers making a loss in the current season, with highly indebted farmers particularly at risk. A single season of low payouts is unlikely to lead to widespread financial distress across the industry. However, a prolonged downturn in dairy prices could see a material pickup in loan losses for banks. Farmers in some areas also face increased risk of drought conditions due to the impacts of El Niño.
- New Zealand's banking system remains well placed to handle potential external shocks and a downturn in the economy, as shown by recent stress tests. Banks' liquidity positions are strong and capital ratios are well progressed towards meeting the higher requirements being phased in by 2028. Asset quality is currently high, but banks are preparing for a likely deterioration over the medium term.
- Insurers' solvency positions remain robust across the three main sectors, despite profits being under pressure. Increasing reinsurance costs are putting upward pressure on insurance premiums for general insurers.
- Significant progress has been made in the past six months towards further modernising and strengthening our prudential regulation functions. The enactment of the Deposit Takers Act 2023 (DTA) in July has been a major milestone, as it will create a single regulatory framework for banks and non-bank deposit takers.

Global inflationary pressures remain elevated and monetary policy is likely to remain contractionary

Inflationary pressures remain elevated in many economies, with core measures of inflation easing only modestly over the past six months (figure 1.1). Supply chains have largely recovered from the effects of the COVID-19 pandemic and Russia's invasion of Ukraine. Central banks' monetary policy tightening has also acted to lower inflationary pressures and has contributed to a weaker global growth outlook. The full impact of this tightening is still to be seen, with labour markets remaining tight and unemployment remaining relatively low. There is uncertainty as to how quickly inflation will return to target levels, with some countries seeing pressures ease faster than others. It is likely that monetary policy will need to be at a contractionary level for some time, and a key risk is that monetary policy may need to be tightened further.

Global financial systems have stabilised since the US banking turmoil earlier this year

Strains in the US banking system earlier this year saw the failure of three mid-sized banks and, through a more general decline in market confidence, contributed to the distressed acquisition of Switzerland-based global investment bank Credit Suisse. In the context of higher interest rates, the US bank failures reflected idiosyncratic factors at each institution, such as weaknesses in interest rate and liquidity risk management, as well as in the banks' supervision. The swift interventions by authorities in response to the stress, and the build-up in overall financial system resilience from regulatory reforms after the Global Financial Crisis (GFC), worked to contain and mitigate the impact of these bank failures. Now that the immediate stresses have abated, regulators are identifying the lessons from these failures to make further enhancements to prudential rules and frameworks.

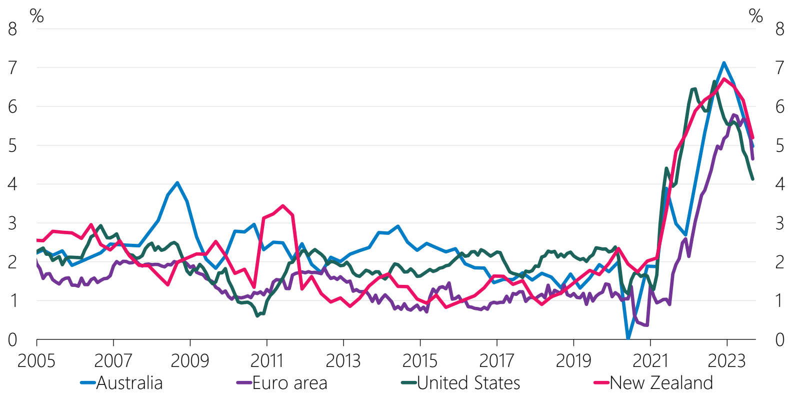
Despite these events, global financial systems have been largely resilient to risks emanating from higher interest rates. In the short term, profitability has been temporarily buoyed by the effect that rising interest rates have on banks' net interest margins. Lending asset quality has also remained high, partly reflecting that labour markets have remained strong, supporting households' ability to make their debt repayments.

Nevertheless, global risks remain heightened

Pockets of stress are likely to emerge globally as the full impact of the monetary policy tightening plays out. Highly-indebted households will continue to be tested by higher debt servicing burdens. This, along with expectations of rising unemployment, has weighed on consumer confidence, impacting spending and revenue for some business sectors. Risks to commercial real estate lending are particularly elevated given headwinds from higher interest rates and shifting demand patterns following the pandemic, which are more pronounced in some countries (see Special Topic 1 in Chapter 2).

Growth expectations for the Chinese economy have declined, as consumer demand has not bounced back to the extent initially expected following the removal of COVID-19 restrictions late last year. Confidence in the Chinese property market has also been weak, with land and home prices falling and real estate investment activity currently at around half the level experienced over the previous decade.

Figure 1.1
Core inflation
(annual CPI inflation, excluding food and energy)



Source: Haver Analytics.

Efforts by Chinese authorities to support stalling property developments, including low-cost loans, have so far seen limited success, and many of the country's development companies remain in a precarious financial position. Further weakness in Chinese economic activity would weigh on global growth prospects and reduce demand for New Zealand's exports. Direct financial risk spillovers are likely to be limited, however, given the largely domestic focus of the Chinese financial system (see Box A in our November 2022 *Financial Stability Report*).

The economic impact of the Israel-Hamas conflict is still highly uncertain and will depend on the extent to which the conflict escalates. We are monitoring the situation and its potential impacts closely.

Taken together, while the global economy's adjustment to higher interest rates has so far been relatively benign, the full impact is still to be seen and there are several tail risk scenarios that could eventuate that institutions and policymakers need to remain vigilant against.

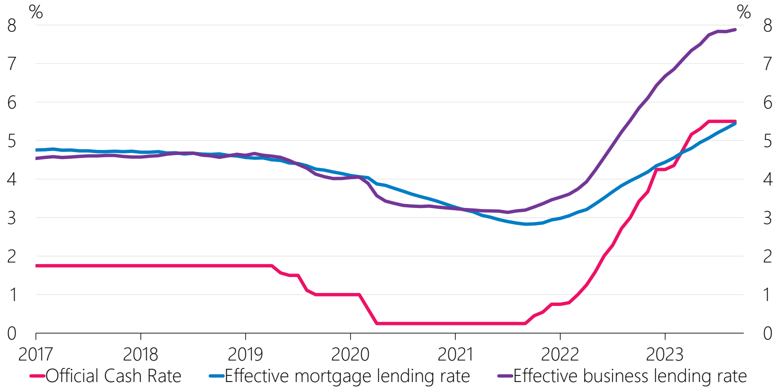
New Zealand households and businesses are facing higher debt servicing costs

Domestically, the tightening of monetary policy since late 2021 to return inflation to target has been gradually leading to higher debt servicing costs for household and business borrowers. Around two-thirds of the mortgage debt that was fixed at very low interest rates during the early stage of the pandemic has now rolled over to higher interest rates, with this process expected to continue over the next year. The effective mortgage rate, which is an average rate paid across the stock of all mortgage lending, is expected to reach 6.4 percent by mid-2024, from its low point of 2.9 percent in late 2021. Business lending has already experienced a large increase in servicing costs, as it is generally fixed for only short periods (figure 1.2).

Figure 1.2

Effective lending interest rates and OCR

(monthly average, annual rate)



Source: RBNZ *Income Statement survey.*

Most mortgage borrowers have kept up with their loan repayments so far

Higher interest rates are placing an increased strain on indebted households' budgets. The average share of their disposable income going to interest payments is expected to rise from a low of 9 percent in 2021 to around 18 percent by the middle of 2024. While this would still be well below previous periods of financial stress, such as in the late 2000s, the adjustment to higher interest rates is likely to be felt more strongly by certain cohorts of borrowers. An example is those who borrowed to purchase houses at high debt-to-income ratios in 2020 and 2021, when the housing market was at its peak and interest rates were below 3 percent.

Measures of acute financial distress such as loan arrears have been steadily increasing over the past year but remain well below levels seen following the GFC (figure 1.3).

Mortgage borrowers have so far been able to adapt to higher repayments by cutting discretionary spending and have been supported by strong household income growth. Some borrowers have been able to lessen the impact of higher interest rates by extending the remaining term of their loan, if ahead of their original repayment schedule (see Special Topic 2).

More borrowers are likely to fall into arrears over the coming year, given there can be long lags between an increase in debt servicing costs and borrowers falling behind on their obligations. In addition, if unemployment continues to increase and domestic economic activity continues to slow, some indebted households will have fewer options to avoid missing their debt repayments.

House prices have stabilised in spite of ongoing tight lending conditions

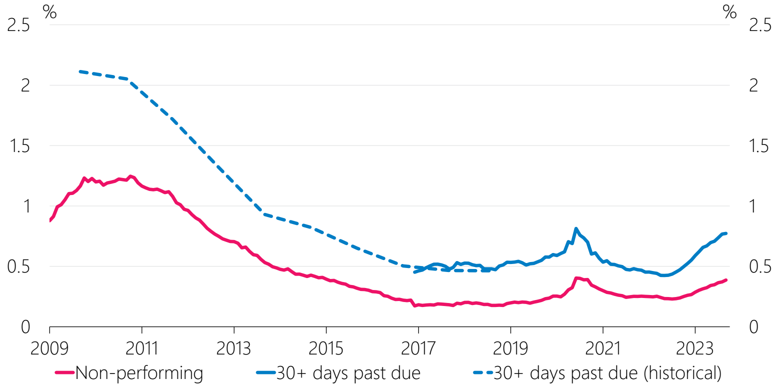
New Zealand house prices have stabilised following declines since late 2021, and housing market activity has picked up in recent months. On a seasonally-adjusted basis, house prices fell an average of 15 percent between their peak in November 2021 and trough in March 2023, and have since risen around 3 percent (figure 1.4). The recovery in prices and sales activity has been broad-based across regions, and inventories of properties for sale have been gradually declining.

Several factors explain the recent rise in house prices, partly reflecting the large net immigration New Zealand is currently experiencing (figure 1.5). While shorter-term mortgage interest rates have continued to climb, longer-term rates have generally stabilised over the past six months. The test interest rates at which lenders assess prospective borrowers' ability to make repayments have increased only slightly further to around 8.75 to 9 percent, largely maintaining buyers' borrowing capacity. Moreover, high inflation is also being reflected in asset prices, including housing, and household incomes. Compared to the median household disposable income, median house prices have fallen from a ratio of 11 times to around 9 times. House prices relative to incomes have fallen more strongly in Auckland, with this ratio now back at levels last seen in 2013.

Figure 1.3

Non-performing and past due mortgage lending

(share of lending by value, seasonally adjusted)



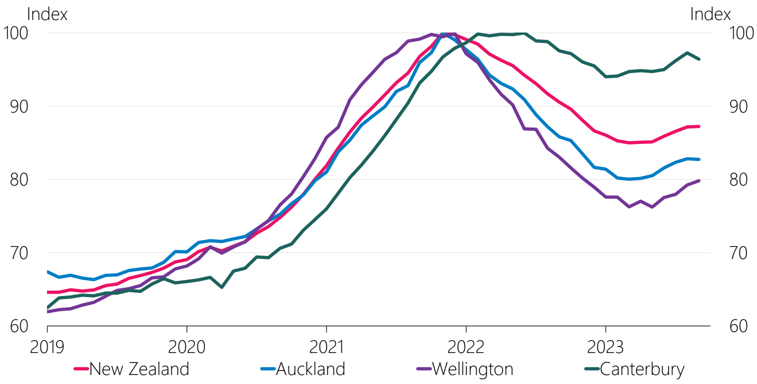
Source: RBNZ *Bank Balance Sheet survey*, private reporting, registered banks' *Disclosure Statements*.

Note: Non-performing lending includes loans that are 90 or more days past due, or impaired. Historical 30+ days past due data covers the four largest banks.

Figure 1.4

New Zealand house prices, relative to their peaks

(seasonally adjusted)

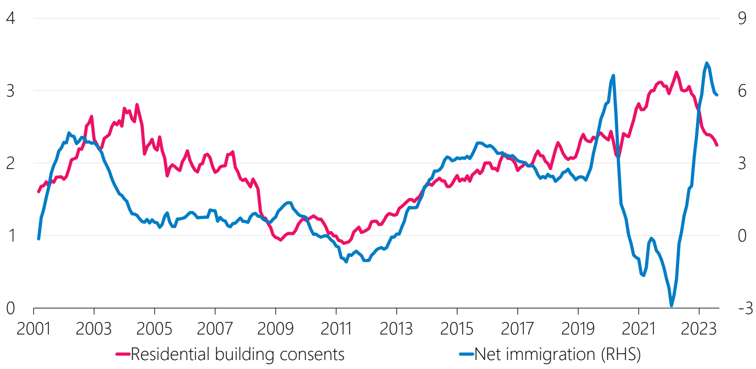


Source: REINZ, RBNZ estimates.

Figure 1.5

Residential building consents and net immigration

(rolling 3-month total per 1000 working age people)



Source: Stats NZ, RBNZ estimates.

The strong supply response to earlier high house prices is continuing, with construction activity remaining at historically high levels. However, the pipeline of future housing supply is set to decline, with residential building consents down around 20 percent from a year ago (figure 1.5). Banks and contacts in the residential development industry reported that pre-sales, where an end-buyer commits to purchase a housing developer's product, remain very low compared to recent years. This reflects that buyers continue to face high interest rates, and that more existing properties are available to purchase. Construction delays and cost escalation in recent years have also affected pre-sales, although the extent of these factors has reduced recently.

Contacts reported that the new development projects that are starting tend to be smaller in scale or backed by the government's Kāinga Ora programme. Banks generally require developers to pre-sell enough units to cover the full value of any borrowing. This makes it difficult for developers with limited pre-sales to obtain finance for a project unless they have sufficient funding of their own or from non-bank sources, which often will come at a higher cost and therefore make a project less viable. While constraining new development, banks' lending standards over the past decade have contributed to low levels of acute financial stress in the current environment. This contrasts with the late 2000s when many property lenders and developers failed due to excessively risky financing arrangements.

Loan-to-value ratio (LVR) restrictions have been eased, reflecting a decline in housing-related risks

In June we eased the LVR restrictions applying to banks' new mortgage lending, reflecting that house prices had fallen to within the range of sustainable levels suggested by the indicators we monitor,[1] and that higher interest rates were limiting borrowers' ability to take on high levels of debt.[2] Combined, these factors reduce the extent that new lending at high LVRs adds to financial system risks. Owner-occupier lending with an LVR above 80 percent can now make up to 15 percent of banks' new lending excluding exemptions (previously 10 percent), and the high-LVR threshold for investor lending has been raised to 65 percent from 60 percent. Banks reported that there has been demand from borrowers for lending at these revised speed limits and thresholds, although the impact of the policy easing on overall mortgage lending volumes has been marginal.

Work continues on developing a framework for imposing restrictions on high debt-to-income (DTI) mortgage lending, which would complement the current LVR policy by focusing on a different dimension of risk. Banks are developing reporting and management systems so that DTI restrictions could practically be implemented by April 2024. We are currently assessing how a DTI tool could be calibrated alongside LVRs and intend to consult publicly on potential DTI settings in early 2024.

Dairy farmers are currently facing challenging economic conditions

Soft external demand, mainly driven by lower demand from China, and robust global supply conditions have reduced the forecast milk payout for the current 2023/24 dairy season. The midpoint of Fonterra's forecast has dropped to $7.25 per kg of milk solids (kgMS) from $8.00 at the beginning of the season. Dairy prices have begun to stabilise in recent months, as dairy inventories in key markets declined. Meanwhile, farmers in some areas face increased risk of drought conditions due to the impact of El Niño on weather patterns.

Dairy farmers have faced strong on-farm cost inflation raising the payout they need to break even. Moreover, the tightening in monetary policy has meant that farmers' debt servicing costs have risen markedly over the past two years. Average debt servicing costs have increased from around $0.59 per kgMS two

1 See Measures for Assessing the sustainability of house prices in New Zealand.

2 See https://www.rbnz.govt.nz/hub/news/2023/05/lvr-restriction-easing-confirmed.

years ago to around $1.43 at present, with highly indebted farmers facing even larger increases. These developments mean that a significant portion of farmers could be making a loss in the current season (see Special Topic 3).

Dairy farmers had used the recent seasons of relatively strong milk payouts to repay debt and reduce vulnerabilities in their balance sheets. This will help to provide some headroom for farmers to utilise additional working capital debt. Farmers may also be able to defer some maintenance and other expenses, noting this would have flow-on impacts to economic activity across related industries and regions. Given these buffers, a single season with a soft payout is not likely to lead to widespread financial distress across the industry, but a prolonged downturn in prices could see a material pickup in loan losses for banks.

Risks to commercial property lending reflect high interest rates and a flight to quality

The commercial property sector continues to face challenges coming out of the pandemic. Office tenants are reviewing their floor space needs as leases roll over, reflecting increased working from home and a desire to prioritise amenities for workers over floor space. A migration towards higher-quality properties and limited demand from other sources, such as tertiary education, is leading to increased vacancy rates in secondary office buildings (figure 1.6).

Higher interest rates are also eroding commercial property owners' debt servicing buffers. Banks are proactively working with the most at-risk borrowers to identify options to reduce vulnerabilities from higher interest rates, such as equity injections and property sales. Acute stresses are yet to emerge, and non-performing loans remain at very low levels, in part due to low levels of tenant defaults. However, a worsening economic outlook could see vacancy rates climb, leading to loan defaults.

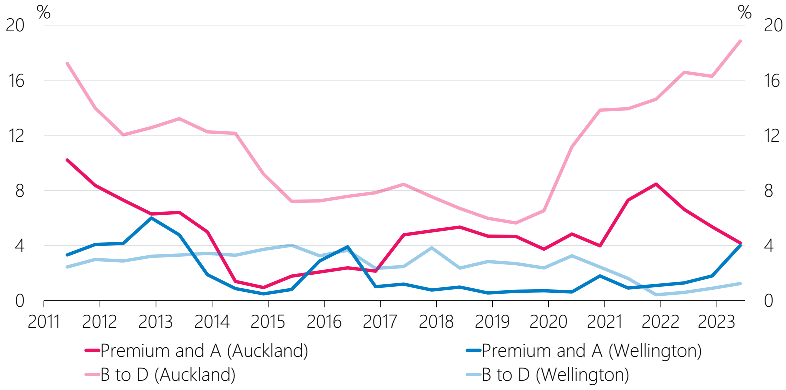
New Zealand banks are well placed to handle a deterioration in the economy or disruption in the global financial system

Non-performing loan ratios have increased but are well below levels seen following the GFC. Banks are projecting an increase in non-performing loans over the next two years as the effects of higher interest rates continue to pass through to borrowers, and as the economy slows (figure 1.7). Consistent with this, banks have steadily increased their loan provisions in anticipation of a deterioration in loan quality. Net interest margins have moderated from recent highs, although overall banks remain profitable.

Figure 1.6

Commercial office vacancy rates in Auckland and Wellington

(by quality grade)

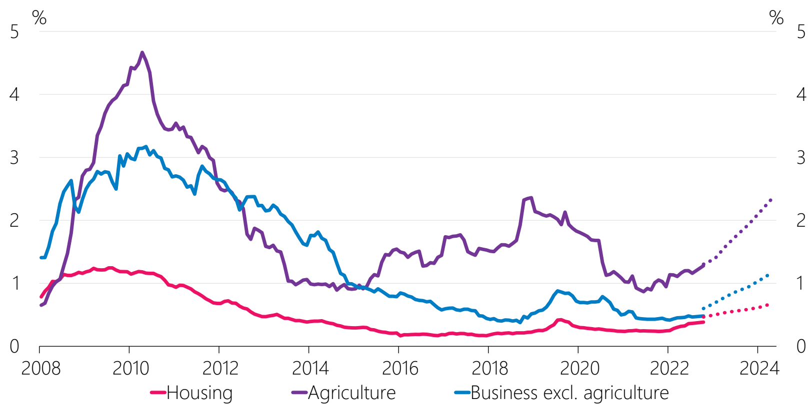


Source: JLL.

Figure 1.7

Non-performing loans by sector

(share of lending by value)



Source: RBNZ estimates.

Note: The projections are weighted averages (based on lending amounts) of the five largest banks' (ANZ, ASB, BNZ, Kiwibank and Westpac) projections for their own lending as surveyed in August.

The banking sector is well progressed towards meeting the higher capital requirements that are being phased in by 2028. This puts banks in a strong position to withstand most downturn scenarios and maintain credit availability. Our 2023 desktop solvency stress test showed the largest four banks were resilient to a severe but plausible 'stagflation' scenario, similar to the 2022 industry stress test, combining high interest rates, inflation and high unemployment.[3] Aggregate results indicate capital ratios falling materially but remaining above the regulatory minimum. The low points of the capital ratios are higher than in the 2022 exercise given improved starting capital positions and net interest margins. (figure 1.8).

Banks' funding and liquidity positions also remain strong, with ample deposits to accommodate current lending growth rates, and a high level of liquid assets in the banking system reflecting the ongoing effects of the pandemic-related stimulus programmes (see Box C).[4]

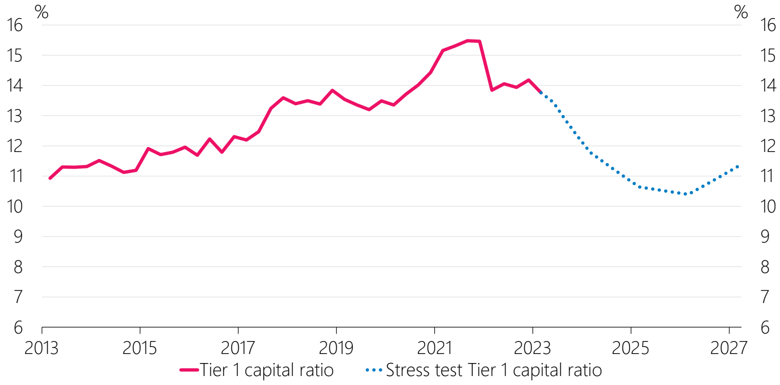
The resilience of non-bank deposit takers varies across the sector

The non-bank deposit taker (NBDT) sector is a small but diverse part of New Zealand's financial system. NBDTs face significant regulatory change over the coming years as we work to create a single deposit takers regime under the new Deposit Takers Act 2023 (DTA), which will also introduce a Depositor Compensation Scheme.

While the NBDT sector as a whole continues to build capital buffers and improve operational efficiency, some NBDTs face ongoing challenges, largely due to a lack of scale. These challenges could compound if unemployment and loan defaults pick up. Given their size, contagion from the failure of a small deposit taker to the wider financial system would likely be limited. However, the regional or community impacts may be significant, and the impacts on confidence in other entities would depend on the nature of the failure.

Figure 1.8

Aggregate Tier 1 capital ratio and 2023 Solvency Stress Test results



Source: RBNZ *Capital Adequacy survey*, registered banks' *Disclosure Statements*, RBNZ calculations.

Note: Historical aggregate Tier 1 ratio and 2023 Solvency Stress Test aggregate consisting of ANZ, ASB, BNZ and Westpac.

Insurers' profits are under pressure

The severe weather events earlier this year have likely substantially reduced general insurers' profitability, both from direct claims costs from these events and from materially higher reinsurance renewal costs. However, insurers have generally been able to obtain additional cover, and their solvency positions remain above regulatory requirements. Property insurance premiums have increased sharply as higher reinsurance costs are passed on to policyholders. With the range of impacts the severe weather events have had on insurers, there is likely to be increased use of risk-based pricing and longer-term impacts on the cost and availability of property insurance. Life insurers' profitability has been reduced by investment losses due to rising interest rates over the past two years. Despite profits being under pressure, insurers' solvency positions remain robust across the three main sectors.

3 The desktop solvency stress test is a combination of our own estimates and bank projections for impairment expenses and credit risk-weighted assets. This replaced the regular Industry stress test in 2023 due to banks working on the Climate Stress Test. Mitigating actions were not included as part of the desktop stress exercise.

4 Related to bank funding conditions, although New Zealand's current account deficit is wider than it has been for several decades, New Zealand's net financial position with the rest of the world is much stronger and the composition of our liabilities is more stable given reduced banking system reliance on short-term funding (see our August 2023 *Monetary Policy Statement*).

Key policy and supervisory developments

Significant progress has been made in the past six months towards further modernising and strengthening our prudential regulation functions, ultimately to support the ongoing resilience of regulated entities and the financial system (see Chapter 3). The enactment of the DTA in July was a major milestone. This will create a single regulatory framework for banks and non-bank deposit takers. We are now moving to a multi-year programme of work to implement the new deposit takers regime (see Box A for our industry engagement plan).

We continue to work with industry to build risk management capability. Two areas of focus are cyber risk and governance. Cyber risk is a significant and growing source of operational risk for financial institutions that is linked to the ongoing rise of the digital economy. It remains a key priority, and we are in the process of implementing our approach to support cyber resilience in the financial sector.

In September 2023 we completed a joint Governance Thematic Review with the FMA (see Box B). The focus of this review was on the foundational elements of good governance, which is important for the resilience of entities across the financial sector. The findings will be considered in upcoming policy work such as the development of standards for the DTA and review of the Insurance (Prudential Supervision) Act 2010.

Special topics

CHAPTER 02

Mt Aspiring National Park. Photo: Charles Lilly

CHAPTER 2
Special topics

This chapter covers topical issues relevant for financial stability in New Zealand. In this *Report*, we cover the following:

I. An international perspective on the financial stability implications of higher interest rates
II. Financial strain faced by households and businesses
III. Developments in the agricultural sector

Table Top, Tararua Range. Photo: Tyler Smith

1 An international perspective on the financial stability implications of higher interest rates

Higher interest rates impact financial stability through numerous channels. In this special topic we assess how financial stability in advanced economies has been affected by the higher interest rate environment. To date, financial systems have been largely resilient to risks emanating from higher interest rates, but the full impact is still to be seen and some areas of concern are emerging. Also in this special topic we compare the effects of higher interest rates on financial stability in other advanced economies with developments in New Zealand. We find that New Zealand has many similarities to other advanced economies and compares favourably overall, although we do find that mortgage borrowers in New Zealand are relatively more exposed to higher interest rates. This is because of higher household debt levels and the relatively short fixed-rate periods of New Zealand mortgages.

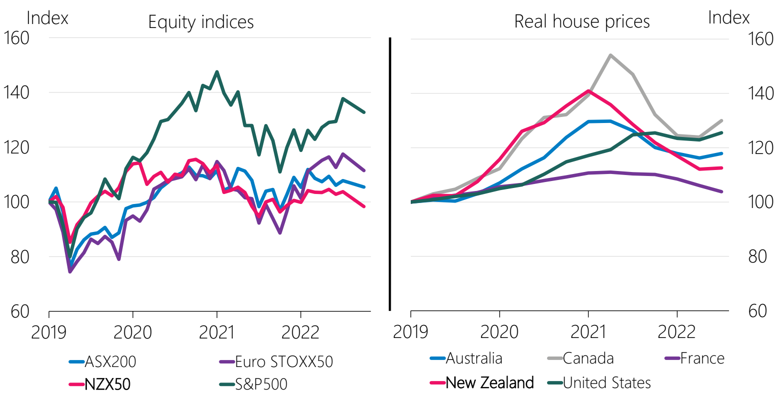
Equity markets have remained resilient despite interest rates moving higher

Although bank stocks fell following the banking turmoil in the US and Europe earlier this year, equity indices as a whole have performed well (figure 2.1).[5] Initial concerns of spillovers from financial market volatility that could threaten global financial stability did not materialise. Equity markets have been robust overall, despite interest rate increases, for several reasons. US equity markets have been buoyed by the strong performance of the technology sector and stronger than anticipated economic activity. European equity markets have profited recently from declining energy prices that increased corporate profits.

The New Zealand equity market outperformed markets in many other advanced economies initially during the COVID-19 pandemic, but it has weakened more recently. The recent under-performance may partly reflect the higher weighting of interest rate-sensitive sectors in the NZX50 index relative to many overseas indices.[6] In the near term, the outlook for global equity prices is likely to depend on how much economic growth slows and how fast inflation declines.

Figure 2.1

International equity indices and real house prices



Source: Haver Analytics, Mack and Martínez-García (2011).[5]

House prices have stabilised in New Zealand and in other advanced economies

Higher interest rates have increased the cost of borrowing, reducing housing demand and reversing some of the sharp increases in house prices immediately after the COVID-19 pandemic. New Zealand, Australia and Canada saw the sharpest correction in prices, owing partly to their strong run-up of house prices. Recently, house prices have steadied, supported by a stabilisation in interest rates, strong labour markets and a rebound in migration inflows, especially in countries like Australia, Canada and New Zealand.

5 Mack A, and E Martinez-Garcia (2011) 'A Cross-Country Quarterly Database of Real House Prices: A Methodological Note', *Globalisation and Monetary Policy Institute Working Paper No.99*, Federal Reserve Bank of Dallas.

6 The NZX50 is relatively small compared to other global equity indices and less diversified on a sectoral level. Furthermore, the utilities sector, which makes up a considerable part of the NZX50, typically has high levels of capital expenditures and debt, and is thus particularly sensitive to interest rate changes.

Future developments in global housing markets may vary, depending on factors such as the extent and duration of monetary tightening, the responsiveness of new housing supply to increased demand, and the share and maturity structure of fixed-rate mortgages. The widespread use of mortgages with relatively short fixed terms speeds up the pass-through of monetary policy tightening to mortgage rates. Downside risks remain if unemployment rises or if financial conditions tighten.

Global commercial property markets face considerable headwinds

Conditions in the global commercial property market are challenging in many countries, including in New Zealand. Higher interest rates and lower demand from tenants, caused by more workers choosing to work from home, have lowered asset valuations and worsened property owners' loan servicing ability. Funding is also becoming more constrained due to tighter lending standards. In the future, decreasing operating margins for property owners and growing difficulties refinancing loans are likely to raise the share of debt past due for repayment.

Financial stability risks are higher in countries where the banking sector is more exposed to commercial property loans. Some European banks engage in high loan-to-value lending, raising banks' potential losses in the event of default. In the US, the average exposure of banks to commercial property loans is significantly higher than in most other countries (figure 2.2). In New Zealand, financial stability risks are mitigated by tight lending standards, and so far signs of financial stress have been limited (see Special Topic 2).

New Zealand households are relatively more exposed to increased debt servicing costs

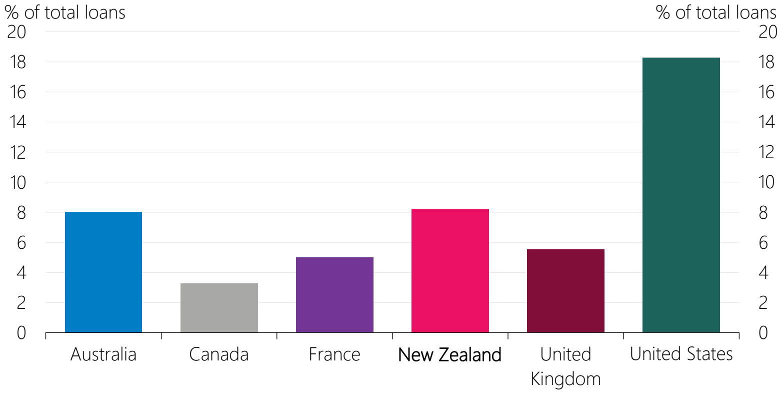
Higher interest rates put highly-indebted households with large mortgages and little savings buffers at increased risk of defaulting on their loans. Countries where households have elevated levels of debt-to-disposable income are particularly vulnerable.

Borrowers in countries with a large share of mortgages on shorter fixed terms, such as New Zealand and Australia, are experiencing substantially higher debt servicing costs (figure 2.3), putting strain on household budgets. Despite most of mortgage debt having already rolled over to higher interest rates, signs of household stress remain muted in New Zealand. Financial resilience of households has been bolstered by high employment rates.

Figure 2.2

Commercial property share of banks' total loans

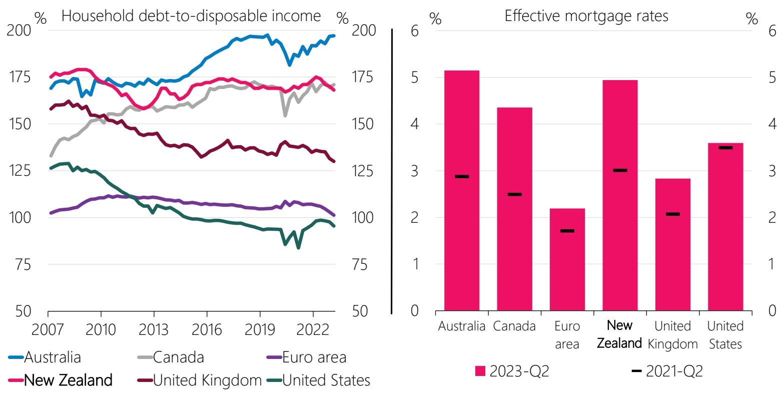
(as of 2023 Q1)



Source: IMF Financial Soundness Indicators, RBNZ calculations.

Figure 2.3

Household debt-to-disposable income ratio and effective rates on outstanding mortgages



Source: Haver Analytics, RBNZ, Bank of Canada, ECB, Bank of England, US Bureau of Economic Analysis.

Note: As most mortgages are uninsured in Canada, we use the rate on uninsured mortgages for our comparison.

In countries with a larger share of longer-term fixed-rate mortgages, such as the US and parts of central Europe, higher policy rates pass through more slowly into mortgage rates, so risks may not have fully materialised yet.

While few signs of systemic stress from the household sector have emerged so far, the outlook remains uncertain, particularly in countries with a high percentage of mortgage holders.

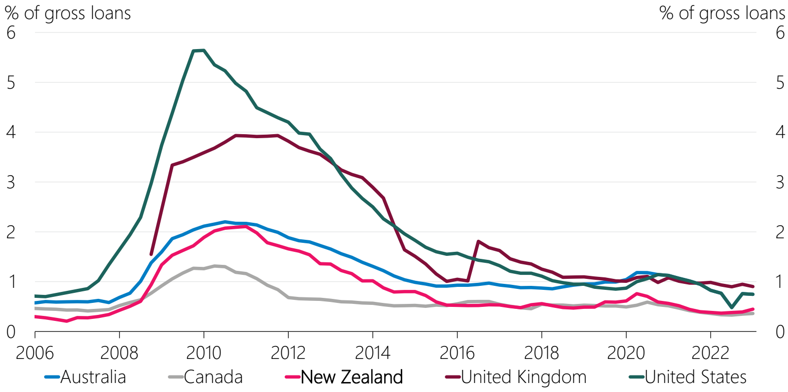
Despite challenges caused by rising interest rates there are few signs of widespread debt servicing stress in advanced economies. Non-performing loan (NPL) ratios remain well below levels seen during the Global Financial Crisis (GFC) (figure 2.4). NPL ratios in New Zealand and Canada are particularly low compared both to other economies and their historic levels. Nevertheless, NPLs and loan arrears are increasing slightly in most countries, including New Zealand (see Special Topic 2). In most advanced economies banks have reacted to expectations of deteriorating credit quality by increasing provisions for bad debts.

Further tightening of financial conditions may challenge well capitalised banking systems

The overall resilience of global banking systems has increased significantly since the GFC. Bank capital ratios across countries are not directly comparable, due to different regulatory approaches, but levels of capital and liquidity positions have risen markedly in all advanced economies since the GFC (figure 2.5). While the banking sector turmoil earlier this year in the US and Europe led to concerns about wider financial stability, these banks' failures can mostly be attributed to idiosyncratic factors, such as poor management of interest rate and liquidity risk. New Zealand banks have been less affected by banking sector troubles overseas, owing to prudential requirements, generally prudent risk management procedures, and lending practices favouring shorter-term rates.[7]

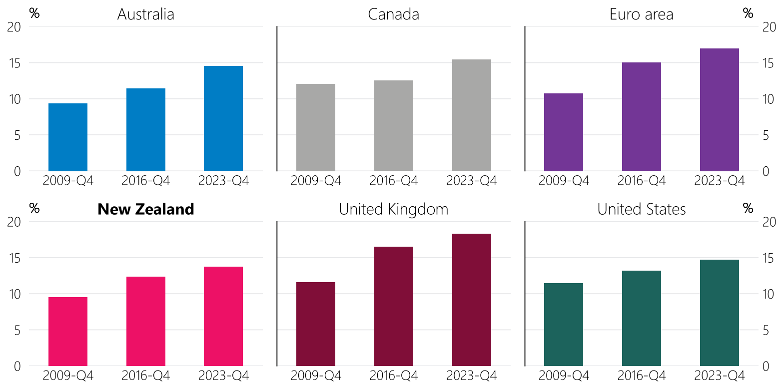
Banks' profitability metrics have been buoyed by the effect of rising interest rates on net interest margins over the past year (figure 2.6). In recent quarters, banks' net interest margins have moderated in most countries as deposit rates are starting to rise and customers are increasingly shifting transaction deposits into term deposits offering higher interest rates (see Box C).

Figure 2.4
Non-performing loan ratios
(seasonally adjusted)



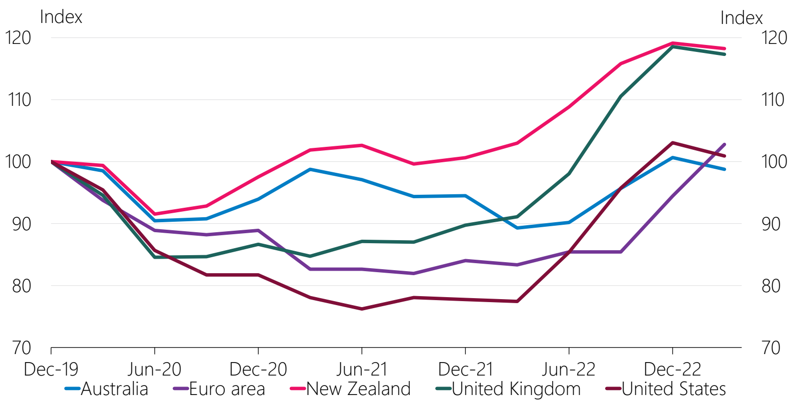
Source: IMF Financial Soundness Indicators, Federal Reserve Bank of St Louis, RBNZ calculations.

Figure 2.5
Tier 1 capital ratios



Source: IMF Financial Soundness Indicators, ECB, RBNZ.

Figure 2.6
Bank net interest margins
(indexed to 2019 Q4 = 100)



Source: APRA, ECB, RBNZ, Bank of England, US Federal Deposit Insurance Corporation.

Note: Euro area figures are calculated only for banks under the Single Supervisory Mechanism. For data availability reasons we use loans margins as a proxy for NIMs in the UK, as we are more interested in a comparison of recent trends and not in absolute profitability levels. We use net interest income as a share of total assets as a proxy for NIMs in Australia.

7 For a more detailed discussion of interest rate risk management practices at New Zealand banks, refer to Box A in our May 2023 FSR.

In some economies competitive pressures are expected to lead to a further increase in average deposit rates, putting downward pressure on profitability. In addition, slowing credit growth and an uptick in credit losses are also expected to reduce banks' profitability going forward. An abrupt tightening of financial conditions or spillover effects from strained sectors, such as the commercial property or household sector, could expose vulnerabilities in banks with an elevated risk profile. However, stress-tests in most countries indicate that robust profitability in conjunction with ample capital and liquidity buffers would support the banking sector even in the case of a material economic downturn.

New Zealand's fiscal position is relatively strong with low public sector debt levels

General government debt as a share of GDP has risen since the GFC in advanced economies. Over the course of the pandemic, public debt levels, including those in New Zealand, surged notably. As monetary policy rates have risen, borrowing and debt servicing costs for governments have also increased, straining fiscal budgets and potentially reducing the scope for further fiscal stimulus in the event of a severe downturn. Net interest expenses as a share of total government revenues have risen sharply since the start of the monetary policy tightening cycle. This is particularly an issue for heavily indebted countries. In comparison to other advanced economies, New Zealand faces relatively low levels of public sector debt (figure 2.7).

Overall, financial systems have been resilient to higher rates, but risks remain elevated

Overall, we continue to see widespread resilience of financial institutions to the higher interest rate environment in all major advanced economies. Key financial stress indicators remain mostly benign compared to expectations, although some areas of stress are emerging.

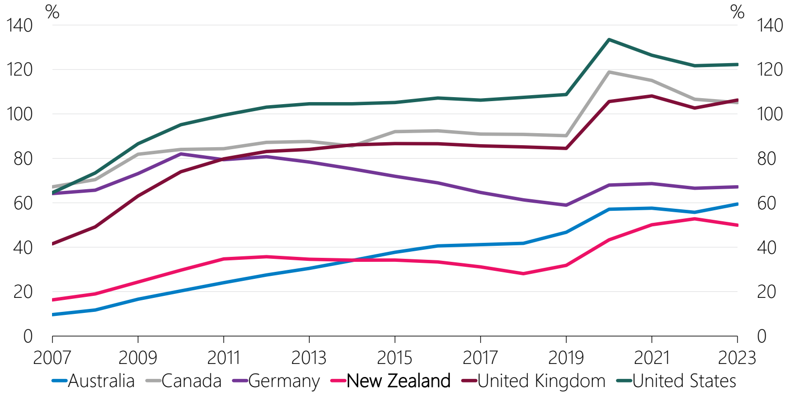
In part this reflects robust macroeconomic fundamentals, such as low unemployment rates, and past regulatory tightening across many jurisdictions after the GFC. The channels through which higher interest rates impact economies are generally the same, but the impact and transmission speed vary across markets, countries and time. Risks to financial stability will likely be most acute in countries with weakening economic fundamentals. Key downside risks to global financial stability are potentially weakening labour markets and persistently high inflation rates, raising the risk of further policy tightening.

The international comparison shows New Zealand's financial system is faced with similar challenges as other countries, but appears robust and in a good position to face potentially looming challenges. An area of relative weakness for New Zealand, like Australia and Canada, is the exposure of mortgage borrowers to higher interest rates given high household debt levels and shorter fixed-term mortgage rates.

Figure 2.7

Public sector debt

(share of GDP)



Source: IMF *World Economic Outlook* (April 2023).

2 Financial strain faced by households and businesses

In this special topic we assess how households and businesses are adjusting to the higher interest rate environment and softening economy (see Chapter 1), providing an update on early signs of financial stress. We also discuss the levels of defaults that are expected going forward.

Housing and business lending comprise around 63 percent and 34 percent of total bank lending. Commercial property, a component of business lending, makes up around 8 percent of total lending. Therefore, assessing stresses among these borrowers is an important part of our assessment of financial stability.

Households have come under increased budgetary pressure recently from rising debt servicing costs

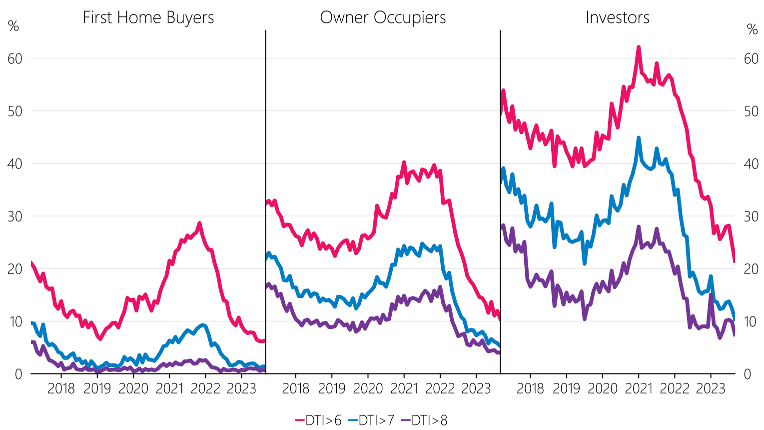
Against the backdrop of heightened cost-of-living pressures, rising debt servicing commitments have squeezed households' budgets. More borrowers are under pressure on their debt obligations. Early-stage arrears have increased over the past six months and have now surpassed the levels seen at the start of the pandemic (figure 1.3). Centrix data that also captures borrowers with missed debt repayments less than 30 days has shown a similar trend. However, these indicators so far remain significantly lower than they were soon after the Global Financial Crisis (GFC). Rates of non-performing mortgages and the number of mortgagee sales remain low despite increasing in recent months.

Evidence from previous financial cycles has shown households with multiple forms of debt generally prioritise mortgage and utility bill payments ahead of other expenses when faced with debt servicing stress. Recently, borrowers with a mortgage and other forms of debt are missing repayments on non-mortgage debts to a greater extent than non-mortgaged borrowers.[8] This suggests debt servicing strains faced by mortgaged households may be greater than shown simply by mortgage arrears.

We expect an increasing share of borrowers will face significant debt servicing stress. For many households that borrowed in 2020 and 2021, current interest rates exceed the test rates used by banks to assess affordability, and some may be particularly vulnerable to debt servicing stresses. Households that borrowed at high debt-to-income (DTI) ratios over this period are at risk, with estimated debt servicing ratios (DSRs) for borrowers from these two years expected to rise to around 50 percent by late 2023 (figures 2.8 and 2.9).[9] While household incomes have grown strongly in recent years, further increases in interest rates may result in a larger rise in loan defaults.

Banks report that the arrears which have occurred to date have largely been associated with unexpected individual events, such as illness or job loss, rather than hardship due to higher interest rates alone. However, there is a portion of lending still to reprice to higher interest rates and this will create more financial difficulties for some borrowers.

Figure 2.8
New lending by borrower type and DTI



Source: RBNZ *DTI New Commitments survey.*

8 Based on data received from Centrix.

9 A DTI is a metric showing a borrower's outstanding debt as a ratio to their gross income. A DSR shows the share of a borrower's income that is required to service their debt repayments.

Borrowers have options available to mitigate severe financial stress

Several factors have contributed to lessening the degree of stress among borrowers as mortgages have repriced higher. Firstly, the labour market has remained strong, with unemployment having risen only slightly from a low level. Secondly, while some borrowers were tested at affordability rates below current mortgage rates, affordability rates are used to determine the maximum loan amounts that applicants can afford, and many borrowers borrow less than this amount. Test rates for borrowers since 2022 have mostly sat above 8 percent, giving them a buffer were mortgage rates to move higher in the near term. Our loan-to-value ratio (LVR) restrictions have also limited borrower leverage. Finally, nominal household incomes have grown strongly in the past two years, which will benefit borrowers with older loans in particular.

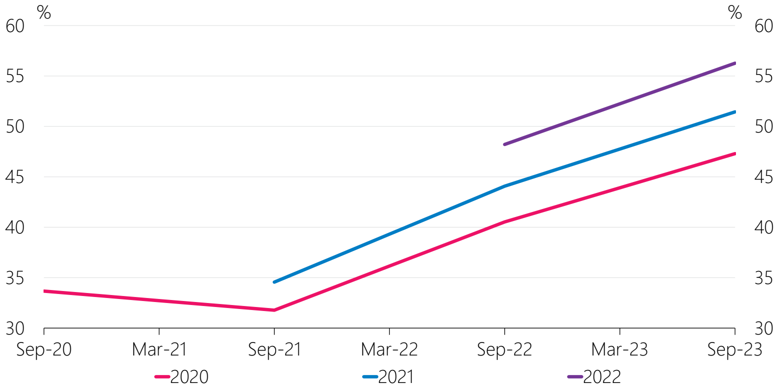
In addition, borrowers often have several options to respond to serviceability stress as it arises. This includes cutting discretionary spending, extending the remaining term of the loan if ahead of their original repayment schedule, or temporarily switching to interest-only payments. Banks have proactively identified and worked with customers who are at high risk of coming under servicing stress as they roll over to higher interest rates. They can offer formal hardship programmes, although the uptake of this has been very limited to date. However, if unemployment continues to increase, some indebted households will have fewer options to avoid missing their debt repayments.

Business lending generally remains healthy, although significant pockets of stress are expected to emerge

Business lending generally reprices faster than households on average, and most of the anticipated rise in businesses' debt servicing costs has already occurred. Business margins are low, but loan defaults remain low across all industries. General deleveraging over recent years, conservative lending standards by banks and robust economic conditions have put businesses in a strong position to adapt to higher debt servicing.

Figure 2.9

Estimated debt servicing ratio for borrowers with DTI of 7 that originated in different years



Source: RBNZ *DTI New Commitments survey*, RBNZ estimates.

Note: This chart shows a debt servicing ratio (including principal and interest) for representative borrowers at a DTI of 7 originating in September 2020, 2021 and 2022. It assumes principal will be repaid over a 30-year term and also makes adjustments for observed income growth. The other key assumption is that borrowers fix for 1 year and roll this forward each year it comes up for renewal. Figure 2.8 shows around 15% of lending was borrowed at a DTI greater than 7 in 2020, 20% in 2021 and 10% in 2022.

We expect financial hardship among businesses to rise as economic conditions soften. In particular, the commercial property and agricultural sectors are starting to experience challenges and may be vulnerable (see Special Topic 3 for developments in the agricultural sector). Debt in these sectors tends to be secured against property which, while initially enabling firms to borrow more relative to their income, also makes them more vulnerable to higher interest rates and deteriorating property market conditions.

Vulnerabilities are emerging in the commercial property sector

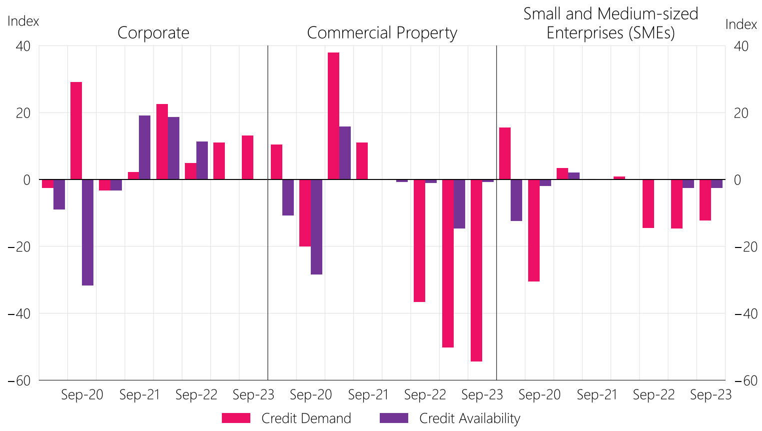
In the commercial property sector, high interest rates and other market developments have placed significant downward pressure on capital values. This is particularly the case for lower-quality office properties due to ongoing structural trends, such as increased prevalence of working from home. Vacancies for lower-grade office properties are beginning to rise, putting downward pressure on rents. With the large increase in debt servicing costs seen over the past two years, interest coverage ratios have also fallen. These factors have contributed to an elevated level of lending being closely monitored by banks. Serviceability stress in the sector could increase if the economy contracts and vacancies increase further.

Weaker demand and high construction costs mean there are few viable commercial property development projects at present.

Several factors support the debt serviceability of commercial property operators. Commercial property loans generally have lower LVRs than residential property, usually less than 50 percent, and lenders require a buffer of net earnings above interest payments. In addition, banks have reported that some stressed commercial property operators have other income sources to continue to meet debt servicing requirements. Nevertheless, some property owners may need to sell portions of their portfolios to reduce debt levels if market conditions allow. Banks have increased provisions to prepare for future losses, which will help to buffer the impact on the financial system of a severe downturn.

Figure 2.10

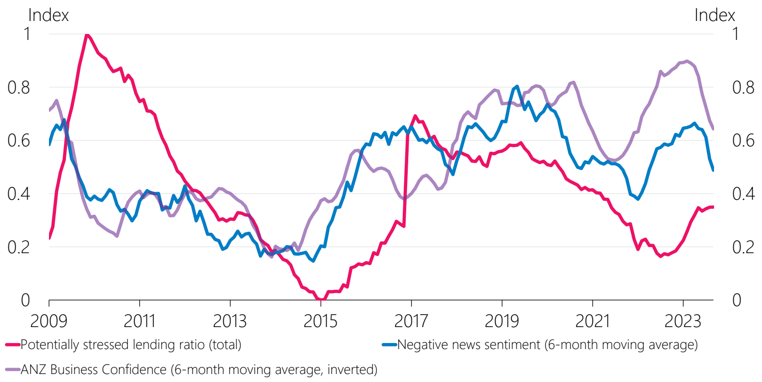
Change in demand and availability of credit from businesses



Source: RBNZ *Credit Conditions survey.*

Figure 2.11

Forward-looking indicators of stressed lending



Source: ANZ *Business Outlook survey*, RBNZ estimates.

Note: The negative news sentiment indicator measures the proportion of news article content estimated to have a negative sentiment. All series have been normalised to the scale [0,1] for comparability.

Business credit demand has softened as expected, while credit availability remains stable

Demand for credit from commercial property providers and other businesses has been subdued as interest rates have increased (figure 2.10). Credit demand for capital expenditure is low as higher funding costs curtailed the viability of capital investment, although working capital demand is high, particularly from SMEs. Credit availability for businesses remains stable as banks' risk appetites are largely unchanged.

Non-performing loans are expected to continue to rise for households and businesses

Indicators suggest that financial stress will continue to increase. Consumer and business confidence remains weak, reflecting increased debt servicing burdens and the weaker outlook for the economy. Consumption is expected to decline as household budgets continue to tighten. A range of forward-looking indicators, such as measures of confidence and negative news sentiment, suggests continued weakening in loan performance in the short-to-medium term (figure 2.11).[10]

10 The news sentiment indicator is collated from a database of business news articles. Machine learning algorithms are used to estimate the positive or negative sentiment of each article. More technical details of how this series is estimated will be provided in a forthcoming analytical note.

Similarly, the largest five New Zealand banks individually project non-performing loans (NPLs) as a share of lending could rise to around 1 percent by early 2025, a more than doubling from their current levels (figure 2.12). Our analysis of loan performance also suggests a similarly negative outlook, based on the economic outlook from the August *Monetary Policy Statement*, with unemployment rising to 5.3 percent.[11] It is important to note that if economic conditions deteriorate by more than projected, then lending stress could be more severe.

There is considerable uncertainty about future lending stress and these forecasts should be interpreted with caution. Bank lending quality has improved overall since the GFC. Business lending and high LVR residential mortgage lending comprise a smaller share of total bank lending. As a result, projected lending stress could be less severe than expected based on previous experience. The combination of high interest rates and low unemployment makes the current economic environment unique in recent history, and as a result the pattern of lending stress may differ from what is projected. In addition, lending stress may not rise smoothly as unemployment rises and may accelerate when unemployment rises above some threshold, although this relationship has changed over time (figure 2.13).

The financial system remains well positioned to facilitate economic activity as debt servicing stress increases

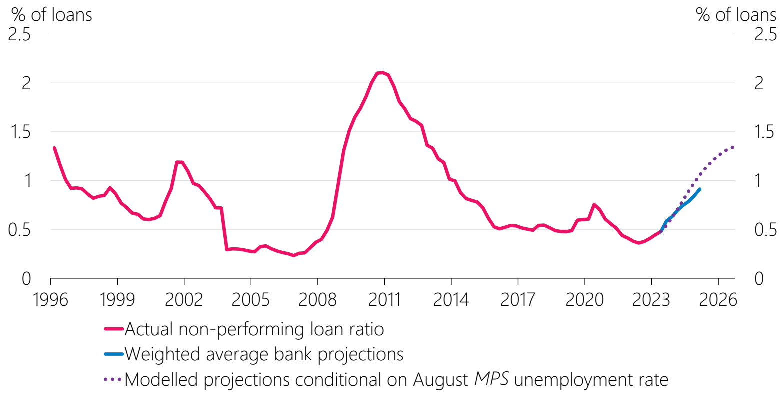
Overall, financial distress amongst households or businesses is rising from a low level as budget pressures increase for many borrowers. Households have been able to adapt by reducing discretionary spending and working with their banks to manage the increased debt servicing burden. Even so, financial stress is expected to rise, based on our projections and those of banks.

The New Zealand banking sector is in a good position to support customers and weather potential challenges on the horizon (see Chapter 4).

Figure 2.12

Total non-performing loans

(seasonally adjusted)

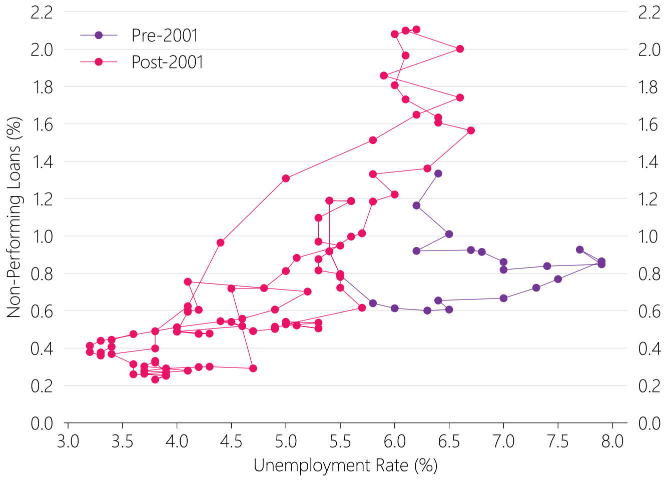


Source: RBNZ *Bank Balance Sheet survey*, RBNZ estimates, bank projections.

Note: This chart displays total non-performing loans as a share of total lending alongside forecasts from a structural macro-economic model and the weighted average of the largest five banks' projections for their own loans.

Figure 2.13

Relationship between unemployment and non-performing loans



Source: Stats NZ, RBNZ estimates.

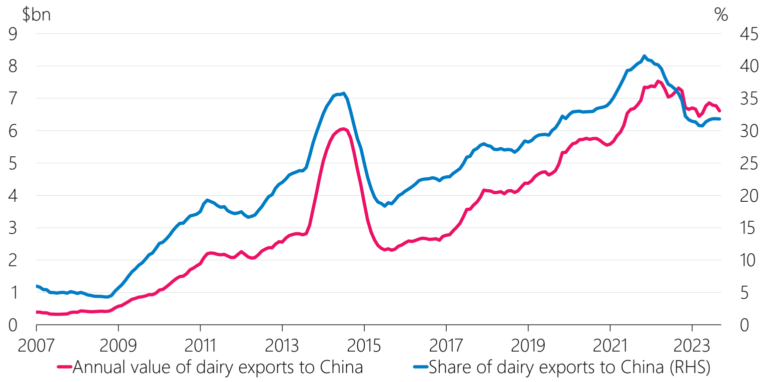
11 This projection uses a Bayesian vector autoregression (BVAR) model of key macro-economic variables which are conditioned on the published forecasts from the August *Monetary Policy Statement*. Further details of this model will be explained in a forthcoming analytical note.

3 Developments in the agricultural sector

The agricultural sector is facing difficult economic conditions, owing to falls in dairy and meat prices, elevated operating expenses, and increased debt servicing costs. The agricultural sector represents 11 percent of aggregate bank lending. Within agricultural lending, dairy takes the predominant share (around 60 percent), with beef and sheep as the second-largest category (25 percent). In the dairy sector, loan defaults remain low but are expected to increase. This could accelerate if there is a prolonged period of low prices. In the longer term, the agricultural sector faces climate-related challenges. We are working with banks to improve their capability in assessing climate risks, through stress testing their agricultural portfolio against shocks including droughts and emissions pricing.

Figure 2.14

New Zealand dairy exports to China

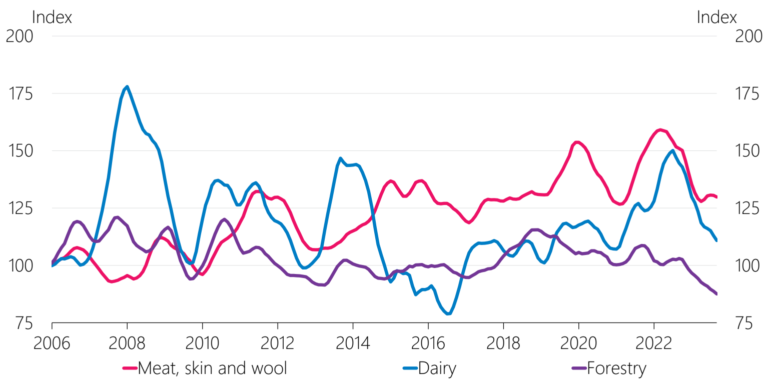


Source: Stats NZ.

Figure 2.15

ANZ commodity price index

(inflation-adjusted NZ dollars, 6-month average)



Source: Haver Analytics, Stats NZ, RBNZ calculations.

Note: Series are deflated by the Consumer Price Index, with December 2005=100.

External demand for soft commodities is subdued amid robust global supply

The agricultural sector is facing the challenge of softening demand from China, which has purchased on average one-third of dairy exports by value in the past five years (figure 2.14). China is also a key buyer of meat and forestry exports, at around 40 percent and 60 percent of values for these exports respectively. The recovery in the Chinese economy after the lifting of the pandemic restrictions has slowed. Chinese consumers have remained cautious, weighing on demand for agricultural products including dairy. Demand for dairy from other trading partners, for example emerging Asian economies, has been generally muted as well. Dairy inventories in key markets have declined from high levels in early 2023, and therefore dairy prices are beginning to stabilise in recent months.

Over the past year, dairy production has increased from a high level in most major dairy-producing economies, including China. This was aided by factors such as previously high dairy prices and favourable weather conditions. More recently, global production is expected to moderate in response to lower prices, but this will take some time.

Prices for dairy and other agricultural exports have declined

The combination of subdued demand and strong supply has led to price declines in soft commodities. Prices of dairy, meat, and forestry products have fallen by 8 to 20 percent compared to a year ago (figure 2.15). Fonterra has adjusted its milk price forecast to a midpoint of $7.25 per kilogram of milk solids (kgMS) for the 2023/24 season, down from $8.22 for the 2022/23 season. While inflation-adjusted dairy prices remain higher than their trough in 2015, farmers now face greater challenges around costs, including higher interest rates.

Dairy prices have improved in recent auctions, owing to a stabilisation in demand and easing supply. In addition, two recent steps taken by Fonterra should support farm cash flows and cushion some of the impact of lower dairy prices. Fonterra's forecast earnings per share range for the 2023/24 season, at 45–60 cents, could imply a possibly higher dividend payment than the 30 cents per share typically realised. Furthermore, Fonterra introduced its Flexible Shareholding changes in March, decreasing dairy farmers' shareholding requirement, which allows them to sell excess shares as a temporary one-off support to cash flow.

Costs of production remain high and debt servicing costs have increased

The costs of inputs such as feed and fuel remain elevated following strong inflation in 2022, despite some easing recently. Cost inflation in other inputs such as labour, electricity and insurance has picked up pace, putting pressure on dairy farmers' cash flow. In addition, the rapid increase in interest rates over the past two years has led to a substantial increase in debt servicing cost for farmers. Estimated average debt servicing cost per kgMS has increased to $1.43 in August, from 59 cents two years earlier (figure 2.16). Dairy farmers have generally deleveraged over the past five years, which has limited the impact of rising interest rates on their debt servicing burden to an extent. However, the level of indebtedness varies across dairy farms, and increased interest rates will have a particularly significant impact on more indebted farms.

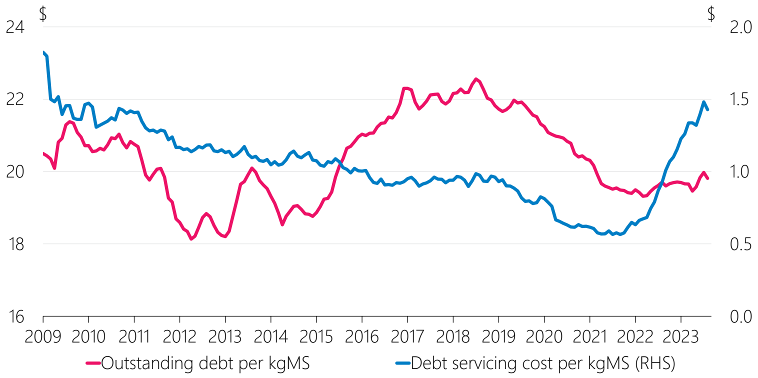
Higher costs are weighing on the dairy sector's profitability, with some farms making a loss

The decline in expected payouts and increased debt servicing cost are expected to reduce profitability. The average breakeven dairy revenue per kgMS for the 2023/24 season is estimated to be around $8 (figure 2.17), higher than the expected payout.[12] Recent farm-level analysis provided by Figured (who operate a financial management platform for farmers) suggests approximately half of dairy farms would make a loss if the final milk price were to settle at $6.75, and over 60 percent could make a loss if the price falls further to $6.25. How long farmers can operate under these conditions depends on factors such as indebtedness, access to working capital, cost structures and scale.

Figure 2.16

Dairy sector debt levels and debt servicing cost

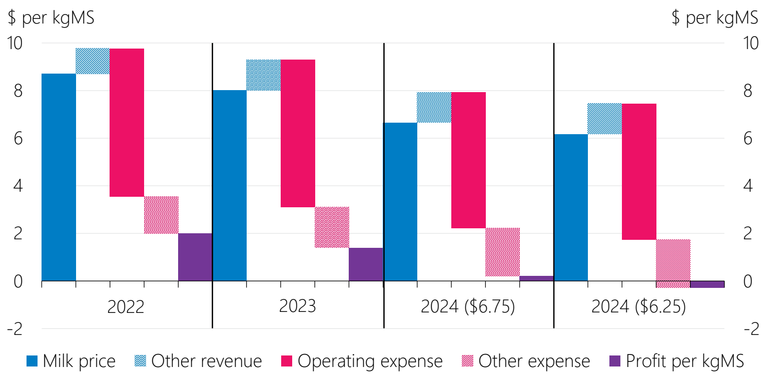
(3-month average)



Source: Dairy Companies Association of New Zealand, RBNZ *Bank Balance Sheet survey*, RBNZ *Income Statement survey*, registered banks' *Disclosure Statements*.

Figure 2.17

Average revenue, expense and profits of dairy farmers



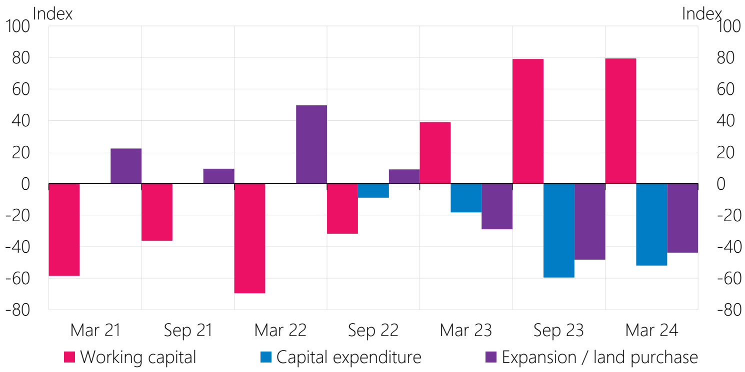
Source: Figured.

Note: Other revenue is livestock sales and earnings per share. Other expenses include interest and rents.

12 The dairy revenue per kgMS includes the milk price, Fonterra earnings per share, livestock income and other income.

Credit demand in the dairy sector is expected to continue falling in coming months, owing to subdued investment intentions by farmers (figure 2.18), and in line with lower profitability in recent quarters. Meanwhile, demand for working capital has surged as some farmers used credit facilities to support their cash flow amid rising stress.

Figure 2.18
Drivers of demand for dairy credit, expected change over next 6 months



Source: RBNZ *Credit Conditions survey.*

Defaults could increase materially if there is a prolonged downturn in export prices

Defaults in banks' agricultural lending portfolio are currently low. Banks perceive most of their dairy customers to be reasonably well-placed to weather a short period of low payout. Significant deleveraging in the sector in recent years has contained debt servicing costs and has supported the option for many farmers to go interest-only to alleviate cash flow stress. However, banks expect defaults among dairy borrowers to rise over the coming year, because there tends to be a time lag between cash flow stress and default (figure 1.7). A prolonged period of low dairy prices or a further reduction in prices are more likely to exhaust the cash buffer of farmers with weaker balance sheets, leading to materially higher default rates.

Other agricultural sectors such as beef and sheep are facing similar challenges related to soft export prices and elevated expenses. The forestry sector is also affected by a fall in the price of emission units, from the sale of which the sector derives revenue, in addition to lower forestry export prices. However, the risks posed by the beef and sheep and forestry sectors to the financial system are smaller than dairy, because they tend to be more equity-financed and represent a smaller share of bank lending.

Climate-related regulatory changes and weather conditions continue to create uncertainty

More details around the plan to reduce agricultural emissions were announced in August. Mandatory farm-level reporting on emissions has been delayed to the December quarter 2024, and emissions pricing is planned to start in the December quarter 2025. The plan confirmed a farm level split-gas levy approach,[13] which is the option generally preferred by the dairy sector and the beef and lamb sector over other proposals to price agricultural emissions. However, the industry continues to see significant regulatory uncertainty, including around the measurement of emissions and approved methods to offset emissions.

In addition to regulatory uncertainty, New Zealand has entered the El Niño or warming phase of the Southern Oscillation climate cycle, which is expected to lead to a change in weather conditions. Some farmers face increased risk of drought conditions, particularly in eastern and northern regions, which could lead to a decline in production and increased expenses. Confidence in the agricultural sector has fallen to a record low according to a recent survey, with lower output prices, high costs, and uncertainty over government policy identified as the main concerns.[14]

13 This approach will set separate levy prices for long-lived gases such as nitrous oxide from livestock and synthetic fertilisers, and short-lived gases such as methane arising from biological processes, to reflect their different warming impacts and emissions reduction targets.

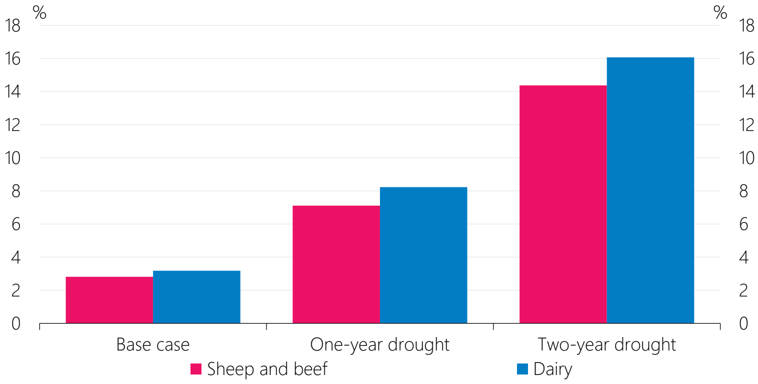
14 Rabobank *Rural Confidence* survey for September quarter 2023.

As part of our stress-testing programme, the largest banks completed an assessment of climate-related risks for their agricultural lending

Climate-related risks and regulatory changes are an increasing concern for the agricultural sector. Over the past year, we have worked with New Zealand's largest banks to assess climate-related risks to their agricultural exposures, including from drought conditions and various levels of emissions pricing.[15] The main purpose is to support banks to build capability to measure climate-related risks and find solutions to the significant data and modelling challenges. As part of the exercise, banks developed new modelling and data tools for conducting detailed customer-level analysis and simulations of their agricultural loan portfolios, which they indicated will be useful on an ongoing basis. An overview of the design and results of this risk assessment was published as a Reserve Bank *Bulletin* article in October 2023.[16]

To assess risk from drought, banks estimated defaulted exposures and loss provisions given a prescribed set of assumptions for two different severities of drought: a one-year drought and a two-year drought. In the one-year drought, loan defaults were 8 percent ($2.3 billion) of dairy exposures and 7 percent ($0.8 billion) of beef and sheep exposures, compared with a no-drought base case with only 3 percent of each type of exposures defaulting. In the two-year drought, defaults were approximately double that of the one-year drought (figure 2.19).

Figure 2.19
Default rates in drought risk assessment
(aggregate across banks, cumulative across six years)



Source: RBNZ calculations.

Separately, we asked banks to estimate the impacts of a range of prices for farm emissions. This analysis was exploratory given New Zealand does not currently have a price on agricultural emissions and future policy settings are uncertain. We used a range of pricing assumptions, including up to $150 per tonne of CO^2 equivalent, which we estimate could align to a severe scenario for around 2040.[17] In this exercise, banks estimated the proportion of their agricultural borrowers that would be unprofitable (ie making a loss) given the prescribed assumptions.

15 This followed an assessment of flooding risk for banks' residential mortgage exposures: https://www.rbnz.govt.nz/hub/publications/bulletin/2023/rbb-2023-86-02.

16 https://www.rbnz.govt.nz/hub/publications/bulletin/2023/rbb-2023-86-07

17 The emissions prices assumed in the exercise apply to all farm emissions, ie with no free allocation. The *Bulletin* article has information on benchmarking the price levels to scenarios.

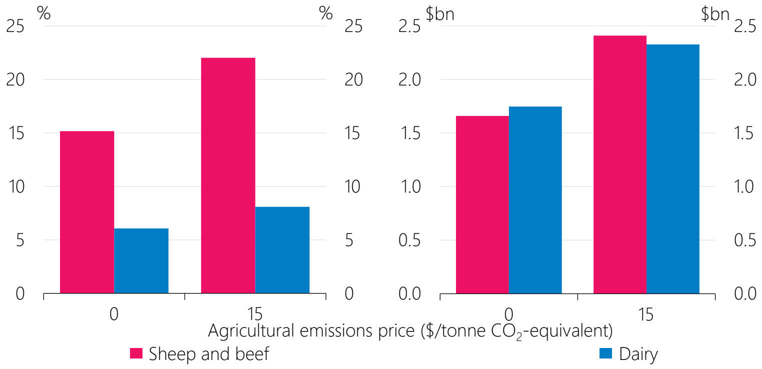
Focusing on the results for an emissions price of $15, which is more relevant for a shorter time horizon, banks estimated that around 8 percent of dairy exposures and 22 percent of sheep and beef exposures would be to unprofitable farms, compared with 6 percent and 15 percent in a baseline scenario without emissions pricing (figure 2.20).[18] As shown in the *Bulletin* article, substantially more farms become unprofitable at the higher emissions prices considered in the exercise.

A key assumption that influenced the results and made them more severe than otherwise was that international milk prices were kept fixed (at a hypothetical level of $7.50/kgMS). It is plausible that global dairy and meat prices could increase with rising agricultural emissions prices.

The agricultural risk assessment fed directly into the work banks currently have under way to complete the Reserve Bank's 2023 Climate Stress Test.[19] This brings together multiple types of climate-related risks in a multi-decade, severe but plausible scenario. In this scenario the milk price can change over time in response to international cost pressures, including agricultural emissions pricing.

Figure 2.20

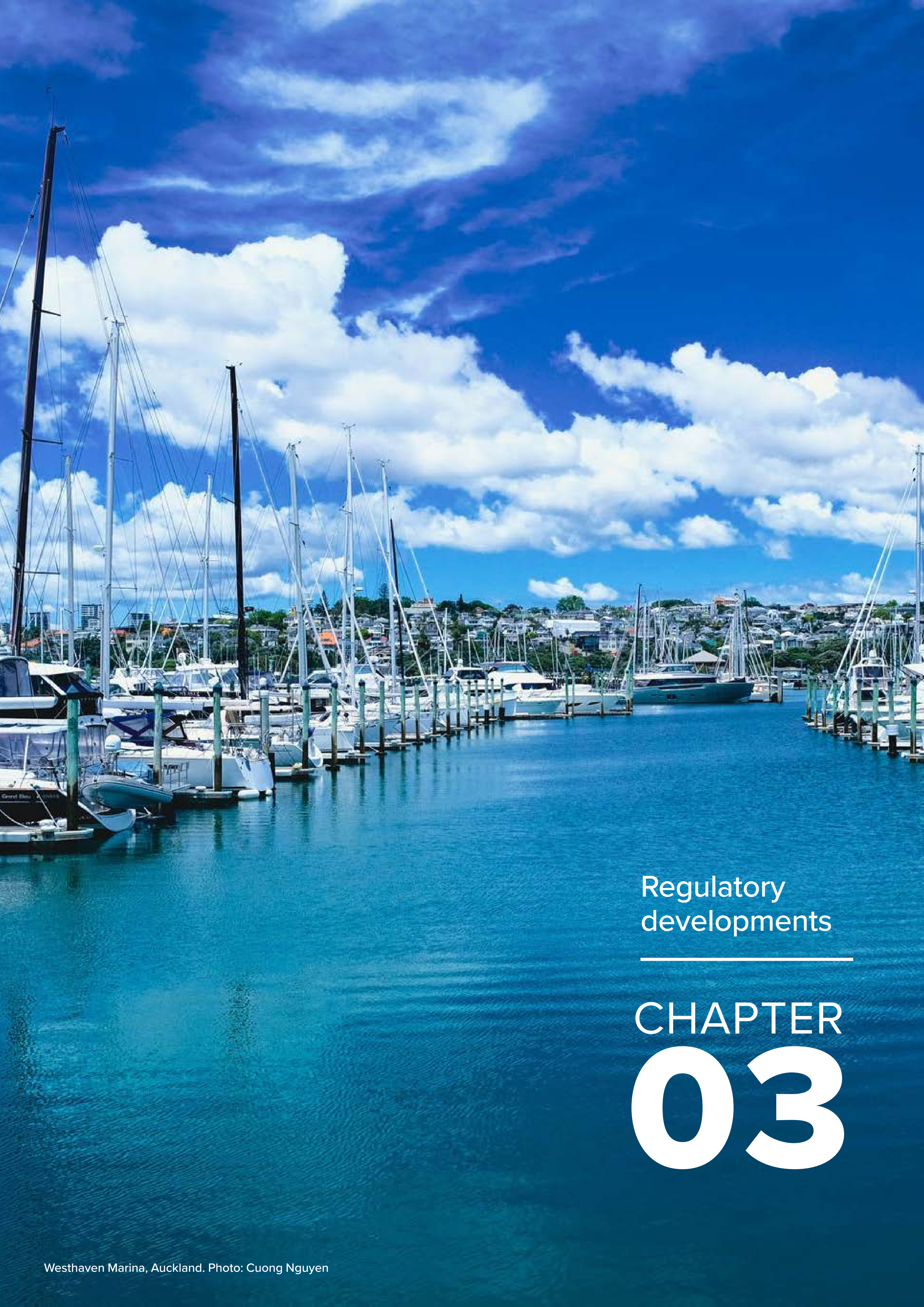
Bank exposures to unprofitable farms by emissions price



Source: RBNZ calculations.

18 The $15 hypothetical emissions price is benchmarked to an estimate by He Waka Eke Noa (2022) that a 2030 price for methane emissions of $0.35/kg, equivalent to $14/tonne CO^2-e, could be sufficient to meet the 2030 emissions target under a 'medium technology' scenario. https://hewakaekenoa.nz/wp-content/uploads/2022/06/FINAL-He-Waka-Eke-Noa-Recommendations-Report.pdf

19 https://www.rbnz.govt.nz/financial-stability/stress-testing-regulated-entities/climate-stress-test.



Regulatory developments

CHAPTER 03

Westhaven Marina, Auckland. Photo: Cuong Nguyen

CHAPTER 3
Regulatory developments

In the past six months significant progress has been made to further modernise and strengthen our prudential regulatory functions. This includes a programme of legislative reform to ensure our regulatory frameworks for deposit takers, insurers and financial market infrastructures are fit for purpose. We have taken further steps to embed a more intensive supervisory approach and are actively working with industry to develop and implement new regulatory requirements. Meanwhile, we continue to deliver our current obligations through ongoing regulatory stewardship, supervision and enforcement activity.

In addition to outlining recent policy and supervisory developments, this chapter describes how the crisis management framework for deposit takers will be strengthened under the Deposit Takers Act (DTA) and details our approach for engaging with deposit takers on the development of DTA Standards (see Box A). It also includes discussion on the outcomes of our recently released cross-sector Governance Thematic Review (see Box B).

Policy developments

Implementation phase for the new deposit takers regime

The enactment of the DTA in July 2023 was a major milestone and lays the groundwork for modern regulation and supervision of the deposit taking sector. The DTA creates a single regulatory framework for banks and non-bank deposit takers. More detail on the DTA was provided in the May *Financial Stability Report*.[20] We are now moving to a multi-year programme to implement the new deposit takers regime – see Box A for our industry engagement plan. We are engaging with industry stakeholders on a number of key design aspects, including a proportionality framework for developing standards under the DTA.[21]

Issuance of FMI standards promotes financial stability and well-functioning markets

We continue to progress our work with the Financial Markets Authority and industry to fully implement the Financial Market Infrastructures Act 2021 (FMI Act) by 1 March 2024. FMIs are multilateral systems, such as payment systems, securities settlement systems and central counterparties, that underpin well-functioning financial markets and enable daily financial transactions.

20 https://www.rbnz.govt.nz/-/media/project/sites/rbnz/files/publications/financial-stability-reports/2023/may-2023/fsr-may-23.pdf

21 https://www.rbnz.govt.nz/have-your-say/2023/deposit-takers-act-2023-proportionality-framework-consultation

Final standards for designated FMIs were issued under the FMI Act in late July following several rounds of consultation. The standards are legally binding requirements based on the relevant international standards – the Principles for Financial Market Infrastructures – and are adapted to suit New Zealand circumstances and legal norms. The next phase of implementation work is to designate FMIs that are systemically important. This includes to re-designate five FMIs that are currently designated under the previous simpler regulatory regime in the Banking (Prudential Supervision) Act 1989.[22]

Next phase of the review of insurance sectoral legislation

We have made progress on our two reviews of insurance regulation. The Insurance (Prudential Supervision) Act 2010 (IPSA) review is considering the primary legislation that underpins our prudential supervision of the insurance sector. The solvency standards review is considering the standards, empowered by IPSA, that set minimum capital requirements for insurers.

We published an omnibus consultation for the IPSA review in September. This consultation sets out a package of proposed changes to the legislation, drawing on the five previous consultations we have published.

The proposals in the consultation will support the more proactive and intensive approach to supervision that we are adopting across the sectors we regulate, by introducing a wider range of supervisory and enforcement tools. They will also expand the range of standards issued under IPSA, enabling us to produce more detailed and enforceable rules for insurers, particularly for governance and risk management.

The Interim Solvency Standard, which was the main deliverable of the first stage of the solvency standards review, came into force in January 2023. We opened a consultation on an amendment to this standard in September to deal with some technical issues that emerged due to the interaction between the standard and the new IFRS17 insurance accounting rules. We have also begun work on the second stage of the solvency review, which looks at the calibration capital charges and other numeric elements of the standard.

Other regulatory policy matters

Other regulatory policy priorities, including those that will feed directly into the development of standards under the DTA, are detailed below (table 3.1). Our full programme of regulatory policy work is available on the calendar of regulatory initiatives that is published by the Council of Financial Regulators (CoFR).[23]

22 https://www.rbnz.govt.nz/regulation-and-supervision/cross-sector-oversight/registers-of-entities-we-regulate/register-of-designated-settlement-systems-in-new-zealand

23 https://www.cofr.govt.nz/files/regulatory-initiatives-calendar/regulatory-initiatives-calendar-q2-2023.pdf

Table 3.1

Update on selected regulatory policy initiatives

Liquidity policy review	We intend to release the summary of submissions and key decisions document for our second consultation paper (C2) on the Liquidity Policy Review by the end of the year. C2 focused on the eligibility criteria for liquid assets and whether we should adopt the Basel liquidity metrics. We expect to release the third consultation paper in Q2 2024 as part of our broader consultation on the core standards of the DTA.
Review of policy for branches of overseas banks	We are currently reviewing feedback from our second consultation paper on the branches policy review, and plan to communicate final policy decisions in 2023. This will allow an implementation timeline for existing branches that aligns with the introduction of the DCS and the issuance of standards under the DTA.
Macroprudential policy	We intend to consult on the calibration and implementation of debt-to-income (DTI) restrictions for residential lending early in 2024. If implemented, restrictions would likely take effect from around mid-2024.
Capital review implementation	Implementation of the 2019 Capital Review remains on track and the outcomes of the review will continue to be phased in through to 2028. We continue to refine our capital adequacy framework, including introducing a capital instrument for mutual banks, technical amendments to risk-weighting and changes to our BS8: Connected Exposures policy.
Climate risk	In March 2023 we published draft guidance for our regulated entities on the management of climate-related risks. We are currently incorporating feedback with a view to publishing the final guidance by end-March 2024.
Cyber data collection	We published our proposed cyber data collection in May 2023. Some changes are being considered to streamline the data collection and provide flexibility to respondents. We expect to release a summary of submissions shortly and anticipate that cyber data collection will begin in 2024.

Supervision and enforcement

Over the past six months, we have further intensified our supervision, with the goal of being risk-based, evidence-led, and outcomes-focused. In particular, initiatives have focused on better enabling and equipping supervisors through improved frameworks, data and analytical tools.

We are implementing a refreshed risk assessment framework for banks, NBDTs and insurers. Insurers' licence conditions are being updated to reflect the Interim Solvency Standard, and the supervision of the FMI sector is maturing following the issuance of finalised standards for designated FMIs in July.

Our new Enforcement Framework is also being implemented.[24] Over the past six months we have conducted a range of enforcement activities including undertaking formal investigations, assessing regulatory boundary issues in the NBDT and insurance sector, and processed applications for the use of restricted words. The status of material breaches of regulatory requirements for registered banks is published on our website.[25]

We will continue our work on supervisory coordination, domestically as well as internationally. This work includes engagement on key global risks (eg operational resilience and climate change), as well as close cooperation via existing channels such as CoFR and Trans-Tasman working groups.

24 Enforcement - Reserve Bank of New Zealand - Te Pūtea Matua (rbnz.govt.nz)

25 Material breaches of key bank prudential requirements - Reserve Bank of New Zealand - Te Pūtea Matua (rbnz.govt.nz)

Key initiatives to support the intensification of supervision include:

- **Cyber risk.** Cyber risk is a significant and growing source of operational resilience risk for financial institutions that is linked to the ongoing rise of the digital economy. We continue to emphasise the importance of cyber resilience for our regulated entities and it is a key priority across CoFR members. The Government has also emphasised the importance of cyber resilience in its Financial Policy Remit for the Reserve Bank.[26] We are in the process of implementing a three-stage policy approach to support cyber resilience in the financial sector. In 2021, we published cyber resilience guidance for boards and senior management. Over the course of 2022, we agreed incident response protocols between New Zealand financial regulators, as well as with our Australian counterparts. We also recently completed a public consultation on our cyber data collection proposals, on which we have worked closely with the FMA (table 3.1). Over the coming year, we will continue to enhance our approach to ensure that it is proportionate and appropriate for our regulated institutions.
- **Scams and fraud.** We are seeing increases in the level and sophistication of scams and fraud that are targeting customers of financial institutions. These range from individual phishing attempts and identity theft, to complex, fraudulent investment schemes. Scams are often conducted over the internet and therefore present a source of cyber risk for individuals and businesses. We are working with our fellow CoFR agencies and industry to address this risk in a coordinated manner.
- **Governance arrangements.** Following the publication of the Governance Thematic Review report on 5 September 2023, we began engaging with deposit takers and insurers regarding the findings, recommendations and their governance arrangements. Regulated entities that were part of the sample have been provided with detailed specific feedback to action.
- Entities that were not part of the sample are encouraged to assess their governance arrangements against the principles, expectations and good practices outlined in the report. Boards should discuss the outcome of their self-assessment and consider appropriate actions. We will engage with regulated entities over the coming months on their self-assessments and action plans.

Developing a modern crisis management framework for deposit takers

With the passing of the DTA, New Zealand now has the legislative foundation for an updated crisis management and resolution framework that will bring us more in line with our international peers. The DTA includes enhanced responsibilities and powers for the Reserve Bank to deal with distressed deposit takers in an orderly manner. It broadens the statutory purposes for dealing with distressed depositors, looking beyond financial system stability to matters like depositor protection, creditor interests, and public funds. We are currently preparing for the commencement of this new regime in the DTA, likely to occur in mid-2028.

Current crisis management toolkit

Our current regulatory framework assists in dealing with a failed bank in accordance with our financial stability objective. Systemically important deposit takers must be locally incorporated, which better enables an appointed statutory manager or insolvency official to step into a distressed entity in accordance with New Zealand laws.

The BS17 Open Bank Resolution (OBR) prepositioning policy applies to locally incorporated banks with over $1 billion of retail deposits. It is set to provide depositors next-day access to a portion of their funds when a bank fails and is placed into statutory management. This is intended to reduce disruption to banking services compared to liquidation or receivership, while avoiding the upfront cost associated with taxpayer-funded bailouts.

26 Our Financial Policy Remit - Reserve Bank of New Zealand - Te Pūtea Matua (rbnz.govt.nz)

In addition, the BS11 Outsourcing Policy applies to locally incorporated banks with over $10 billion of net assets. It requires those banks to ensure that any outsourcing arrangements do not compromise the bank's ability to be effectively administered and operated if placed under statutory management.

Crisis management toolkit under the DTA

An overview of some of the key features of the new DTA crisis management and resolution regime is as follows:

Accountability and resolution planning requirements

The DTA requires the Reserve Bank to act as New Zealand's resolution authority. This means we will have direct responsibility and accountability for the resolution of licensed deposit takers.

As part of these new responsibilities, we are required to prepare and maintain a resolution plan for each deposit taker and publish a Statement of Resolution Approach (SoRA). The SoRA will set out our expected strategies for dealing with failing deposit takers, and our intended approach to cooperating and engaging with relevant agencies, both domestically and internationally.

Contribution to resolution from the Depositor Compensation Scheme (DCS)

The Depositor Compensation Scheme (DCS) is set to come into force in October 2024. Once in force, the DCS will protect up to $100,000 per eligible depositor per deposit taker. As part of the resolution of an entity, the DTA provides for the use of DCS funds to stabilise the deposit taker and enable eligible depositors to access their funds up to $100,000.[27]

This feature of the new framework is intended to assist in the orderly resolution of a failed deposit taker through enabling continued performance of critical functions, allowing depositors to continue in their economic life, and minimising impacts to financial stability.

Safeguards for creditors and shareholders

In line with international practice, the DTA introduces a no creditor or shareholder worse off safeguard. This is the principle that resolution of an entity does not leave a creditor or shareholder worse off than if liquidation had occurred. This recognises that resolution of a deposit taker may impact normal property rights, and that it is desirable to ensure that creditors and shareholders have certainty that their property rights will be respected. This only applies to locally incorporated deposit takers.

Additional measures to support continuity of operations

In broad terms, the DTA introduces new restrictions on the ability of suppliers and counterparties to discontinue, or enforce rights under, their contractual relationships with a deposit taker solely because of its entry into resolution. This assists a deposit taker to continue to provide critical services to customers and helps enable an orderly resolution.

Next steps

We are currently undertaking policy work to explore optimal resolution strategies for different cohorts of deposit takers. This work will include consideration of the need for additional statutory powers to recapitalise a failed deposit taker, upon which we are expected to report back to the Minister of Finance within the next two years. Considerations will include recent increases in minimum capital requirements for banks, our existing resolution toolkit, and the ownership structure of New Zealand banks.

27 Provided that this option is estimated not to be more costly than liquidation and payout.

Box A

Stakeholder engagement for implementing the Deposit Takers Act and Depositor Compensation Scheme

Following the enactment of the Deposit Takers Act (DTA) on 6 July 2023, we began engaging industry stakeholders on the implementation of the new regime. Specifically, we are engaging on the implementation of the Deposit Compensation Scheme (DCS), and the issuance of standards and licensing for deposit takers.

During August/September, we consulted on a proposed Proportionality Framework for developing standards for deposit takers, the Levy Framework, along with the Treasury who consulted on the Statement of Funding Approach for the DCS.

A series of industry workshops was held in August 2023 to support the consultation process. These workshops covered prudential regulation and standards development for the DTA, and regulation, levies, funding and payout options for the DCS.

Following the workshops, throughout September and October, bilateral meetings commenced with a number of individual deposit takers and will continue during 2024. Further consultations and workshops will be an integral part of our plan to implement the DTA. Upcoming consultations will cover additional aspects of the DTA and DCS implementation (figure A.1). We also aim to continue bilateral engagements with deposit takers. Engagement on the Single Customer View data for potential DCS payout events will be held separately in bilateral meetings and/or workshops later in 2023 with our respective data teams.

The findings from the our Relationship Charter Survey in June 2023 were an important factor in developing the communications and engagement approach for the DTA and DCS.[28] Some respondents, mainly smaller deposit takers, wanted more time to respond to Prudential Policy consultations, and also indicated a preference for us to devote more effort to understanding the industry.

In addition to the formal consultations, a range of communication channels have been established to keep industry and other stakeholders updated on the DTA and DCS implementation. These include a dedicated programme email address, web pages on the Reserve Bank website, and a new industry newsletter, Deposit Takers News.[29]

Figure A.1
Deposit Takers Act indicative engagement timeline

2023
- **July** Deposit Takers Bill passed
- **August/September** Consultation on proportionality framework and DCS levy framework (RBNZ) and Statement of funding approach (Treasury)

2024
- **March quarter –** Consultation on DCS regulations
- **April –** Proportionality framework published
- **May/June –** Consultation on core standards
- **July/August –** Consultation on non-core standards
- **July/August –** DCS regulations come into effect
- **late –** DCS commences

2025
- **October/December** Consultation on exposure draft of core standards

2026
- **February/April** Consultation on exposure draft of non-core standards

2027
- **January –** Core and non-core standards issued
- **July –** All remaining regulations come into effect
- **January 2027 – July 2028** Licensing process

2028
- **July –** All DTA standards including SCV commence

2029
- **July –** Legislative backstop

DTA = Deposit Takers Act
DCS = Depositor Compensation Scheme
SCV = Single Customer View

28 RBNZ's Relationship Charter shows continued growth in regulatory relationships - Reserve Bank of New Zealand - Te Pūtea Matua
29 Deposit Takers News - Reserve Bank of New Zealand - Te Pūtea Matua (rbnz.govt.nz)

Box B

Governance Thematic Review

In September 2023 we completed a joint Governance Thematic Review with the Financial Markets Authority (FMA), on the foundational elements of good governance, including the frameworks, policies, processes and practices of boards of regulated entities. The aims of the review were to:

- determine the extent to which these are aligned to our regulatory requirements and guidance;
- understand how these allow boards to provide effective oversight; and
- promote effective board practices by outlining areas of good practice that all boards should consider, clarifying our expectations and highlighting areas for improvement.

The Review included assessment against legislative requirements, Reserve Bank and FMA guidance, as well as local and international guidance on good governance practices.

We reviewed a sample of 29 entities across the banking, insurance, non-bank deposit-taking and investment management sectors. Across the sample, we observed a variety of governance practices. There were a number of examples of good practices, as well as some that were below our expectations, as highlighted in the Review.[30] There is still room for improvement in most entities to ensure robust and comprehensive governance frameworks, policies and processes are in place. While these foundational improvements are essential, it is equally important that boards give adequate attention to culture and behaviour to foster good governance.

A common theme running through the Review is the need for boards to be able to change and evolve, setting themselves up for success not only now but into the future. This includes proactively identifying opportunities for continuous improvement and formalising good practices into processes to foster transparency and accountability.

Having the appropriate processes, capabilities and culture in place allows boards to ask the right questions and provide appropriate direction, challenge and oversight.

While both the Reserve Bank and the FMA have issued guidance on governance, boards should be considering and adopting good practices over and above those minimum standards. Some of the key principles from the Review that all boards should consider include:

- the roles and responsibilities of boards, board and committee chairs and their members are clearly defined, understood and remain fit for purpose;
- boards maintain the collective skills and experience to guide and oversee the implementation of the entity's long-term strategy and to discharge their roles and responsibilities effectively;
- succession planning is a priority for the chair;
- boards have sufficient independence to support good decision making;
- boards have sufficient diversity to support their role;
- directors have sufficient capacity to fulfil their obligations;
- boards provide effective and appropriate challenge; and
- a focus on continuous improvement and regular evaluation drives board performance.

We encourage boards of regulated entities who did not participate in the review to assess their governance arrangements against our expectations and the good practices outlined in the report.

The findings from this Review will be considered in upcoming policy reviews such as the development of standards for the Deposit Takers Act 2023 and review of the Insurance (Prudential Supervision) Act 2010.

30 https://www.rbnz.govt.nz/regulation-and-supervision/cross-sector-oversight/thematic-reviews/cross-sector-thematic-review-on-governance

Institutional resilience

CHAPTER 04

Auckland City. Photo: Chris McDonald

Institutional resilience

New Zealand's financial system continues to display resilience despite recent headwinds. Banks remain profitable and have strong capital and liquidity positions, with the sector well placed to manage the possible emergence of more severe financial stress and weaker economic conditions. This assessment is supported by the results of recent stress tests. However, resilience is more varied in the non-bank sector, where some entities face challenges. Many insurers have felt the impact of higher reinsurance costs, severe weather events and investment losses due to rising interest rates, yet solvency positions remain robust. Financial market infrastructures continue to function effectively.

Summary

Banks

Solvency

- Bank capital ratios have been stable over the last six months, remaining well above regulatory minimums (figure 4.1). Strong capital positions mean banks are well placed to absorb losses in the event of economic shocks.
- Banks' resilience is demonstrated by results of the 2023 desktop solvency stress test, where we estimated the impacts of a severe stagflation scenario on the four largest banks. The stress scenario was closely aligned with the scenario used in our 2022 bank solvency stress test, with updated capital starting points and current economic conditions. Results were determined by a combination of our own estimates and bank projections for impairment expenses and credit risk weighted assets. All banks' capital ratios enter the Prudential Capital Buffer, triggering dividend restrictions. However capital ratios remain well above regulatory minimums even before considering any mitigating actions banks may take (figure 4.2).
- The four domestic-systemically important banks (D-SIBs) have been required to hold more CET1 capital since 1 July 2023, when the D-SIB buffer rose from 1 to 2 percent as part of the implementation of the Capital Review decisions. Requirements will continue to rise incrementally through to 2028, strengthening the buffers banks can use to cope with loan losses, and further improving the resilience of the banking system to manage severe shocks.
- Assuming bank profitability and asset growth rates remain at their respective averages from the last 10 years, the large banks are on course to meet the higher CET1 requirements by 2028 if, for example, they retain at least 50 percent of their profits as equity (figure 4.1).[31]

31 See the footnote attached to figure 4.1 for further details about the modelling approach used to project capital ratios.

Asset quality	• Borrowers have continued to reprice onto higher interest rates through 2023, increasing debt servicing costs (see Special Topic 2 in Chapter 2). Severe stress metrics such as non-performing loans, while recording small increases over 2023, have remained at low levels (figure 4.3). • Banks' collective provisioning increased over 2022 and the early part of 2023, following the worsening economic outlook, and anticipation of higher debt serviceability costs in the rising interest rate environment. However, banks have recorded less stress than they previously expected at this point in the interest rate cycle, and provisioning has stabilised in recent months (figure 4.3). • Further increases in non-performing loans are expected (See figure 1.7 in Chapter 1). There remains a risk of a more significant and broad-based decline in asset quality if there is a material deterioration in the economy and the labour market.
Profitability	• As interest rates rose, banks' net interest margins (NIMs) expanded, with banks' deposit funding costs rising more slowly than lending rates.[32] Banks' margins have started to normalise in recent months, predominantly on the deposit side. NIMs have fallen slightly from a peak in November 2022, but remain elevated relative to the last 5 years (figure 4.4). • Banks' profits have been steady over 2023. Above-average net interest income has largely been offset by higher impairment expenses (figure 4.8, table 4.1) and reduced revenue from fees and commissions. The efficiency of banks' operating models has continued to improve, with operating expenses and wage costs both declining steadily as a share of total income since mid-2021 (figure 4.5, table 4.1). • Stable profits alongside ongoing growth in assets and equity bases have seen the return on equity and return on assets decline for the large banks over the last 6 months (figure 4.4). In contrast, profitability ratios have been relatively stable for smaller banks. This is largely because the 2 percent D-SIB capital buffer does not apply to these banks, who have more time before their capital requirements increase and, at present, are not raising capital to the same extent as the larger banks. • The ongoing transition towards more expensive term deposit funding from transaction accounts, in addition to the increased term deposit interest rates as monetary policy tightening continues to pass through, is expected to increase bank funding costs and place additional downward pressure on NIMs over the next 6 months. Further increases in impairment expenses may also place downward pressure on profitability in the near term.

32 See Box C for further detail on these dynamics.

Liquidity and funding

- The transition towards higher-yielding term deposits has made banks' deposit base more stable over the course of 2023 and contributed to liquidity positions remaining very strong (See Box C).
- Our 2023 bank liquidity stress test examined the resilience of 13 banks to liquidity shocks over a 6-month period. It is the third year we have run the test using the same scenario.[33] In the very severe scenario, the average length of time before the average of the five largest banks cash reserves can no longer fund deposit outflows (the survival horizon) improved from 7 to 9 weeks, indicating an improvement in the resilience of the system to a liquidity shock compared to 2021 (figure 4.6). Smaller banks had a longer average survival horizon than the large banks and in the 2022 exercise. Several banks have embedded our stress test into their ongoing management of liquidity risk and used results to inform their contingent funding plans.
- Banks' core funding ratios (CFRs) have risen further from already-strong positions over the last 6 months (figure 4.7). The increase in CFRs partly reflects the transition towards term deposits, as this deposit funding is subject to smaller haircuts in core funding calculations than deposits in transaction accounts. The significant slowdown in credit growth over 2023 has also contributed to the rise in CFRs.
- Funding conditions continue to be favourable. With credit growth slowing, there has been relatively less need for banks to raise wholesale funding in offshore markets. A portion of banks' recent debt issuance has been to refinance funding sourced via the Funding for Lending Programme (FLP), which will mature between December 2023 and December 2025.

Non-bank deposit takers (NBDTs)

- New Zealand's NBDT sector consists of building societies, credit unions and deposit-taking finance companies, with a total lending of about $2.2bn. The sector is very small relative to the banking sector in total lending but provides services to a relatively large number of customers.
- There has been a broad-based slowdown in new lending by NBDTs over the last 12 months, driven by higher interest rates and the uncertain economic outlook. Some NBDTs with business particularly concentrated in residential mortgages have reported strong competition from banks for new lending.
- Non-performing loans have generally increased from low levels over 2023, most materially for deposit-taking finance companies (figure 4.9).
- NBDTs face significant regulatory change in coming years, most notably through the implementation of the Deposit Takers Act (DTA) (see Chapter 3). We are engaging extensively with industry as the DTA standards are developed and implemented (see Box B).
- The resilience of New Zealand's NBDTs varies across the sector. While the NBDT sector as a whole continues to build capital buffers and improve operational efficiency, some NBDTs face ongoing challenges, largely due to a lack of scale (figure 4.10, 4.11). Building resilience is more difficult for these NBDTs, which may need to make changes to their businesses should challenges persist.

33 The Liquidity Stress Test section of the Outcomes of the 2021 Bank Stress Test bulletin contains further detail on the stress scenario.

Insurers

- It is likely that general insurers' profitability has declined substantially because of the severe weather events earlier in 2023. Life insurers' profitability has also reduced significantly in the last 2 years, due to investment losses from rising interest rates (figure 4.12).
- Despite profitability declining, aggregate solvency positions remain well above regulatory requirements for the three main types of insurance, highlighting the ability of insurers to withstand shocks (table 4.3). This assessment is supported by the results of the 2022 Life Insurance Industry Stress Test, where New Zealand's largest life insurers were able to remain solvent through severe economic and insurance shocks, while continuing to pay out policy claims.[34]
- Reinsurance costs have increased materially over 2023, driven by a global trend of reinsurers reducing risk appetites, and re-evaluations of risk following large weather-related losses in Australia and New Zealand. These changes to reinsurance have contributed to property insurers' premium rates increasingly sharply and means insurers will need to hold more capital due to an increased exposure net of reinsurance.
- The severe weather events have also caused operational strain for property insurers, with claims volumes for home, contents and motor vehicle policies significantly higher than normal. Similar to the Canterbury earthquakes, decisions on land zoning and remediation of land damage and local flood risks will delay the finalisation of affected insurance claims.
- With the range of impacts the severe weather events have had on insurers, there are likely to be lasting financial system effects, including changes to insurance availability and greater use of risk-based pricing.
- Cyber-attacks continue to occur across the financial sector, including on insurers. We are increasing our monitoring of cyber risks and incidents across all supervised firms (See Chapter 3).

Financial market infrastructures (FMIs)

- FMIs are systems through which financial transactions are cleared, settled, and recorded. It is important these systems are reliable and operate with minimal risk. New Zealand's systemically important FMIs continue to exhibit high availability and resilience.
- In May the Reserve Bank, Financial Markets Authority, Reserve Bank of Australia and the Australian Securities and Investments Commission signed a Memorandum of Understanding (MoU) that establishes a framework for cooperation regarding the supervision and regulation of certain FMIs operating in both Australia and New Zealand. The MoU brings efficiency and financial stability benefits in light of growing cross-border interconnectedness of FMIs.
- On 26 May the SBI365 initiative went live, meaning many domestic electronic payments can now be processed and settled every day, improving financial system efficiency. Prior to this the inter-bank payment system was only available on 5 days each week. The faster settlement of payments reduces the settlement risk of FMIs, given there will be fewer financial transactions in the system awaiting receipt or payment at any given time. This is a further step towards modernising the payments ecosystem in New Zealand.
- The Reserve Bank owns and operates the Exchange Settlement Account System (ESAS), the real-time gross settlement system which is a key part of New Zealand's payments infrastructure. We are currently reviewing our access policy for ESAS accounts, to potentially open ESAS access to a broader range of participants. In June, we issued a consultation paper seeking views on the risk assessment framework to apply when assessing potential participants, as well as related issues.[35] Responses are currently under consideration, and we aim to announce a final access policy by the end of 2023.

34 Outcomes of our first Life Insurance Industry Stress Test (LIIST)

35 ESAS Access Review: Risk Assessment Framework for ESAS

Box C

Trends in bank deposits through the period of monetary policy tightening

Deposits are an important part of banks' funding, making up around 63 percent of New Zealand banks' total funding, alongside wholesale and other funding (28 percent) and shareholders' equity (9 percent). This box examines the ongoing normalisation in banks' liquidity and funding positions given a higher interest rate environment, and the influence of this normalisation on net interest margins.

Bank deposits grew strongly during the early stages of the COVID-19 pandemic, driven by both fiscal support measures such as the wage subsidy and our Large Scale Asset Purchase (LSAP) programme. By purchasing government bonds in the secondary market, LSAP operations created both an asset for commercial banks (settlement balances with the Reserve Bank) and a liability (newly created deposits for customers who sold their bonds). Our Funding for Lending Programme (FLP) also provided a low-cost marginal source of long-term stable funding for banks.

The FLP increased banks' settlement balances and placed downward pressure on competition for deposits.[36] In turn, lower bank funding costs supported the transmission of monetary policy as banks passed these on to lower lending rates for households and businesses.

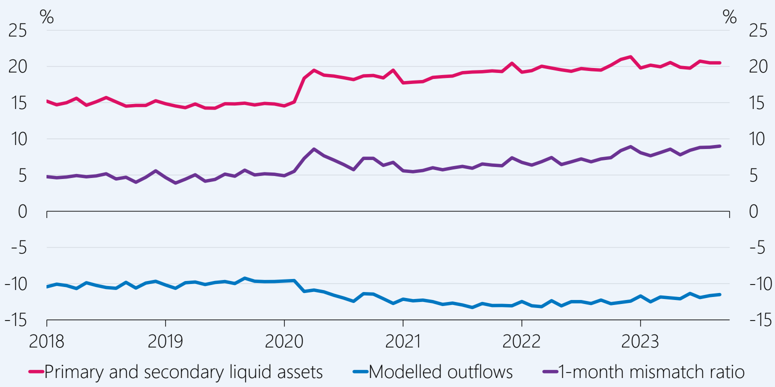
An environment of strong deposit volume growth relative to lending growth, and abundant liquid assets, led to a significant boost to the banking system's core funding and liquidity mismatch ratios (figure C.1). Banks seek to carefully manage their assets and liabilities to ensure they have adequate liquidity buffers. Our liquidity mismatch ratios require banks to model the net funding outflows they could see during a specified liquidity stress scenario and hold a sufficient buffer of liquid assets to offset this. A more stable funding profile, for example having a high share of term deposits, reduces a bank's modelled outflows and consequently the level of liquid assets the bank needs to have.

Policy actions over 2020, including the FLP, LSAP operations and fiscal stimulus, combined to effectively relax the constraint imposed by the mismatch ratios, by increasing the stability of banks' liabilities and raising the level of liquid assets in the financial system via higher settlement cash balances. The high level of liquid assets in the banking system meant that banks could comfortably operate with a higher share of their deposits kept at call, even though this meant their deposit funding was less stable than before (figure C.2). In part this was achieved through offering a lower interest rate premium on term deposits relative to on-call savings accounts (figure C.3), with the typical premium of around 200bps declining to around 60bps by early 2021. A lower compensation for locking in savings for long durations contributed to a decline in term deposit balances.[37] The share of all savings balances in term deposits fell from 70 to 56 percent.

Figure C.1

Components of banking system 1-month liquidity mismatch ratio

(percent of funding)



Source: RBNZ *Liquidity survey.*

36 See Box A in the November 2020 *Financial Stability Report* for discussion of the mechanics of LSAP and FLP, https://www.rbnz.govt.nz/hub/publications/financial-stability-report/financial-stability-report-for--november-2020.

37 Other factors, such as a preference to hold more liquid assets in an uncertain economic environment, may also have contributed to the switch from term deposits to transaction and on-call accounts.

As monetary policy has tightened since late 2021, these trends are gradually reversing. The interest rate premium on term deposits relative to on-call savings accounts has returned to pre-pandemic levels. Given this, a rising opportunity cost for holding deposits in transactional and on-call savings accounts has seen large shifts towards term deposits in banks' deposit funding over the past 18 months (figure C.4).

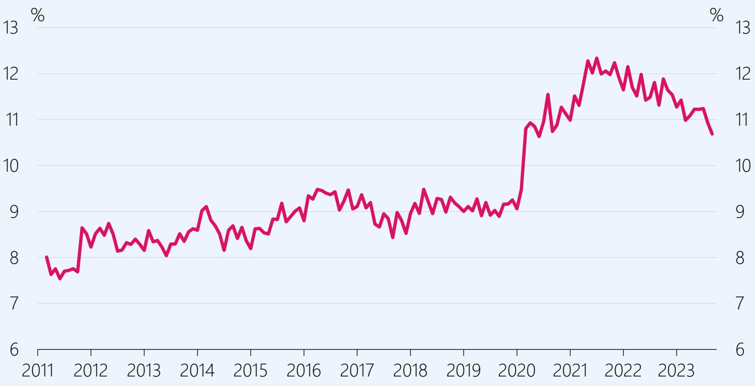
However, with deposit funding remaining strong relative to credit growth, bank competition for deposits overall has remained limited so far. As a result, returns on deposits and particularly for on-call savings accounts have been low relative to wholesale interest rates. Banks anticipate increasing competition for deposits over coming years as the sector repays funding through the FLP and credit growth picks up. Given this, bank demand for term deposits is starting to increase and the spread between 6-month term deposit rates and wholesale reference interest rates has risen, partly reversing the decline seen during the 2020 to mid-2022 period (figure C.5).

Through this transition period banks have experienced higher than average net interest margins (NIMs), as the interest income earned on their assets has grown faster than the interest costs paid on their funding. To some extent, this may reflect a degree of inertia among depositors. The share of deposits in transaction and on-call accounts is still above pre-COVID levels, despite the increased opportunity cost (see Special Topic 3 of the May 2023 *Financial Stability Report)*.[38]

Figure C.2

Deposit outflows in 1-month mismatch ratio

(share of deposit funding)

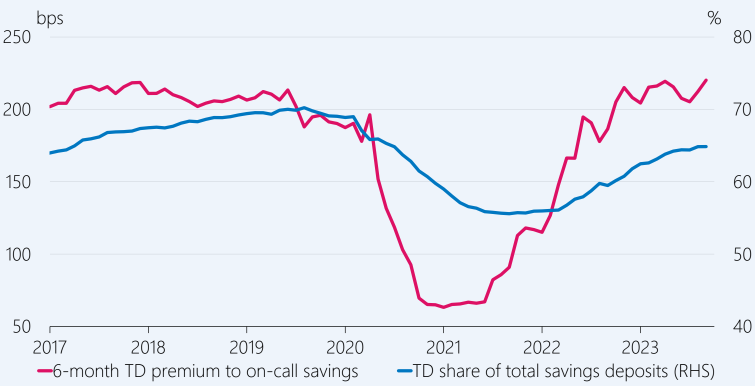


Source: RBNZ *Liquidity survey.*

Note: Figure shows the proportion of non-market funding (largely deposits) which is assumed to be withdrawn during the 1-month stress scenario, using the parameters set out in the Reserve Bank's liquidity policy (BS13).

Figure C.3

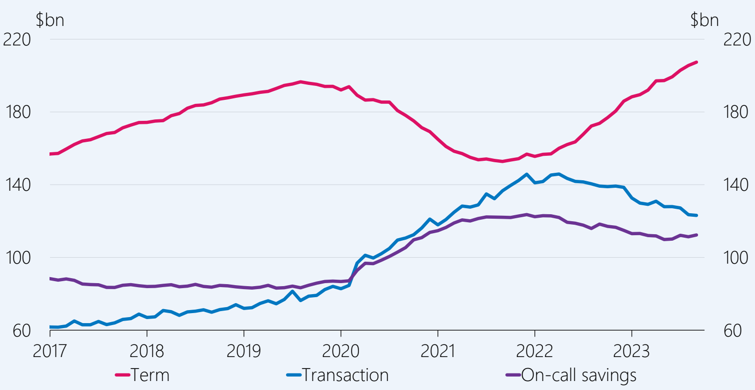
Interest rate premium on term deposits and term deposit share



Source: RBNZ *Bank Balance Sheet survey, Income Statement survey,* RBNZ estimates.

Figure C.4

Bank deposits by type

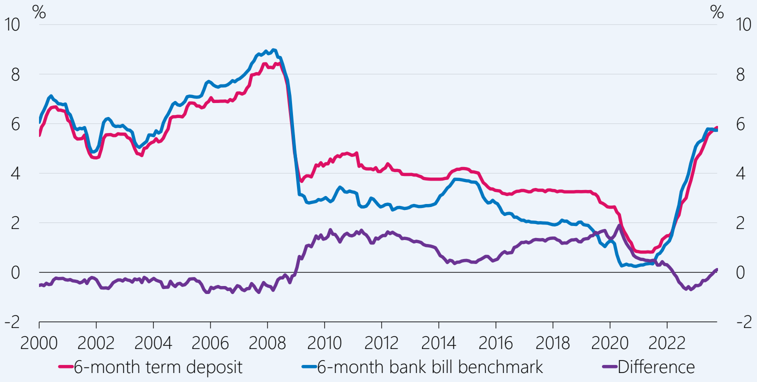


Source: RBNZ *Bank Balance Sheet survey.*

38 https://www.rbnz.govt.nz/hub/publications/financial-stability-report/2023/may-2023/fsr-may-23-special-topic-3

Figure C.5

6-month term deposit and wholesale interest rates

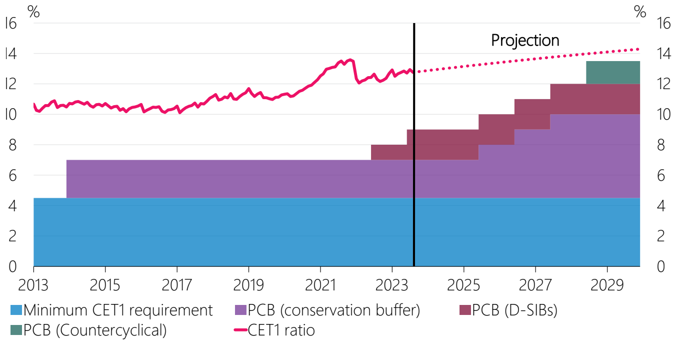


Source: Reuters, interest.co.nz.

Over time, as demand for deposit funding increases, banks are likely to compete more aggressively for deposits, resulting in higher overall funding costs. This could see NIMs decline closer to their long-term averages and could put downward pressure on bank profits, depending on the future path of lending rates.

Charts

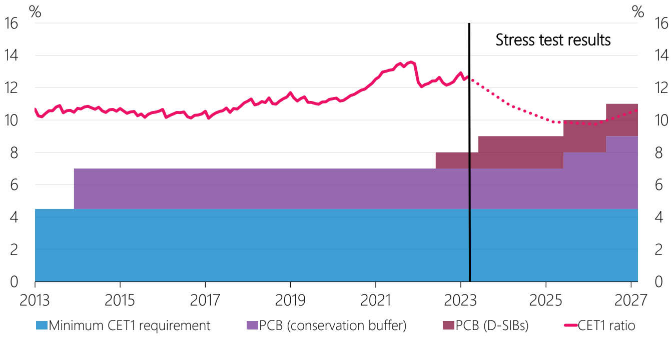
Figure 4.1
Common equity tier 1 ratio for domestic-systemically important banks[39]



Source: RBNZ *Bank Balance Sheet survey*, RBNZ estimates.

Note: CET1 is Common Equity Tier 1. PCB is the Prudential Capital Buffer.

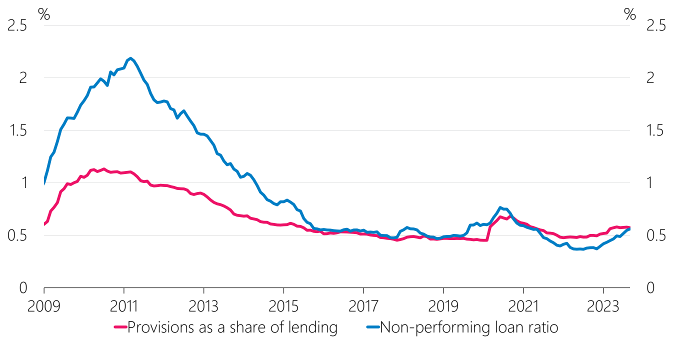
Figure 4.2
Aggregate common equity tier 1 ratio – 2023 stress test outcome



Source: RBNZ.

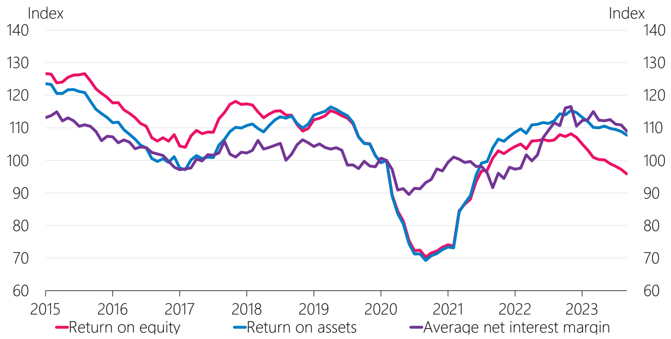
Note: Historical aggregate CET1 ratio and 2023 Solvency Stress Test aggregate consisting of ANZ, ASB, BNZ and Westpac. CET1 is Common Equity Tier 1. PCB is the Prudential Capital Buffer.

Figure 4.3
Bank non-performing loans and provisioning ratios



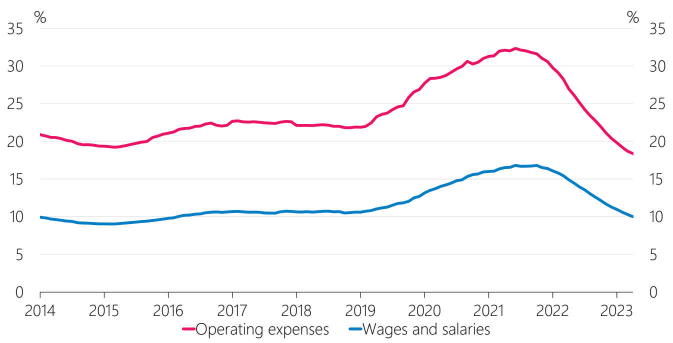
Source: RBNZ *Bank Balance Sheet survey.*

Figure 4.4
Profitability measures for domestic-systemically important banks



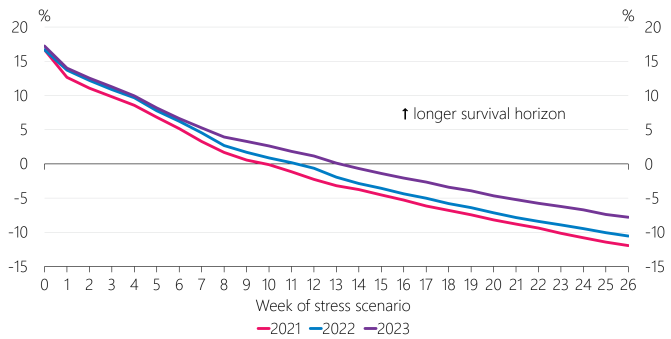
Source: RBNZ *Income Statement survey*.

Figure 4.5
Bank operating expenses and labour expenses as percentages of total income



Source: RBNZ *Income Statement survey.*

Figure 4.6
Survival horizons from the 'Very Severe' scenario in the Liquidity Stress Test

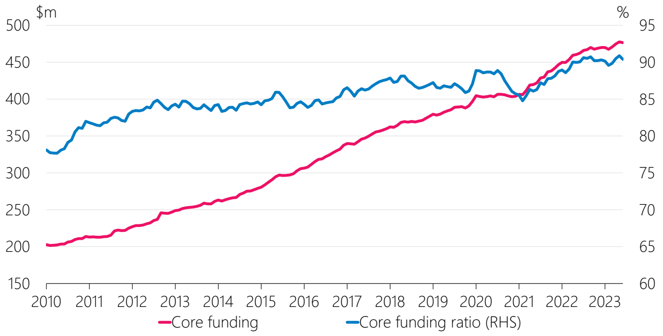


Source: RBNZ.

39 The projection for capital ratios assumes risk-weighted assets growth and profitability remain at their respective averages across the D-SIBs over the period 2014–2023. The model assumes capital is only raised via retained earnings, with no additional injections of capital, where 50% of annual earnings are retained as CET1 capital, and 50% is distributed as dividends. The selected dividend payout ratio of 50% is approximately the average across the large banks following the removal of dividend restrictions imposed at the onset of the COVID-19 pandemic.

Figure 4.7

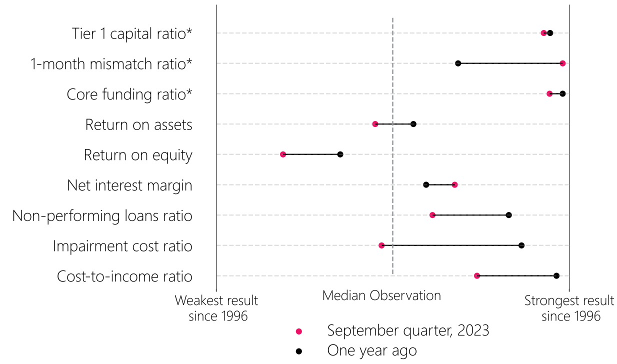
Core funding metrics



Source: RBNZ *Liquidity survey.*

Figure 4.8

Banking system resilience indicator suite



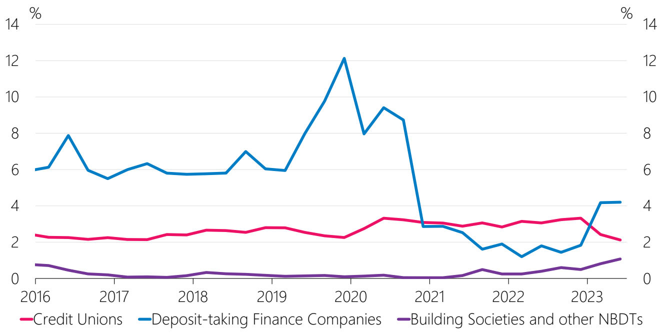
Source: RBNZ *Capital Adequacy survey, Liquidity survey, Income Statement survey, Bank Balance Sheet survey*, RBNZ calculations.

Note: Non-performing loans, impairment cost and cost-to-income ratios are presented in inverted scales for readability purposes, so that lower outcomes for these variables are shown on the right-hand side (stronger resilience metrics). Data for Tier 1 capital ratio is as at August 2022.

*Liquidity metrics begin in June 2010.

Figure 4.9

NBDT non-performing loans ratio

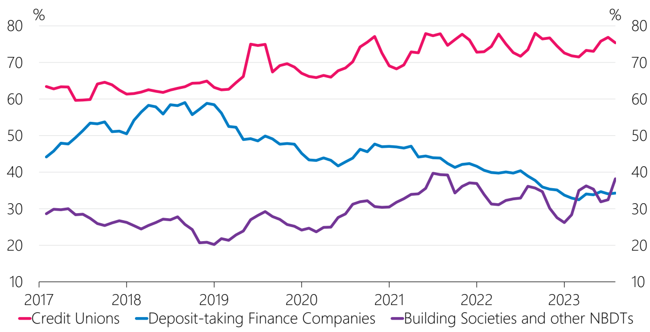


Source: RBNZ *Non-bank Deposit Takers survey.*

Figure 4.10

NBDT operating expenses to total income ratio

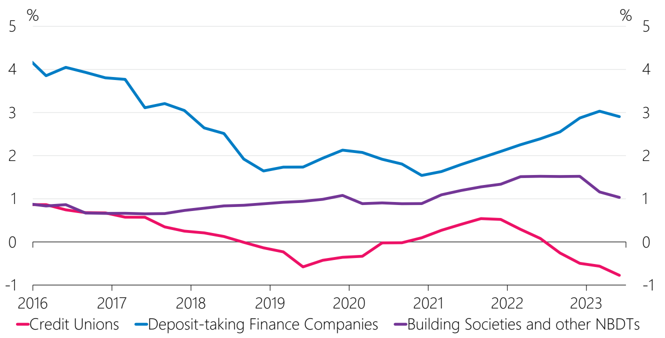
(3-month moving average)



Source: RBNZ *Non-bank Deposit Takers survey.*

Figure 4.11

NBDT return on assets

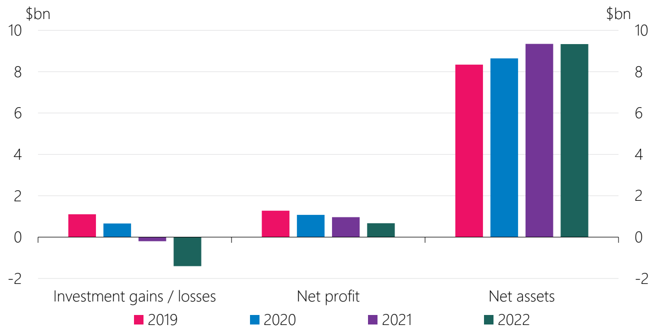


Source: RBNZ *Non-bank Deposit Takers survey.*

Figure 4.12

Annual key insurer indicators

(31 December each year)



Source: RBNZ *Quarterly Insurer Monitoring Report.*

Table 4.1

Key metrics for registered banks

Metric	Value (%, end of September)					Regulatory minimum (%)	Comment
	2019	2020	2021	2022	2023		
Tier 1 capital ratio*	13.3	13.8	15.4	14.0	14.0	8.5**	Tier 1 capital ratios have been stable over the last 12 months, and remain well above the minimum requirement.
Mismatch ratio (one month)[1]	4.6	7.1	6.0	6.8	8.3	0	Mismatch ratios remain strong and well above pre-pandemic levels, and the minimum requirement.
Core funding ratio	87.4	88.6	87.3	90.6	90.3	75.0	Banks' core funding ratios have improved with low credit growth and the movement of deposits from transaction accounts to term deposits.
Annual return on assets (after tax)	1.03	0.67	1.00	1.09	1.03		Banking sector return on assets is comparable to pre-pandemic levels.
Annual return on equity (after tax)	13.4	9.0	12.9	13.6	12.3		Ongoing capital growth has been a key driver of a decrease in banks' return on equity over the last 12 months.
Net interest margin (quarterly, annualised)	1.97	1.85	1.98	2.31	2.34		Net interest margins remain above the levels observed over the last five years.
Non-performing loans ratio	0.60	0.71	0.45	0.38	0.56		The non-performing loans ratio remains low but has started to increase as borrowers reprice to higher rates.
Annual credit impairment expense (% of average loans)	0.08	0.32	-0.06	0.03	0.13		Higher impairment expenses over the last 12 months have offset growth in banks' net interest income.
Cost-to-income ratio	41.6	46.7	42.3	38.7	39.5		Banks' operating models continue to become more efficient, with increasing digitalisation and automation.

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

1 Mismatch ratio (1 month) is presented as a 3-month moving average to remove short-term volatility.

* The Tier 1 capital ratio for 2023 is as at August 2023.

** Includes the capital conservation buffer of 2.5 percent of risk-weighted assets, which banks must maintain to avoid dividend restrictions. For domestic-systemically important banks, the capital conservation buffer is 4.5 percent as of July 2023, and the regulatory minimum for their Tier 1 Capital ratio is set at 10.5 percent of risk-weighted assets.

Table 4.2

Key metrics for Non-Bank Deposit Takers (NBDTs)

Metric	Segment	Value (end of June)				
		2019	2020	2021	2022	2023
Total assets ($m)	Finance Companies[1]	270	218	296	357	416
	Credit Unions	1,131	1,152	1,126	1,110	1,057
	Building Societies and Other[2]	1,217	1,303	1,400	1,550	1,608
Capital ratio (%)	Finance Companies	14.8	17.8	15.7	17.2	19.6
	Credit Unions	14.7	14.1	12.9	12.7	13.5
	Building Societies and Other	11.6	12.4	13.7	13.7	13.9
Non-performing loan ratio (%)	Finance Companies	7.3	10.3	1.9	1.9	4.8
	Credit Unions	2.5	3.3	2.9	3.1	2.1
	Building Societies and Other	0.1	0.2	0.2	0.4	1.1
Return on assets, before tax (%)	Finance Companies	1.7	1.9	1.8	2.4	2.9
	Credit Unions	-0.6	0.0	0.4	0.1	-0.8
	Building Societies and Other	0.9	0.9	1.2	1.5	1.0
Number of operating entities	Finance Companies	7	6	6	6	6
	Credit Unions[3]	9	9	8	5	4
	Building Societies and Other	4	4	4	4	4

Source: RBNZ *Non-Bank Deposit Takers survey.*

1 Data for finance companies exclude FE Investments Limited from March 2020, when it entered receivership.

2 Other NBDT refers to Christian Savings Limited.

3 Firefighters Credit Union merged with NZCU Auckland in June 2022, Westforce Credit Union merged with First Credit Union in August 2022, and Steelsands Credit Union merged with First Credit Union in December 2022. Fisher & Paykel Credit Union merged with First Credit Union in October 2023.

Table 4.3
Key metrics for insurers

Metric	Value (%, end of December)				Regulatory minimum (%)	Comment
	2019	2020	2021	2022		
General insurers						
Solvency ratio	151	203	176	175	100	2022 solvency positions are above pre-COVID levels in aggregate.
Profit margin	11.1	12.2	12.6	11.2		Profit margins have been stable; however, we expect 2023 data will show a decline following the severe weather events.
Expense ratio	12.9	13.3	13.0	12.9		Expenses have been relatively stable in recent years.
Life insurers						
Solvency ratio	126	126	136	134	100	2022 solvency positions are slightly above pre-COVID levels on average.
Profit margin	11.3	10.6	6.2	3.5		Profit margins have materially decreased over the last 2 years, mainly due to investment losses, but remain positive.
Expense ratio	21.9	21.4	18.6	22.3		Non-commission expenses have increased over the last 12 months.
Health insurers						
Solvency ratio	374	342	396	397	100	Health insurers' solvency ratios have been increasing over the last 3 years.
Profit margin	5.1	4.3	7.5	1.9		Profit margins have decreased significantly recently, in part due to investment losses.
Expense ratio	11.5	12.3	10.4	12.6		Non-commission expenses have increased over the last 12 months.

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

1 Profit and expense figures are from the Quarterly Insurer survey to December 2022. These cover just under 90 percent of the insurance sector by premium. Profit margin is profit after tax divided by gross premium revenue; 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).

2 Solvency figures are from the *Insurer Solvency Return* to December 2022 for all insurers.

Reserve Bank
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Te Pūtea Matua