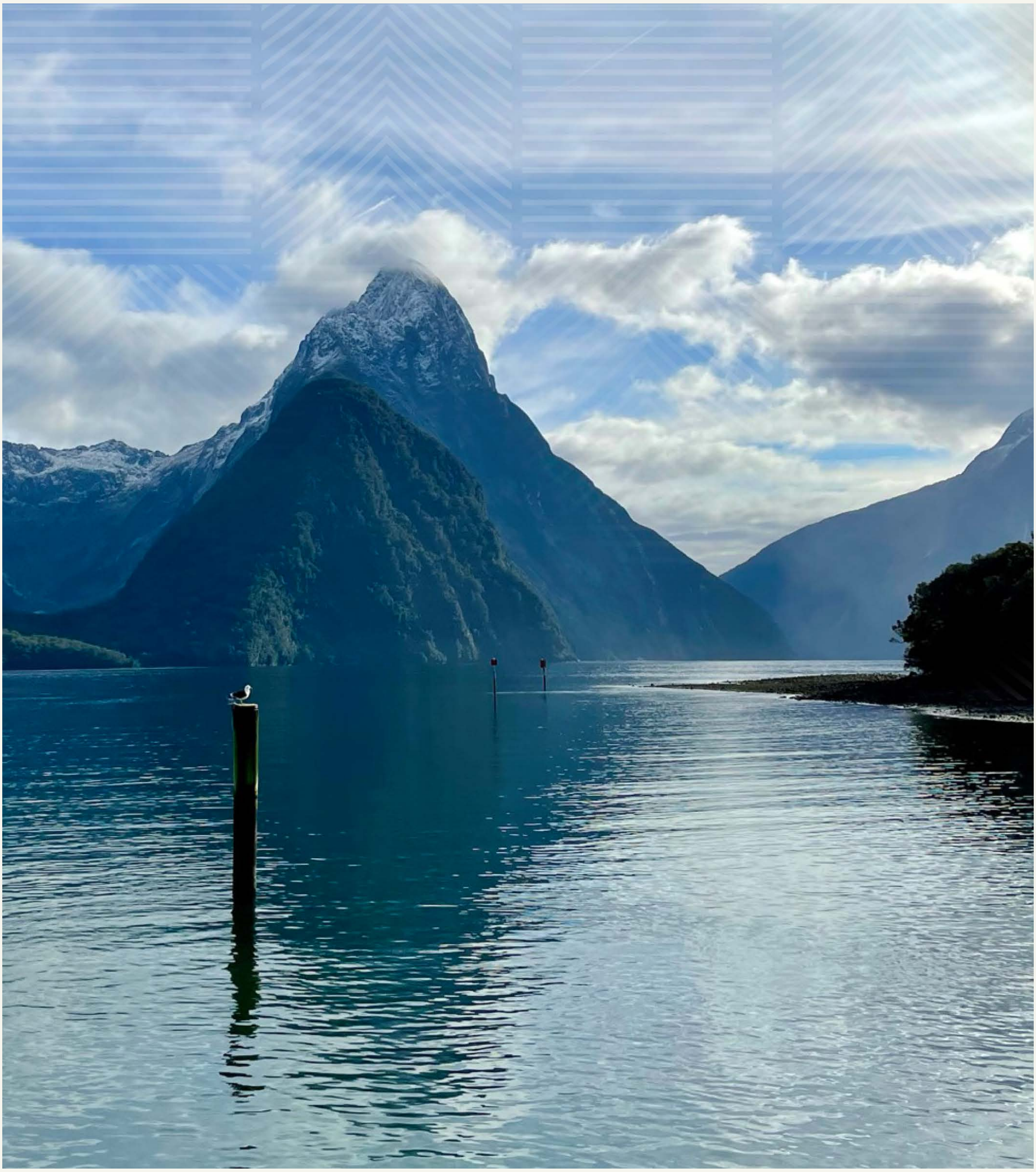
08/2023

Monetary Policy
STATEMENT

Reserve Bank of New Zealand
Te Pūtea Matua

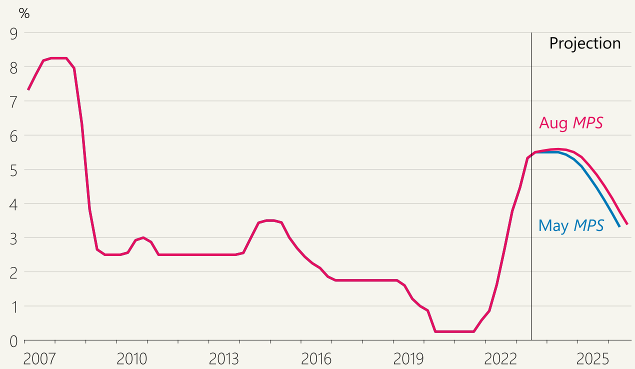


POLICY ASSESSMENT
Official Cash Rate remains at 5.50%

The Monetary Policy Committee today agreed to maintain the Official Cash Rate (OCR) at 5.50%.

The current level of interest rates is constraining spending and hence inflation pressure, as anticipated and required. The Committee agreed that the OCR needs to stay at restrictive levels for the foreseeable future to ensure annual consumer price inflation returns to the 1 to 3% target range, while supporting maximum sustainable employment.

Figure i.1
OCR
(quarterly average)



Source: RBNZ estimates.

The New Zealand economy is evolving broadly as anticipated. Activity continues to slow in parts of the economy that are more sensitive to interest rates. Labour shortages are easing as overall demand softens and immigration adds to labour resources. Headline inflation and inflation expectations have declined, but measures of core inflation remain too high.

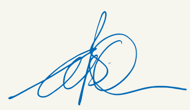
Globally, economic growth remains below trend and headline inflation has eased for most of our trading partners. Core inflation remains high in many countries. Weakening global economic growth is putting downward pressure on New Zealand export prices.

The imbalance between demand and supply is moderating in the New Zealand economy. However, a prolonged period of subdued spending growth is still required to better match the supply capacity of the economy and reduce inflation pressure.

In the near term, there is a risk that activity and inflation measures do not slow as much as expected. Over the medium term, a greater slowdown in global economic demand, particularly in China, could weigh more on commodity prices and overall New Zealand export revenue.

The Committee is confident that with interest rates remaining at a restrictive level for some time, consumer price inflation will return to within its target range of 1 to 3% per annum, while supporting maximum sustainable employment.

Meitaki, thanks.



Adrian Orr
Governor

Monetary Policy Framework

The Monetary Policy Committee operates and makes decisions under the monetary policy framework that comprises the following key components:

- the *Remit*;
- the *Charter*;
- the *Code of Conduct*; and
- the monetary policy strategy.

The corresponding documents to these components and additional information can be accessed on our website under the monetary policy framework.

rbnz.govt.nz

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Cover image: Milford Sound. Photo: Lucas Chen

08/2023

Monetary Policy STATEMENT

Contents

The projections were finalised on 10 August 2023. The official cash rate (OCR) projection incorporates an outlook for monetary policy that is consistent with the MPC's monetary policy assessment, which was finalised on 16 August 2023.

Summary record of meeting

CHAPTER 01

Kepler Track. Photo: Nele McHattie

CHAPTER 1
Summary record of meeting

The Monetary Policy Committee discussed recent developments in the New Zealand economy. The Committee agreed that monetary conditions are restricting spending and reducing inflationary pressure as anticipated. While supply constraints in the economy continue to ease, inflation remains too high. Spending needs to remain subdued to better match the economy's ability to supply goods and services, so that consumer price inflation returns to its target range.

Global economic growth remains below trend for most of our trading partners. While global growth was resilient across the first half of the year this is beginning to fade, particularly in China. Globally, headline inflation has declined but core inflation remains high in many countries. The Committee noted that regional divergences in the moderation of core inflation are beginning to emerge.

New Zealand's export volumes over the last quarter were more resilient than expected due to favourable agricultural growing conditions in some regions. However, export revenues are expected to ease, in line with weakening global demand. A decline in global commodity prices has seen prices for New Zealand's exports moderate.

The Committee noted that tight monetary conditions continue to constrain domestic spending. The slowdown in economic activity is most notable in the parts of the economy that are more sensitive to interest rates. The Committee judged that with monetary conditions remaining restrictive, they expect to see further declines in consumption per capita and for GDP growth to be subdued over coming quarters.

Annual CPI inflation declined to 6.0% in the June quarter, with tradables inflation declining more than non-tradables inflation. Most measures of inflation expectations have declined alongside the fall in headline inflation. However, measures of core inflation remain near their recent highs.

The Committee discussed the labour market and agreed that capacity pressures have begun to ease. Recent net immigration has increased labour supply, helping to alleviate some labour market shortages. Employment growth remains resilient. The Committee noted that most measures of annual wage inflation have begun to ease.

The Committee noted that the estimate of the nominal neutral OCR has increased by 25 basis points to 2.25% within the projections, consistent with the Reserve Bank's indicator suite. The Committee agreed that the current level of the OCR remains contractionary and is constraining domestic spending as needed.

The Committee discussed the increase in the current account deficit and noted that this is primarily due to reduced services exports stemming from the COVID-19 pandemic as well as excess domestic demand. The current account deficit is expected to steadily narrow. Members noted that net foreign liabilities have declined over recent years and that risks associated with funding the deficit were low, as most foreign debt is hedged against foreign exchange risk.

The Committee discussed the recent strong growth in net immigration. The overall impact on demand and inflation pressure remains uncertain. Members noted that the current increase in net immigration may be less inflationary than previous increases, due to both changes to the composition of migrants and in the context of a tight domestic labour market.

The Committee noted that house prices appear to have stabilised. Members agreed that the current projection for house prices was reasonably balanced, remaining around estimates of sustainable levels. The Committee agreed that house price changes have an impact on household wealth. However, members agreed the willingness to consume out of wealth can vary and may be lower in the current context of high debt servicing costs.

The Committee discussed the balance of risks for inflation, output, and employment. Members noted that current projections are for subdued GDP growth, rather than a sharp downturn.

In discussing near-term risks, members considered upside risks to activity and inflation. Members discussed the impact of recent administered price increases – for example, council rates and excise tax – on headline inflation for the September quarter and noted that this could pose a risk to inflation expectations. Members also discussed risks around a slower easing in the labour market resulting in wage inflation taking longer to decline.

The Committee noted that the projections for government expenditure and revenue are predicated on *Budget* 2023 forecasts. Overall, real government consumption and investment spending as a share of potential GDP is projected to decline over the forecast horizon.

Over the medium term, the Committee discussed risks around the outlook for global growth and judged that these were skewed to the downside. A greater slowdown in global growth would likely see a fall in import prices. Members noted that weaker global demand, particularly from China, could weigh further on commodity prices and therefore on export revenues.

Members also discussed the risks around the lagged effect of previous monetary tightening on households and businesses. The average mortgage rate on outstanding loans is expected to rise from around 5% to near 6% by early 2024, and debt servicing costs as a share of income are still increasing.

Members discussed the risk to those parts of the economy most exposed to lower commodity or asset prices. The Committee agreed that the slowdown in economic activity will not be even across sectors of the economy, due to global factors and the varied impact of high domestic interest rates. In particular, the Committee noted that pockets of stress were beginning to emerge for some households, and the commercial property, agriculture, and construction sectors.

The Committee agreed that in the current circumstances, there is no material trade-off between meeting the Committee's inflation and employment objectives and maintaining the stability of the financial system. Members noted that debt levels are high in some parts of the economy and debt servicing costs have increased. While broad indicators of stress have increased, non-performing loans remain at low levels.

In discussing their *Remit* objectives, the Committee noted inflation is still expected to decline within the target band by the second half of 2024. The Committee agreed that the risks around the inflation projection remain balanced. Employment is above its maximum sustainable level, however, recent indicators show that labour market pressures continue to ease.

The Monetary Policy Committee discussed the appropriate stance of monetary policy. The Committee agreed that interest rates still need to remain at a restrictive level for the foreseeable future, to ensure annual consumer price inflation returns to the 1 to 3% target range while supporting maximum sustainable employment.

On Wednesday 16 August the Committee reached a consensus to maintain the Official Cash Rate at 5.50%.

Attendees:

Reserve Bank members of MPC:

Adrian Orr, Karen Silk,
Christian Hawkesby,
Paul Conway

External MPC members:

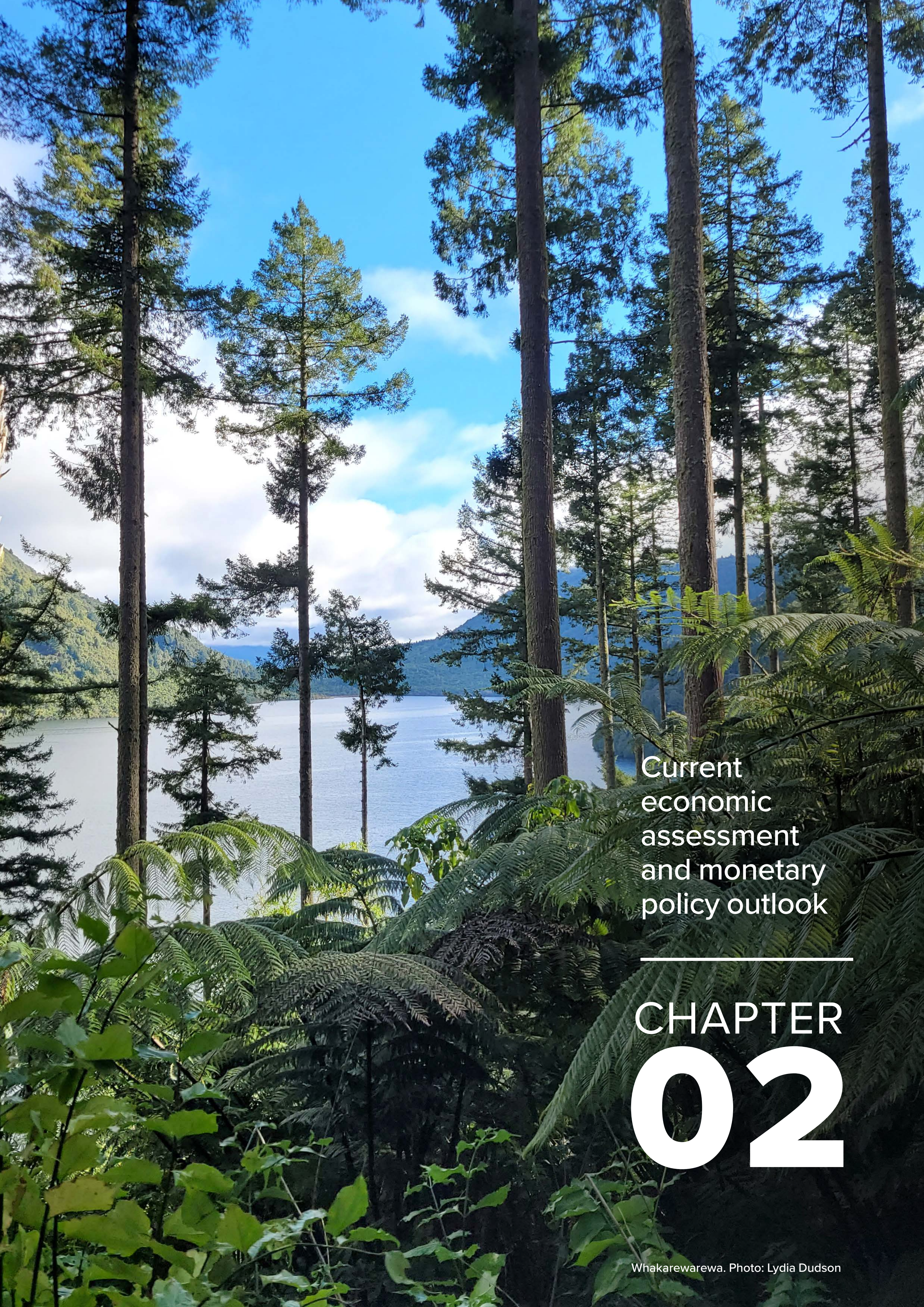
Bob Buckle, Peter Harris,
Caroline Saunders

Treasury Observer:

Dominick Stephens

MPC Secretary:

Kate Poskitt



Current economic assessment and monetary policy outlook

CHAPTER 02

Whakarewarewa. Photo: Lydia Dudson

CHAPTER 2
Current economic assessment and monetary policy outlook

Key points

- The New Zealand economy contracted slightly in the first quarter of 2023, with Gross Domestic Product (GDP) weaker than expected at the time of the May *Statement*. This was the second consecutive quarterly decline in output. As this reflects a reduction in demand relative to the economy's ability to supply goods and services sustainably, it means that inflationary pressure decreased. Recent indicators suggest that activity in most sectors has plateaued, consistent with our outlook for low growth in overall economic activity over the coming year.
- The slowdown in demand has broadened across a variety of interest-rate-sensitive parts of the economy. Business service activity started to fall from early 2023. Although house prices stabilised over the June 2023 quarter, they are substantially below their peak in late 2021. The lower level of activity in the housing market has been associated with lower spending on housing-related goods and services over recent quarters. However, this is somewhat offset by the earlier-than-expected stabilisation in house prices, which is assumed to support household consumption over the next three years.
- Less interest-rate-sensitive factors continue to add to demand. These factors include high net immigration and a continuing rebound in international tourism. Government spending levels continue to support demand, but to a lesser extent than over the COVID-19 pandemic.
- However, global goods demand has been slowing, and export revenues continue to moderate. This moderation reflects ongoing falls in global commodity prices, such as those for dairy and meat. Slowing global growth, particularly slower than expected growth in China, is expected to restrain overall export demand and prices over the coming three years.
- Financial market volatility has declined from elevated levels as previous banking stress in the United States and Europe have subsided, and as the US government debt ceiling has been lifted. Lower market volatility has helped offset the downward influence of other factors on the New Zealand dollar, including rising offshore interest rates relative to those in New Zealand and declining global commodity export prices. The New Zealand dollar is slightly lower than at the time of the May *Statement*.

- Global supply-chain bottlenecks have continued to ease. Surveyed manufacturing prices are declining in key markets such as the US and China, and international shipping costs to New Zealand have continued to fall in recent months. Domestically, ongoing high levels of net immigration have helped to ease some labour shortages. However, higher net immigration also supports demand – including for housing. The net impact on inflationary pressure is uncertain and may vary across time horizons. High net immigration, in times of acute labour shortages, may be less inflationary than in the period before the COVID-19 pandemic.
- Overall, inflation remains too high, and well above the MPC's 1 to 3 percent target band. In total, inflationary pressures in the economy have continued to ease due to weaker demand and improved supply, to a similar degree as expected in the May *Statement*. As headline inflation has eased, most measures of inflation expectations have fallen from recent highs. Recent declines in annual headline inflation have been accounted for by faster-than-expected falls in tradables inflation, particularly transport-related prices such as oil prices and international airfares. But domestically-generated inflation has been marginally higher than expected in the May *Statement*, reflecting persistence in services inflation as consumer spending has shifted back from goods to services over the past year. Most measures of core inflation have remained near recent highs.
- Inflationary pressure continues to be underpinned by a tight labour market, with employment remaining above its maximum sustainable level. However, according to a range of indicators, labour market pressures have eased since last year. For example, the unemployment rate was 3.6 percent in the June 2023 quarter, up from the previous quarter and the record lows seen in late 2021 and early 2022. The underutilisation rate – a wider measure of slack in the labour market – also increased from recent lows. Although participation in the labour market increased to record highs in the June 2023 quarter, robust employment growth was mainly driven by a high number of immigrants filling job vacancies. Excess labour demand is declining, with the number of online job ads being well below its recent peak. Consequently, private sector wage inflation appears to have peaked and has started to ease.
- High interest rates are still required to further lower spending relative to the economy's ability to supply goods and services sustainably. Lower demand relative to supply will reduce inflationary pressure over the medium term. An extended period of low economic growth is expected over the coming year. However, volatility in quarterly GDP growth may be high as post-border-reopening effects continue to be seen in economic data. The level of GDP is assumed to remain relatively steady over 2023, similar to what was expected in the May *Statement*.
- Conditional on our central economic outlook, it is expected that the OCR will need to remain near its current level for slightly longer than assumed in the May *Statement* for the MPC to meet its inflation and employment objectives. Relative to the May *Statement*, stronger supply-led export volumes in the near term, an earlier stabilisation in house prices, and a slight upward revision to the nominal neutral OCR are partially offset by lower overall domestic activity at the start of 2023 and lower import and export prices.

Current economic assessment

Demand has eased further but continues to exceed supply

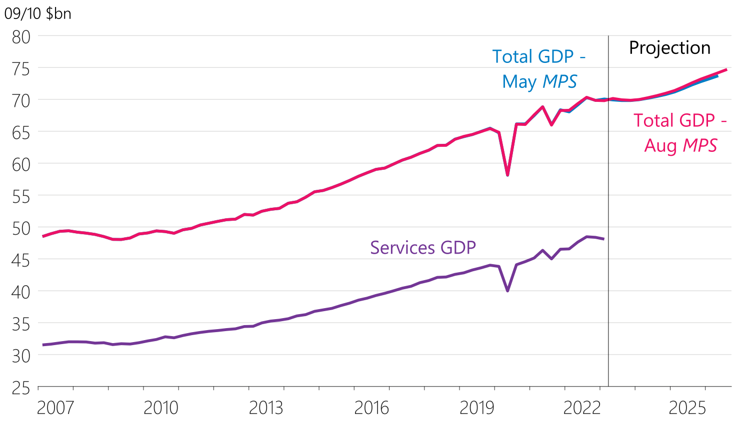
Economic activity in New Zealand, as measured by the production approach to GDP, fell by 0.1 percent in the March 2023 quarter.[1] This was lower than expected in the May *Statement*. Weaker-than-expected output reflected broad-based slowing across most industries, led by declining activity in the services sector (services GDP line, figure 2.1).

On the expenditure GDP side, much of the weakness was accounted for by a rundown in inventories. This likely reflects the fact that businesses have experienced lower demand and expect that demand will remain subdued over coming quarters, meaning that they have chosen to meet sales through existing stocks rather than new production or new orders. However, there may also be a degree of normalisation in stock levels as global supply-chain bottlenecks have unwound.

Higher interest rates, lower house prices and the higher cost of living have contributed to lower overall domestic demand across recent quarters. Real government consumption has also trended down as COVID-19-related spending has been largely phased out. Lower export volumes overall since the second half of 2021 are consistent with moderating global demand growth over this period. Slow global growth is expected to restrain overall export demand and prices over the coming three years.

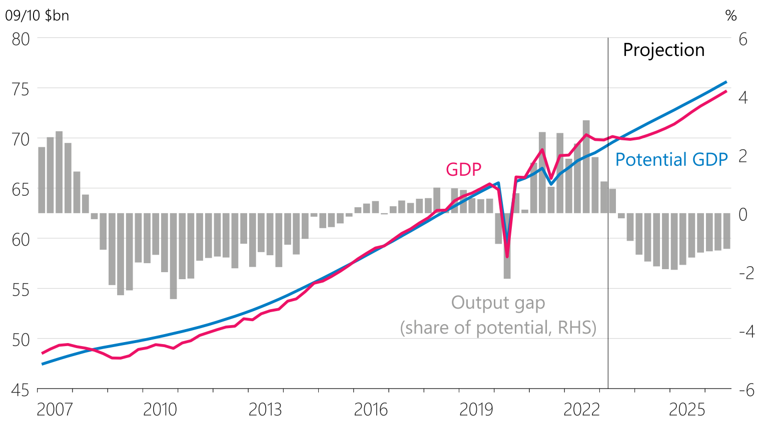
Despite the easing in domestic spending, demand continues to exceed the economy's ability to supply goods and services sustainably. The output gap – a measure of the extent to which demand is matched by the level of production that the economy can supply sustainably – has been significantly positive over the past two years, consistent with the highly inflationary environment. However, as higher interest rates have reduced domestic demand, the output gap is estimated to have been declining since its peak in 2022 (figure 2.2). Consequently, domestic inflationary pressure in the economy has started to ease.

Figure 2.1
Production GDP
(quarterly, seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

Figure 2.2
GDP, potential GDP and the output gap
(quarterly, seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

1 GDP can be calculated through different approaches. "The production approach to GDP measures the total value of goods and services produced in New Zealand, after deducting the cost of goods and services used in the production process. This is also known as the value-added approach. The expenditure approach to GDP (also known as gross domestic expenditure or GDE) measures the final purchases of goods and services produced in New Zealand. Exports are added to domestic consumption, as they represent goods and services produced in New Zealand. Imports are subtracted, as they represent goods and services produced by other economies." See Stats NZ – Gross domestic product.

Activity indicators suggest that GDP recovered slightly over the June 2023 quarter (figure 2.3). For the same period, merchandise trade data suggest a strong increase in goods exports. The high level of visitor arrivals after accounting for seasonal patterns suggests a continued recovery in service exports. Additionally, employment data have been strong. Looking through quarterly volatility, we expect that further economic growth will be limited by ongoing tight domestic monetary conditions and slowing global demand for our goods exports.

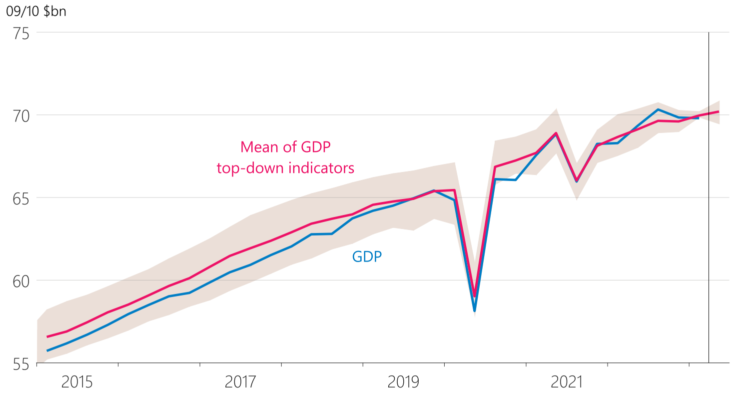
High interest rates are reducing demand across much of the economy

The constraining impact of high interest rates has been most visible in spending and economic activity related to housing over the past year. Higher interest rates have contributed to lower demand for housing, with house prices falling 15 percent from their peak in November 2021 to March 2023. Stronger net immigration, alongside a peak in interest rate expectations, has occurred at the same time as house prices have started to stabilise in recent months. While the outlook for house prices is highly uncertain, they are now assumed to have reached a trough earlier than was assumed in the May *Statement* (figure 2.4).

Figure 2.3

Top-down indicators for production GDP

(quarterly, seasonally adjusted)



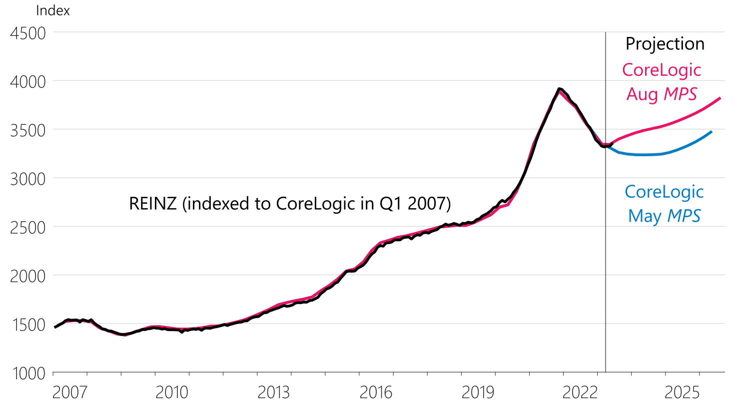
Source: ANZ, BusinessNZ, NZIER, Stats NZ, RBNZ estimates.

Note: The shaded area indicates the range between the maximum and minimum values of the GDP top-down and nowcasting indicators. The GDP top-down indicators comprise the Performance of Services Index (activity/sales), Performance of Manufacturing Index (production), Quarterly Survey of Business Opinion (domestic trading activity, past quarter), New Zealand activity index, ANZ Truckometer (heavy traffic), ANZ Business Opinion (capacity utilisation), QES (total paid hours). The GDP top-down indicators were created through linear regressions for each indicator with GDP in quarterly or annual percentage changes. In addition, a GDP nowcasting indicator is included that is based on a dynamic factor model and uses Kalman filtering techniques. This nowcasting indicator is based on the Nowcasting Report from the Federal Reserve Bank of New York. The fitted values were transformed back into GDP levels. To avoid statistical bias, for most top-down indicators the nationwide COVID-19 lockdowns in 2020 and 2021 were captured through dummy variables in the regressions as these indicators were likely unable to sufficiently capture the lockdown impacts on GDP.

Figure 2.4

House prices

(nominal, seasonally adjusted)



Source: CoreLogic, REINZ, RBNZ estimates.

Note: The REINZ house price index is indexed to the CoreLogic house price index in the March 2007 quarter.

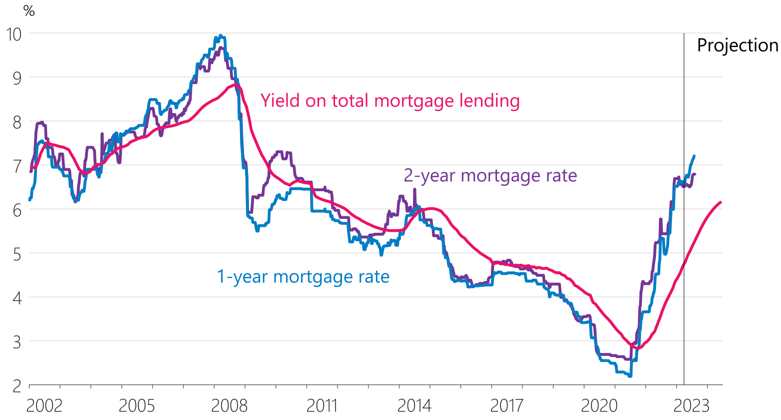
Higher mortgage rates have increased debt-servicing costs for households, reducing the amount of household income available for other spending. The lagged impact of recent increases in mortgage rates has yet to impact household cash flow fully. This reflects that the yield on total mortgage lending is expected to increase by 1 percentage point over the coming 12 months as borrowers roll onto higher interest rates (figure 2.5). Lower house prices also tend to lead to reduced spending by households as they feel less wealthy and have less borrowing power, contributing to lower discretionary spending on durable goods such as household appliances over recent quarters. However, the earlier-than-expected stabilisation in house prices is assumed to support household consumption over the next three years, somewhat offsetting the dampening impact of overall lower house prices.

Lower housing demand has also reduced home building over the past year. Higher interest rates have made borrowing for housing more expensive, and lower house prices – particularly when construction costs are high – have made residential housing development less attractive. The number of new residential building consents has fallen over recent quarters (figure 2.6), indicating a substantial slowdown in residential building activity ahead.

Beyond housing-related spending, higher interest rates have been associated with a broadening slowdown across a variety of sectors in the economy. Orders were the factor most limiting output for a majority of firms according to the Quarterly Survey of Business Opinion (QSBO) for the June 2023 quarter, eclipsing labour since the start of 2023. New orders have declined for the majority of manufacturers since late 2022, joined by a falling majority of businesses in the services sector reporting increases in new orders since early 2023 (figure 2.7).

Figure 2.5

Yield on total mortgage lending and key new lending rates



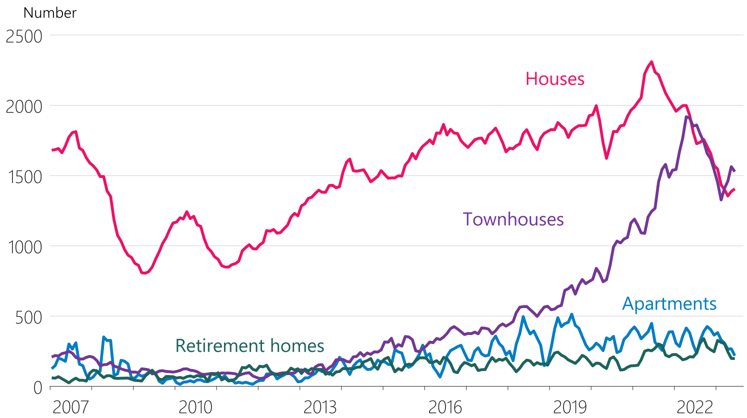
Source: interest.co.nz, RBNZ estimates.

Note: The projected yield on total mortgage lending is based on market pricing for the OCR as at 10 August 2023.

Figure 2.6

Residential consents by type

(3-month moving average, seasonally adjusted)

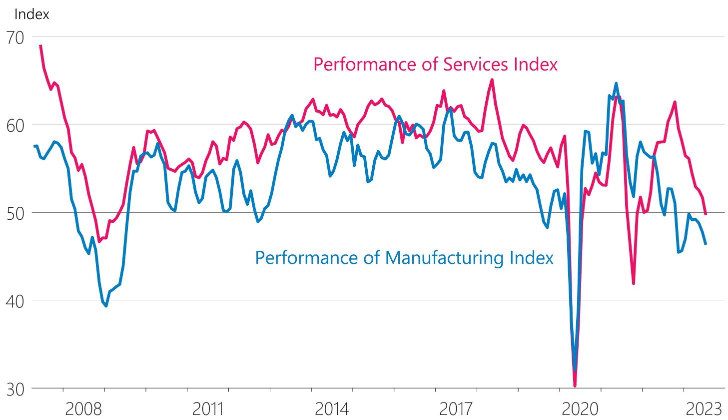


Source: Stats NZ.

Figure 2.7

Surveyed new orders

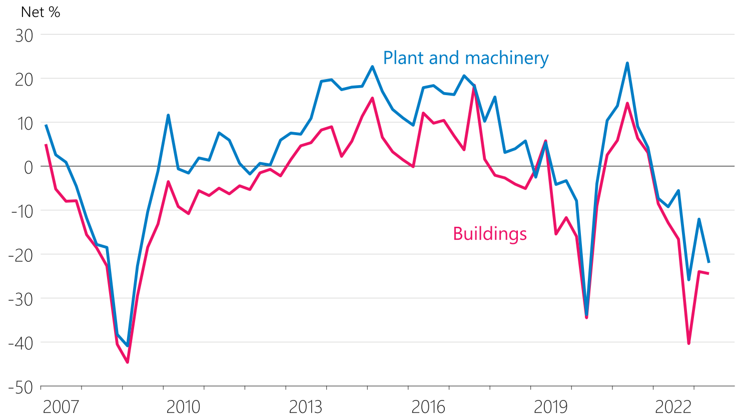
(3-month moving average, seasonally adjusted)



Source: BusinessNZ.

Higher interest rates and the weakening demand outlook have contributed to a weak outlook for business investment. Firms' investment intentions have fallen sharply since late 2021 and are below historical averages across a variety of industries and types of investment (figure 2.8). Bank lending to non-agricultural businesses has also been trending lower since late 2022, suggesting that firms are more pessimistic about the demand outlook and are hesitant to invest. Business investment is expected to fall over coming quarters, particularly given the recent decline in export prices and anticipated fall in capacity pressures in the economy.

Figure 2.8
New investment intentions – next 12 months
(seasonally adjusted)



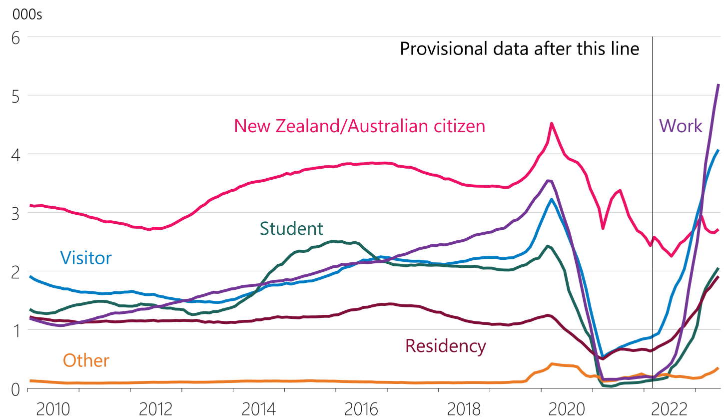
Source: NZIER.

Note: 'Net %' refers to net percentage of respondents planning to increase or decrease investment in the next 12 months compared to the previous 12 months.

Factors less sensitive to interest rates continue to add to demand

Several factors that are less sensitive to higher interest rates continue to add to demand and inflationary pressure. When accounting for seasonality, international visitor numbers have remained elevated into mid-2023 amidst the ongoing tourism recovery. However, numbers have yet to return to pre-COVID-19 levels. Temporary factors such as the FIFA Women's World Cup in mid-2023 could help reinforce this ongoing recovery in the near term. Labour, accommodation and transport shortages continue to act as a constraint to the extent of the recovery. This underpins inflationary pressure in some services industries. Timely indicators suggest easing in some of these constraints more recently, including the gradual rebuild of international flight capacity.

Figure 2.9
Migrant arrivals by visa type
(12-month moving average, seasonally adjusted)*



Source: Stats NZ.

*Note: Stats NZ does not seasonally adjust migration data from April 2020 due to the disruption of regular seasonal patterns caused by changing border restrictions.

The border reopening has been associated with an increase in net immigration since 2022. Recent data suggest that some of this strength was a short-term spike in arrivals. This may reflect pent-up demand to migrate to New Zealand and an easing in immigration rules for some jobs in sectors with acute labour shortages. In line with this, arrivals on work visas increased recently (figure 2.9). However, higher net immigration also supports demand – including for housing. The net impact on inflationary pressure is uncertain and may vary across time horizons.

Preliminary Reserve Bank research suggests that the net positive impact of immigration on inflation may be less than previously thought, especially as high net immigration has been alleviating acute labour shortages (see chapter 4.1).

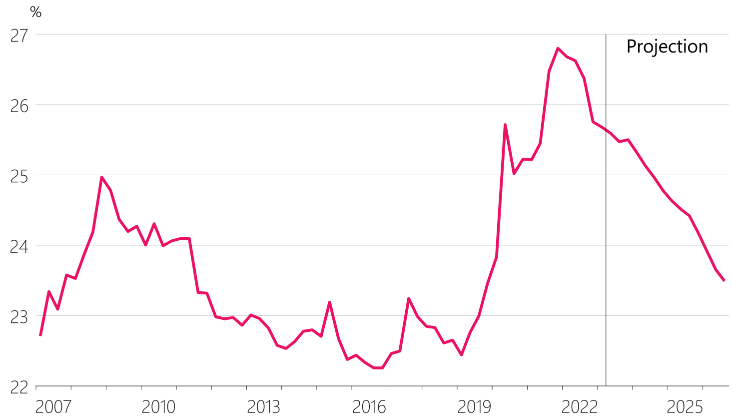
Government spending – the sum of government consumption and investment – as outlined in *Budget* 2023 is assumed to add relatively less to demand than has been the case over the past three years. Government spending in inflation-adjusted terms is expected to decline as a share of potential GDP over coming years, although remain above levels seen immediately prior to COVID-19 (figure 2.10).

Real (inflation-adjusted) government investment is expected to continue to grow strongly, underpinning activity in civil construction and related industries for an extended period. This largely reflects the repair and rebuild work in the aftermath of severe weather events at the start of 2023. However, this impact will be spread out over several years, with infrastructure repairs in particular assumed to take a long time. In contrast, government consumption is expected to decline gradually in real terms over the coming years as most COVID-19 and other support measures have been phased out since early 2022.

New Zealand's goods exports are growing more slowly

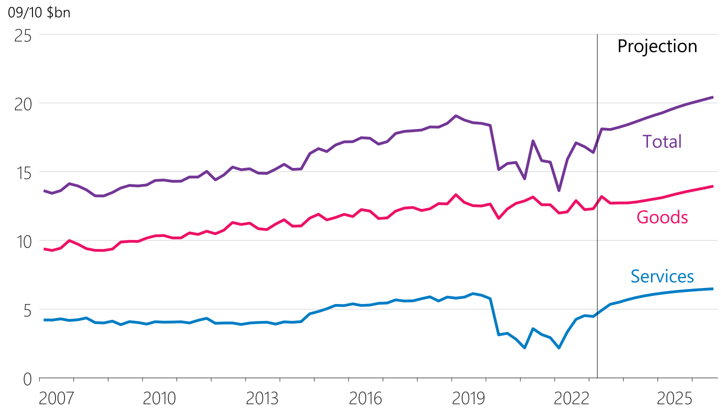
New Zealand's exports have made a moderate recovery from their COVID-19 lows, but the sector is not expected to return to pre-COVID-19 levels for some time. Exports of services have increased strongly with the recovery in international visitors since the border reopened. In contrast, goods exports have grown very little since early 2020 (figure 2.11). In the March 2023 quarter this was particularly due to storm disruptions and labour shortages that mainly affected our commodity exports.

Figure 2.10
Government consumption and investment
(real, share of potential GDP)



Source: Stats NZ, New Zealand Treasury, RBNZ estimates.

Figure 2.11
Exports
(quarterly, seasonally adjusted)

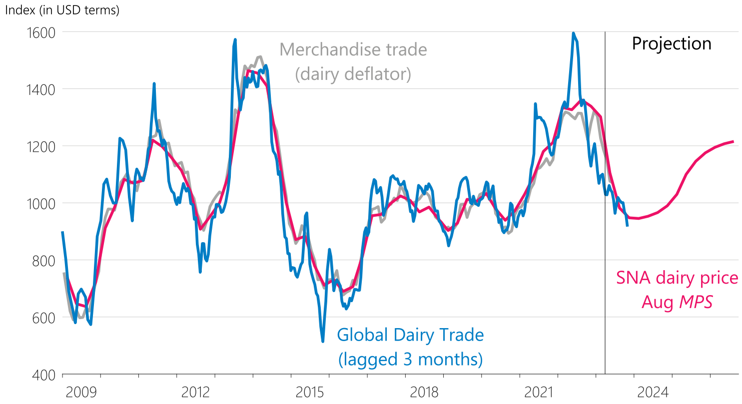


Source: Stats NZ, RBNZ estimates.

An easing in some of these supply factors, especially more favourable growing conditions in agriculture, is expected to have supported a temporary recovery in goods exports in the June 2023 quarter. However, demand for our goods exports has been easing as global growth eases to below trend. This has been reflected in ongoing declines in prices for our key commodities, such as dairy and meat (figure 2.12). Economic growth is expected to remain below trend for most of our key trading partners over 2023. The growth outlook for China has moderated since the May *Statement*, as the momentum following the country's reopening in late 2022 has been weaker than expected. This has been partially offset by ongoing resilience in activity in the US (see chapter 3).

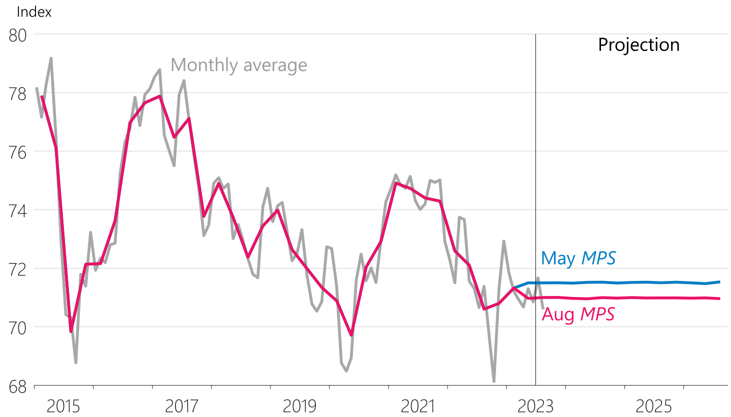
The New Zealand dollar trade-weighted index (TWI) has remained relatively steady over the past few months, and is only slightly below its level assumed in the May *Statement* (figure 2.13). The New Zealand dollar has held relatively steady despite a number of downward influences, including greater expected increases in global interest rates than in New Zealand interest rates. This is narrowing the differential between interest rates here and abroad. Prices for our key commodity exports have also declined. One factor supporting the New Zealand dollar has been declines in market volatility from elevated levels as previous banking stress in the US and Europe have subsided. The successful resolution of government debt ceiling negotiations in the US has also contributed to falling levels of market volatility globally (see chapter 3).

Figure 2.12
Dairy prices
(nominal)



Source: ANZ, Stats NZ, RBNZ estimates.

Figure 2.13
New Zealand dollar TWI
(nominal)



Source: NZFMA, RBNZ estimates.

Supply constraints have continued to ease

Global supply-chain bottlenecks have continued to ease. Shipping costs for consumer goods imports into New Zealand have declined sharply over recent months. These price falls have been widespread across air and sea freight as international capacity has been rebuilt and connections have been restored (figure 2.14). The reopening of China in late 2022 also contributed to an increase in global supply and logistics activity.

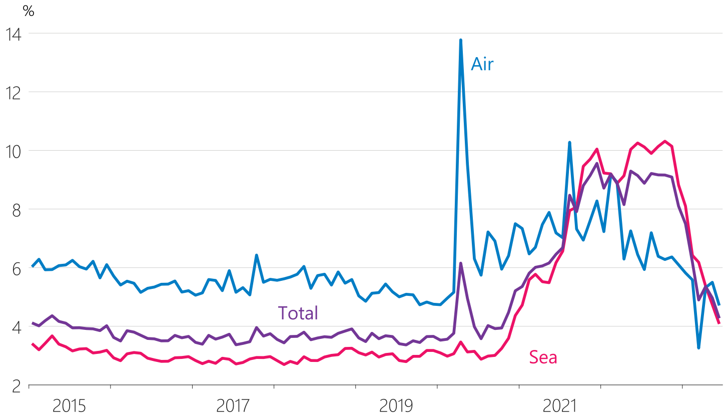
The disruptions to commodity demand and supply due to Russia invading Ukraine in early 2022 have largely unwound and some commodity prices are close to their pre-war levels. However, global grain prices increased steeply in late July after Russia withdrew from the Black Sea Grain Initiative that had provided a humanitarian corridor through which Ukraine could deliver grains to global markets. Oil prices have retraced some of their recent falls following supply cuts by OPEC and some weather-related disruptions to production in the US. The reopening of China has not coincided with a substantial rise in global commodity prices, as China's post-reopening growth momentum has undershot expectations.

Global manufacturing output prices and activity have declined (figure 2.15), coinciding with a decline in New Zealand's non-oil import prices in the March 2023 quarter. Strong goods demand in the early stages of the COVID-19 pandemic, coupled with high input cost inflation and production bottlenecks, saw a surge in manufactured goods prices in 2021. This started to unwind in mid-2022 as global consumer spending switched back to services, global supply chains recovered, and commodity input prices began to decline. In contrast, increases in services prices have remained relatively strong compared to before the COVID-19 pandemic. Price rises in services are contributing to elevated overall price pressure.

Figure 2.14

Shipping costs for consumer goods imports

(share of import value for duty)

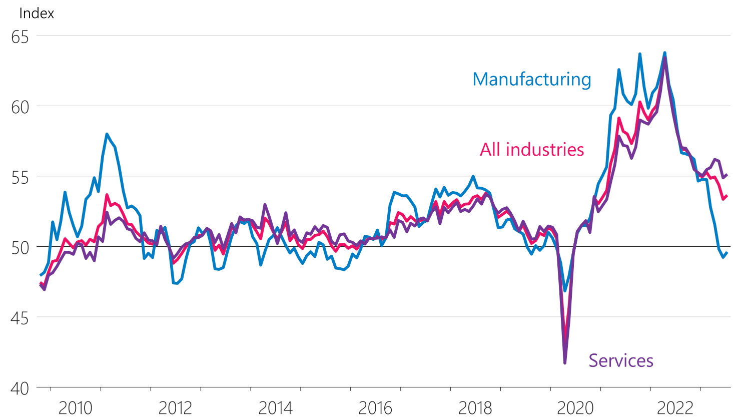


Source: Stats NZ, RBNZ estimates.

Note: These series are estimated by taking the value of consumer merchandise imports including freight and insurance costs (CIF) and subtracting the reported value for duty (VFD), which excludes these costs. They are expressed as a percentage of the VFD figure.

Figure 2.15

Global Purchasing Managers' Index – output prices



Source: JPMorgan.

Domestically, discussions with businesses suggest that labour shortages have continued to ease but remain elevated. This is consistent with successively lower shares of firms reporting difficulty finding skilled and unskilled labour over recent quarters (figure 2.16). The number of job vacancies has declined across a range of industries in recent months, as employment has increased. This indicates that businesses have been able to fill some open positions and that labour demand is not adding to new vacancies to the same degree as it did in 2022.

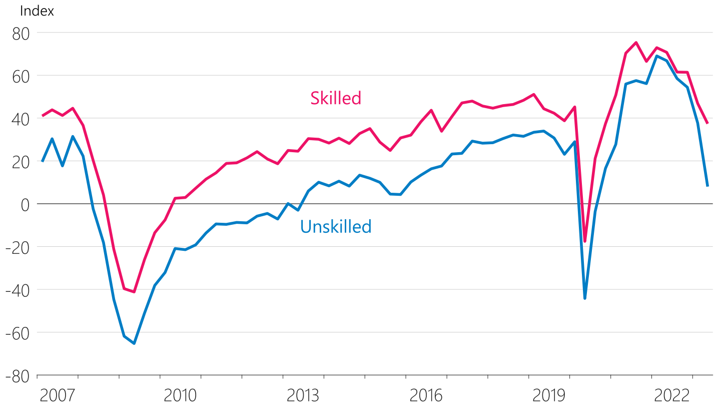
The additional labour supply is coming from a rising share of the population participating in the labour force. This share increased to a record high of 72.4 percent of the working-age population in the June 2023 quarter. In addition, net immigration has increased rapidly since the full border reopening in the latter half of 2022.

Inflation is easing as expected but domestic pressures are persistent

Inflation remains too high and well above the MPC's 1 to 3 percent target band. However, aggregate inflationary pressures in the economy have continued to ease due to weaker demand and improved supply, to a similar degree as expected in the May *Statement*. Inflation expectations have declined from recent highs as headline inflation has eased, particularly at the one-year horizon. Declines in annual headline inflation have been led by faster-than-expected falls in imported inflation, particularly transport-related prices such as oil and international airfares. But declines in domestically-generated inflation have been slower than expected in the May *Statement*. This reflects persistence in services inflation caused by consumer spending shifting back from goods to services over the past year. Most measures of core inflation have remained high.

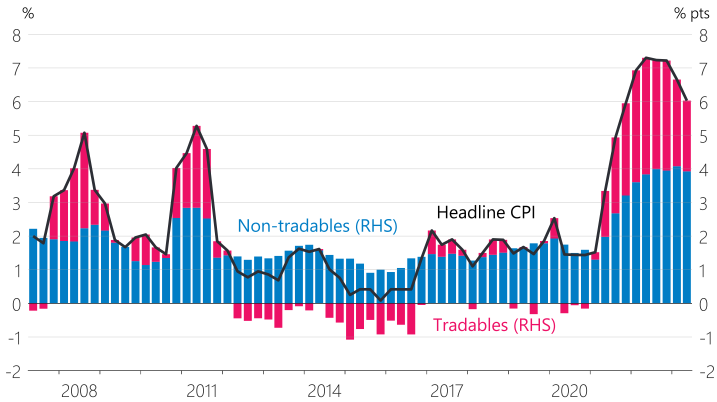
Inflationary pressure in the economy has begun to reduce due to weaker demand and increasing supply. Annual headline inflation has eased back from its peak of 7.3 percent in June 2022 to 6.0 percent in June 2023.

Figure 2.16
QSBO difficulty in finding labour
(seasonally adjusted)



Source: NZIER.

Figure 2.17
Contributions to CPI inflation
(annual)



Source: Stats NZ, RBNZ estimates.

Prices for some goods and services that tend to be volatile – such as petrol prices and airfares – have declined particularly sharply.

The most recent decline in headline inflation was accounted for by a large fall in tradables inflation, which measures price changes for goods and services that are more exposed to international competition (figure 2.17). Annual tradables inflation fell from 6.4 to 5.2 percent in the June 2023 quarter, following a similar-sized fall in the previous quarter. The decline was partly due to a steep drop in international airfares over the quarter, given improving global supply chains and flight connectivity. Petrol prices also contributed to lower annual tradables inflation, falling 15 percent from a year ago. These declines more than offset the ongoing strength in food prices, which increased a further 3.7 percent in the June 2023 quarter.

Annual non-tradables inflation – which measures price changes for goods and services that are less exposed to international competition – eased more slowly from 6.8 to 6.6 percent in the June 2023 quarter. Resilience in non-tradables inflation reflects ongoing capacity constraints even as demand moderates, including ongoing labour market tightness. Higher prices for construction, rents, and restaurant meals and ready-to-eat food contributed to ongoing strength in non-tradables inflation. The increase in the minimum wage from 1 April 2023 likely contributed to some of the strength in services inflation in the June 2023 quarter.

While headline inflation decreased marginally more than expected in the June 2023 quarter, it remains too high. In addition, most measures of core inflation have remained near their recent peaks (figure 2.18), indicating that inflation will take some time to return back to the mid-point of the MPC's 1 to 3 percent target range.

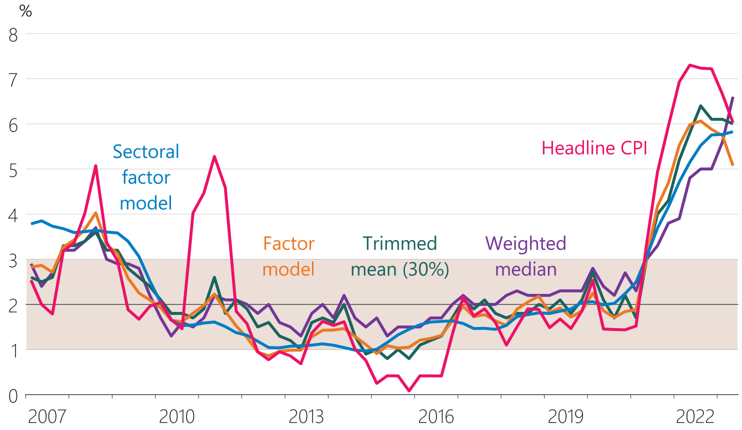
A wider range of sectors has been contributing to high inflation in recent years, based on measures such as CPI ex-food and fuel (figure 2.19). This measure indicates that housing and household utilities remain the most significant contributor to headline inflation, although its contribution has been declining. However, inflation has become more widespread and the contribution from other groups has increased, including transport, recreation and culture, and alcoholic beverages and tobacco. This broadening is consistent with tightness in the labour market and elevated inflation expectations.

Following lower inflation in the latest CPI data release, inflation expectations have declined from recent highs across most time horizons (figure 2.20). The fall in inflation expectations is in line with falling pricing and cost pressure indicators in business sentiment surveys, although these remain at high levels.

Figure 2.18

Headline and core inflation measures

(annual)



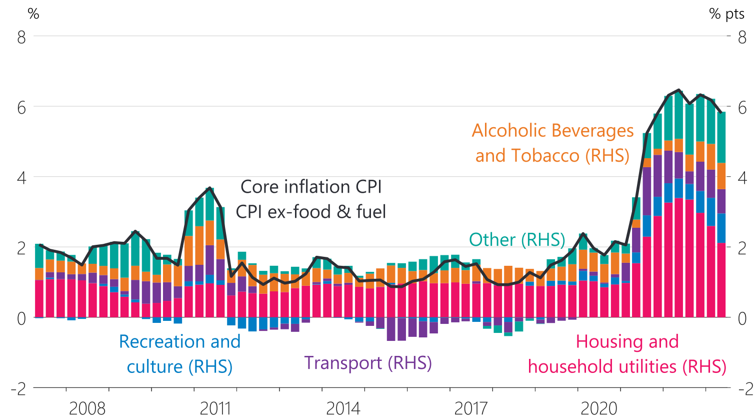
Source: Stats NZ, RBNZ estimates.

Note: The shaded area represents the MPC's 1 to 3 percent target range for inflation over the medium term.

Figure 2.19

Core inflation ex-food and fuel by group

(annual)

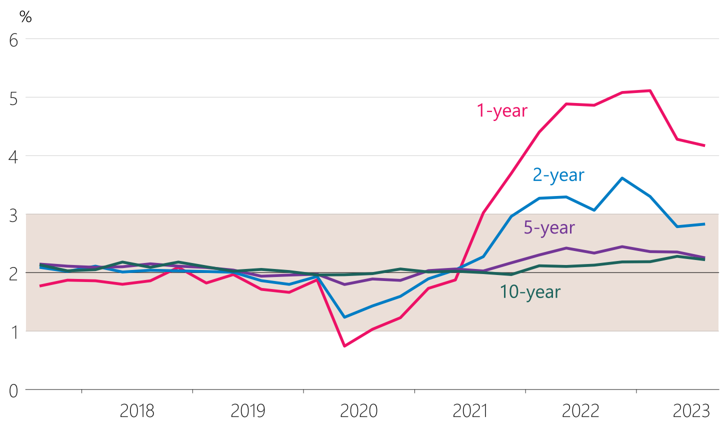


Source: Stats NZ, RBNZ estimates.

Figure 2.20

Inflation expectations

(annual, years ahead)



Source: *RBNZ Survey of Expectations (Business).*

Note: The shaded area represents the MPC's 1 to 3 percent target range for annual CPI inflation over the medium term.

The decline in inflation in New Zealand is similar to the overall decline in our key trading partners. For most of our key trading partners headline inflation seems to have peaked and has started to decline, mainly due to falling energy prices and more stable food prices. But regional divergences are emerging as core inflation is moderating at different speeds across countries (see chapter 3). Overall, inflation is still well above the inflation targets of central banks.

The tight labour market continues to support inflation pressure, but to a diminishing extent

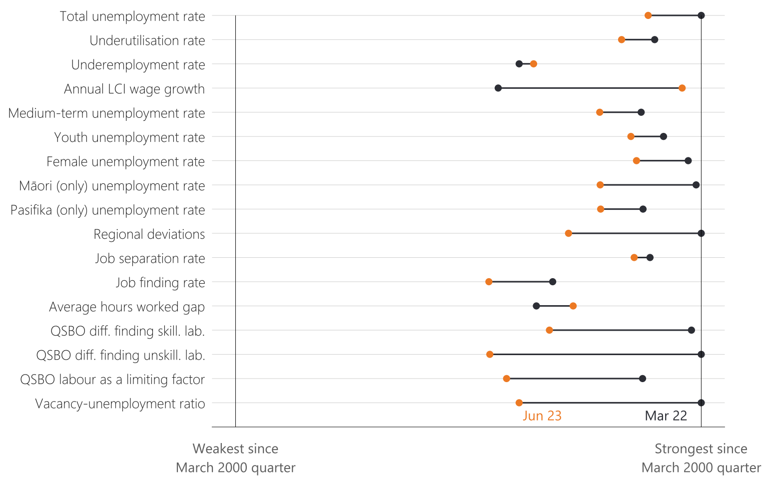
Inflationary pressure from the labour market has eased slightly, although some labour market stretch remains.

A variety of indicators that tend to lag overall labour market pressures suggest that the labour market remains strong. However, labour market pressures have eased since early 2022 (figure 2.21). The unemployment rate increased from 3.4 to 3.6 percent in the June 2023 quarter, from its recent historical low (figure 2.22). Broader measures of labour market pressure have also eased, such as an increase in the underutilisation rate.

More contemporaneous business surveys of current conditions, such as difficulties in finding labour, also suggest that labour shortages have eased. This decline in labour market capacity pressure has coincided with the recent increase in net immigration. Arrivals by visa type have been led by a sharp rise in work visas, in line with the Government easing visa conditions for some sectors with acute labour shortages. Domestic labour supply has also been supported by ongoing high levels of participation, with labour market participation and employment as a share of the working-age population both reaching new record highs in the June 2023 quarter.

Figure 2.21

Maximum sustainable employment (MSE) indicator suite



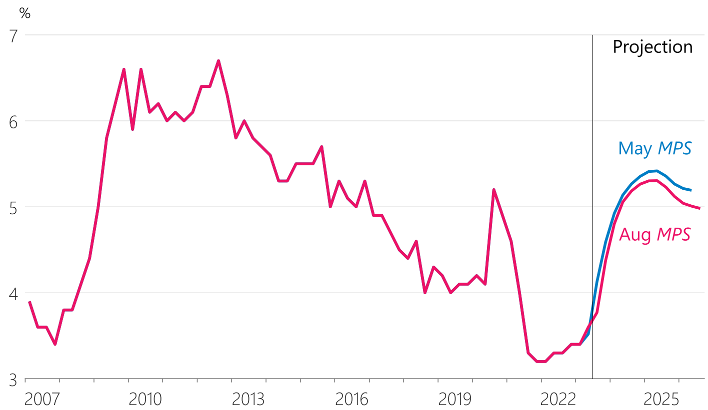
Source: ANZ, MBIE, NZIER, Stats NZ, RBNZ estimates.

Note: The Reserve Bank uses a range of indicators when assessing MSE, consistent with clause (1)(ii) of the *Remit*. The vertical lines on the left-hand and right-hand sides represent the weakest and strongest data outcomes since 2000, respectively. For example, a lower unemployment rate is considered to be stronger. An orange dot to the left of a black dot means that the latest data outcome was weaker than in the March 2022 quarter, when the labour market was particularly tight.

Figure 2.22

Unemployment rate

(unemployed people as a share of the labour force, seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

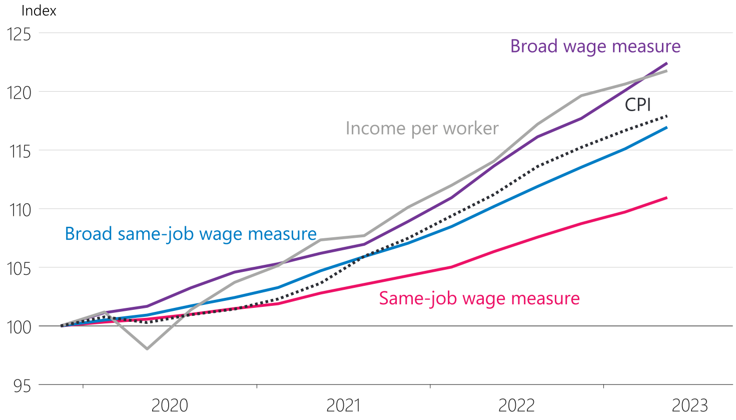
Forward looking indicators of the labour market suggest further easing is likely heading into the second half of 2023. The number of job ads has declined across most industries. However, monthly filled jobs and employment levels continued to grow over the June 2023 quarter.

Same-job wages – the unit cost of labour most directly relevant for inflationary pressure after adjusting for productivity – continued to increase below CPI inflation in the June 2023 quarter. This increase was slightly lower than expected in the May *Statement*. However, broader wage and income measures – which are better indicators of growth in household income – continued to increase at a faster pace than CPI inflation, continuing a trend from the past two years (figure 2.23).[2] Very high employment, strong household income growth and accumulated savings are supporting household spending, and inflationary pressure in the near term.

Figure 2.23

Wage measures and headline CPI

(index=100 in Q4 2019)



Source: Stats NZ, RBNZ estimates.

Note: Same-job wage measure: The adjusted labour cost index (LCI) measures wage inflation for a fixed quantity and quality of labour.

Broad same-job wage measure: The unadjusted LCI measures the same as adjusted LCI but includes any wage changes due to quality changes within an occupation (as reported by employers).

Broad wage measure: The Quarterly Enterprise Survey (QES) average hourly earnings measure the average hourly earnings across the economy. It is affected by opportunities that arise in a tight labour market, for example from promotions or shifts from low-paying industries to high-paying industries.

Income per worker measure: The QES total gross earnings per filled job measures the total income per job. In addition to the influence of the above, the QES income measure also takes into account employees working extra hours.

2 For more information on real wages see chapter 4.2 in the November 2022 *Statement*.

High interest rates are required to return annual inflation to 2 percent

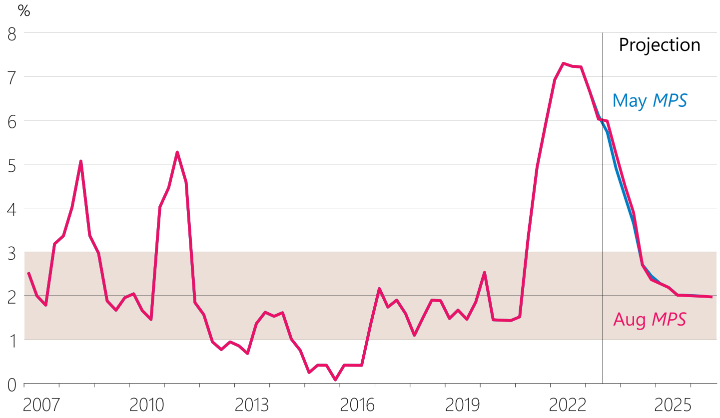
High interest rates are required to further slow demand relative to the economy's ability to supply goods and services sustainably. Lower demand will result in less pressure on available labour and capital resources in the economy. This will help reduce pressure on prices, leading to lower domestic inflation. Slower global growth is also expected to contribute to falling inflationary pressure through declining import price inflation and lower demand for our goods exports.

Labour market tightness is expected to decrease further over coming quarters, easing pressure on wages. Easing labour market tightness is assumed to reflect low or no growth in economic activity over the coming year and further growth in the economy's ability to sustainably supply goods and services. One measure of labour market slack – the unemployment rate – is expected to increase from currently low levels. Keeping the unemployment rate near current levels without experiencing unsustainably high wage and inflation pressures would require structural changes in the labour market that are beyond the control of the Reserve Bank.

Economic growth in the first quarter of 2023 was weaker than expected, and periods of further economic contraction over 2023 remain possible. We continue to expect low or no growth in GDP overall until early 2024, similar to what was expected in the May *Statement*. However, significant quarter-to-quarter volatility is likely. This may partially reflect the ongoing impacts of the border reopening, such as the re-establishment of regular seasonal patterns in activity data, and any temporary surge in migrant arrivals. The recovery from recent severe weather events at the start of 2023 may also add to near-term economic volatility.

Weaker demand in New Zealand and overseas is expected to lead to declines in non-tradables and tradables inflation over the next three years. Annual headline CPI inflation is assumed to return to within the 1 to 3 percent target range in the second half of 2024, and to 2 percent by the second half of 2025 (figure 2.24).

Figure 2.24
CPI inflation
(annual)



Source: Stats NZ, RBNZ estimates.

Note: The shaded area represents the MPC's 1 to 3 percent target range for annual CPI inflation over the medium term.

Monetary policy outlook

Overall, inflationary pressure in the economy is slightly higher than assumed in the May *Statement*. Measures of core inflation remain elevated, but some near-term inflation expectations have declined slightly over the past three months. Employment remains above its maximum sustainable level, but labour capacity pressures are beginning to ease more materially.

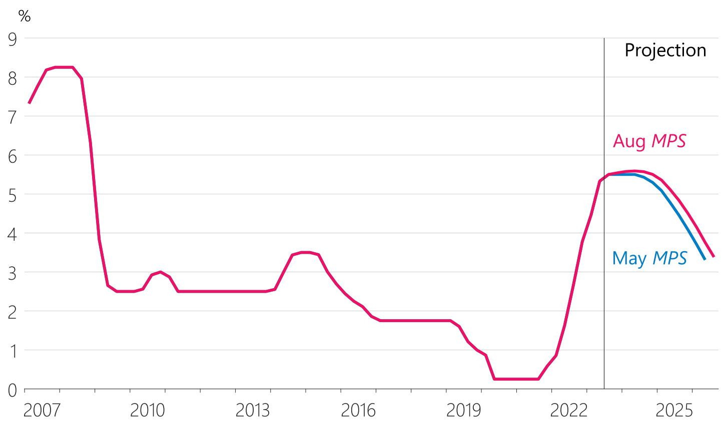
We have also revised up our assumption of the long-run nominal neutral OCR in the current projections from 2.0 to 2.25 percent from the September 2023 quarter onwards. This increase is based on our neutral OCR indicator suite.[3] The neutral OCR is the rate that over time would be consistent with no over- or under-utilisation of resources and stable inflation. The increase in our neutral indicator suite primarily reflects that long-term interest rates have increased substantially since the end of 2021. The neutral OCR is influenced by factors such as global and domestic demographics, productivity, savings behaviour and long-run fiscal policy.

However, the extent to which each of these and other factors have contributed to the recent increase, or will play out going forward, is uncertain. The OCR remains contractionary at its current level based on this revised assumption. Taken on its own, the upward revision to the neutral OCR would create slightly more upward pressure on the OCR over time.

Relative to the May *Statement*, this slight upward revision to the nominal neutral OCR, stronger supply-led export volumes in the near term, and an earlier trough in house prices are partially offset by lower overall domestic activity at the start of 2023 and lower import and export prices.

Conditional on our central economic outlook, it is assumed that the OCR will need to remain at around its current level for slightly longer than was assumed in the May *Statement* in order for the MPC to meet its inflation and employment objectives (figure 2.25).

Figure 2.25
OCR
(quarterly average)



Source: RBNZ estimates.

3 For more information on the neutral OCR see chapter 4.1 in the November 2022 *Statement*.

Global developments and outlook

CHAPTER

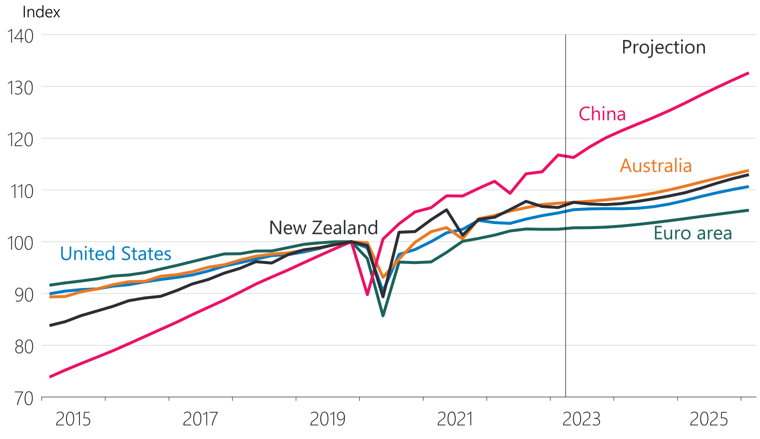
03

Lake Pukaki. Photo: Rebecca Williams

CHAPTER 3
Global developments and outlook

Global economic activity in the first half of 2023 has been stronger than market participants had expected at the start of the year. However, global growth remains below trend (figure 3.1). After rebounding strongly once COVID-19 restrictions were removed at the end of last year, growth momentum in China has slowed over recent months. This slowing poses a potential headwind to global growth, although very low inflation in China is also likely to contribute to lower global prices for manufactured goods. The more subdued outlook for China is being partially offset by continuing strength in the US economy.

Figure 3.1
Key trading partner GDP forecasts
(index=100 in Q4 2019)



Source: Consensus Economics, Haver Analytics, RBNZ estimates.

Note: GDP forecasts are based on Consensus Economics estimates, except New Zealand's which is based on our current projection.

Headline inflation has continued to decline across New Zealand's major trading partners. However, regional divergences are emerging regarding the pace of moderation in underlying price pressures, with this occurring faster in the US than in other major economies.

Central banks have continued to increase their policy rates since the May *Statement*, but little further tightening is expected from here. As risks related to the banking stress that emerged in the US and Europe in March 2023 have reduced and global economic activity has remained resilient, global risk sentiment has improved and financial market volatility has declined. This has supported higher global equity prices in recent months.

Global economic activity has been resilient this year

Although economic activity has been more resilient than expected in the first half of this year, global growth remains below trend as higher interest rates reduce demand. Trading partner GDP is forecast to increase 2.8 percent in the year to December 2023. This is lower than its pre-pandemic (2010-2019) average of 3.6 percent, but higher than Consensus Economics forecasts at the start of the year. Growth in most economies is expected to remain below trend in 2023 and 2024, before recovering towards trend over the medium term as inflation declines and central banks begin to reduce interest rates towards more neutral levels.

The degree to which growth has slowed in recent months has diverged across regions, with economic growth remaining more resilient in the US than in New Zealand's other key trading partners. US GDP increased 2.6 percent in the year to the June 2023 quarter, with both consumer spending and business investment remaining robust. In contrast, growth in the euro area has slowed more sharply, with GDP increasing by 0.6 percent in the year to the June 2023 quarter. GDP growth in China was also lower than expected in the June 2023 quarter, as the strength of the economic recovery following the removal of COVID-19 restrictions started to wane.

Globally, growth in services sector activity is currently stronger than it is in the manufacturing sector. Services sector growth reflects a continuation of the post-pandemic shift in demand away from goods and back to services. Global demand for goods has weakened as higher interest rates have begun to reduce household and business spending.

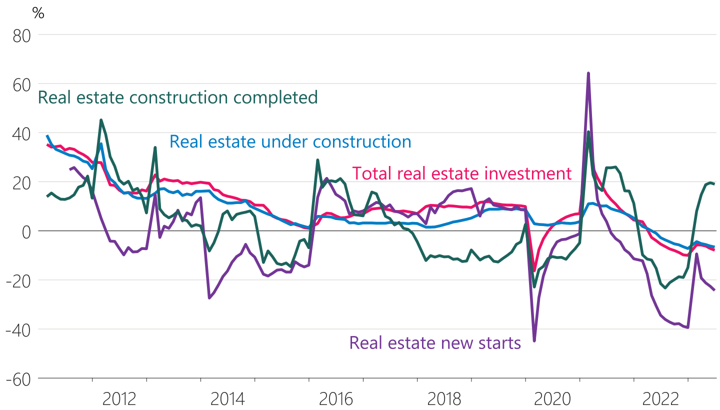
Labour markets remain tight globally, although there have been early signs of loosening in recent months in some economies. Unemployment rates remain close to cycle lows and wage growth remains elevated. However, job vacancies are declining from high levels in a range of key trading partners, and wage growth is moderating in the US and Canada.

Momentum in China's economic recovery has been slowing

The Chinese economy rebounded more rapidly than expected at the start of 2023, following the removal of COVID-19 restrictions at the end of last year. This rebound was led by the resumption of activity in previously restricted service sectors and extended across most industries. However, in recent months, economic growth has slowed by more than expected.

Weakness in the property market continues to lead to lower growth in China. Activity in the property market increased at the start of the year, in line with the broader economic recovery. However, momentum has waned in recent months, with total real estate investment and new real estate construction activity declining (figure 3.2).

Figure 3.2
Indicators for the Chinese property market
(annual)



Source: Bloomberg.

Low consumer confidence appears to be restraining household spending in China. Retail sales increased sharply at the start of the year, but growth has slowed substantially in recent months. This has primarily been due to a decline in consumer goods spending. Spending on consumer services, such as tourism and travel, continues to grow, but at a more moderate pace than earlier in the year.

Export production was a key support for Chinese growth during the COVID-19 pandemic, as global demand for goods increased strongly. However, demand for Chinese exports has begun to weaken, reflecting softer global goods demand. Chinese exports to many economies are now lower than in 2022.

Inflation in China has continued to decline, with annual headline inflation falling to -0.3 percent in July from around 2 percent at the start of the year. Lower inflation has been due to a number of factors such as weak domestic demand, slack in the labour market, and declining energy and pork prices. Producer prices, which are more variable and closely tied to global commodity prices, have been declining for the last 12 months.

Most global economic forecasters expect China's economy to grow by slightly more than 5 percent this year, in line with Chinese authorities' growth target of "around 5 percent". However, risks to China's growth appear skewed to the downside. In particular, there is a risk that property market activity and consumer spending will weaken further. Chinese authorities have taken some steps to ease fiscal and monetary policy settings, and many analysts expect further policy easing measures this year. However, policy easing measures so far have been relatively limited in scale and scope. Chinese authorities remain cautious about the degree of policy easing, given high debt levels across a number of sectors.

Global inflation continues to ease

Headline inflation has continued to decline in most advanced economies (figure 3.3). In particular, energy prices have fallen and food prices are beginning to stabilise, as global commodity prices have eased from the elevated levels they reached following the Russian invasion of Ukraine. Regional divergences are emerging in the pace at which core inflation measures are declining (figure 3.4).

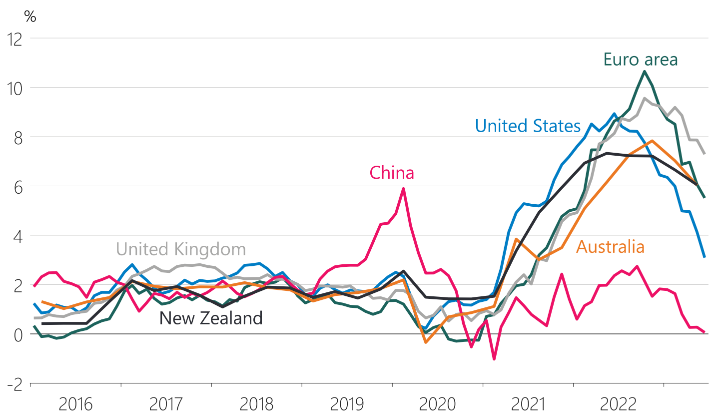
In the US, goods inflation is falling at a faster pace than elsewhere, and this is feeding through to lower core inflation. In contrast, services inflation in the US remains elevated. This is partly accounted for by high rent inflation, which recent data suggest will decline in the second half of this year. Similar trends are being observed in Canada.

For New Zealand's other major trading partners, such as Europe and Australia, core inflation has not moderated significantly. Goods inflation is declining, but at a slower pace than it is in North America. Services inflation has shown little sign of easing and in some cases continues to increase. These regional differences may in part reflect tighter labour markets and smaller relative declines in food and energy prices in regions outside of North America.

Figure 3.3

Headline inflation for key trading partners

(annual)



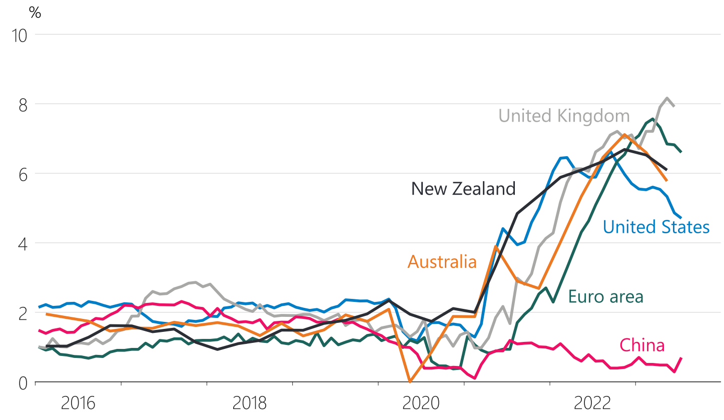
Source: Haver Analytics.

Central banks continue to tighten monetary policy

Most major central banks have continued to raise their policy rates since the May *Statement*. Policy rates are currently above longer-run estimates of neutral across most major economies. Market pricing currently reflects an expectation that central banks have now reached, or are near, peak policy rates in this tightening cycle. The impact of past tightening is being observed in signs of moderating demand and declining headline inflation.

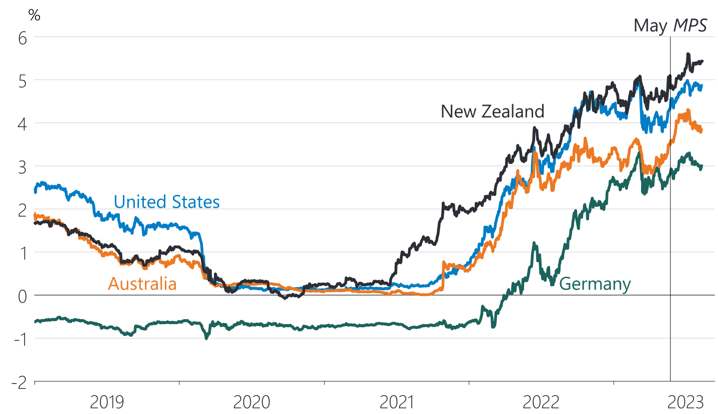
Several major central banks have tightened monetary policy by more than financial markets were expecting at the time of the May *Statement*. This has been largely in response to more persistent core inflation than those central banks were anticipating. These actions have also resulted in an increase in medium- and long-term interest rates, such as on sovereign bonds. These interest rates are currently near their highs reached in early 2023, after declining in March this year in response to the banking stress in the US and Europe (figure 3.5). Market participants currently expect central banks to begin reducing policy rates from around the middle of 2024, as capacity pressures ease and inflation returns closer to target.

Figure 3.4
Inflation excluding food and energy for key trading partners
(annual)



Source: Haver Analytics.

Figure 3.5
2-year sovereign bond yields



Source: Bloomberg.

Global risk sentiment has improved in recent months

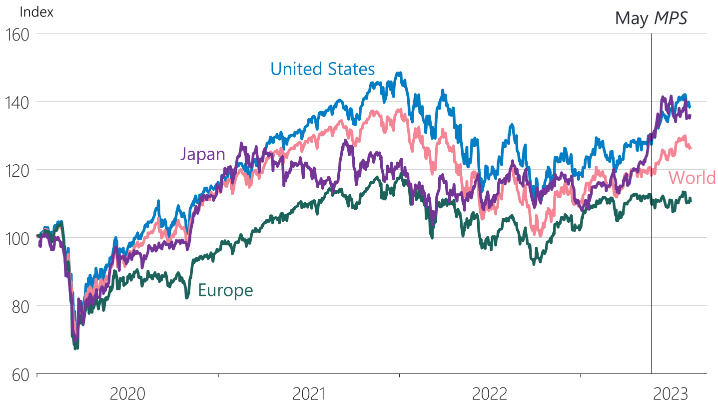
Global financial market volatility has declined, and investor risk sentiment has improved since the May *Statement*. This has primarily been in response to reductions in the risks related to the US banking system and US government debt ceiling, as well as greater optimism regarding the outlook for the global economy. Deposit outflows have stabilised for US banks, and this has supported US bank equity prices since the May *Statement*. Measures of market-implied volatility for both fixed income and equity markets have declined materially in recent months. Some measures of US equity volatility are now at their lowest levels since early 2020. Investment-grade credit spreads have also declined over this period and are close to their levels prior to the banking stress in March 2023.

Improving global risk sentiment is supporting global equity prices. Since the May *Statement*, global equity prices have increased 5.7 percent, with a stronger increase of around 8.5 percent in US equity prices (figure 3.6). In Europe, equity prices have remained broadly flat over this period, as the recent improvement in global risk sentiment has been offset by the continuation of weaker economic data for the euro area. Global commodity prices, such as for oil, have also generally increased since the May *Statement*, although they remain lower than at the start of the year. The higher commodity prices reflect a combination of stronger global risk sentiment and idiosyncratic factors for certain commodities, such as the impacts of weather events on the supply of some agricultural commodities.

Figure 3.6

Global equity prices

(index=100 on 1 January 2020)



Source: Bloomberg.

Special topics

CHAPTER 04

Tauranga. Photo: Rachael Grant

CHAPTER 4
Special topics

Before the publication of each *Statement*, the MPC is provided with analyses of some topical issues.

Topics for the August *Statement* included:

1. The inflationary impact of recent migration
2. Factors contributing to New Zealand's current account deficit and outlook

Special topics in the past 12 months

Topic	Date/publication
The recovery in international tourism over the 2022/23 summer	May 2023 *Statement* (Chapter 4)
Have inflation expectations become more sensitive to higher inflation?	May 2023 *Statement* (Chapter 4)
The international dimension of non-tradables inflation	February 2023 *Statement* (Chapter 4)
Monitoring the labour market for inflationary pressures with high-frequency microdata	February 2023 *Statement* (Chapter 4)
The neutral interest rate	November 2022 *Statement* (Chapter 4)
Developments in real wages	November 2022 *Statement* (Chapter 4)
Global inflation developments	August 2022 *Statement* (Chapter 3)
Assessing recent inflation surprises	August 2022 *Statement* (Chapter 3)
Business conditions	August 2022 *Statement* (Chapter 3)

1 The inflationary impact of recent migration

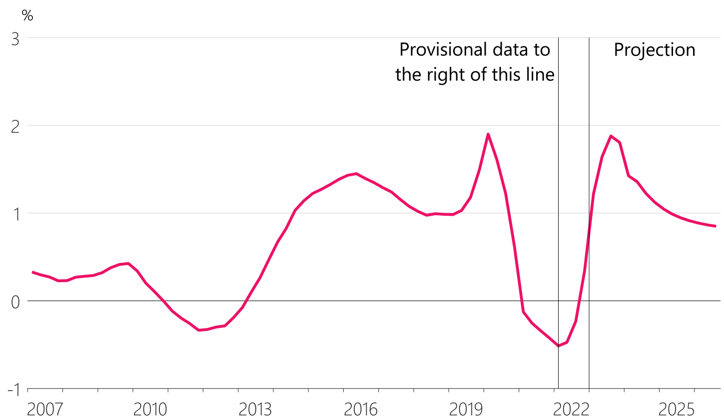
Summary

- Net immigration has increased sharply since travel restrictions put in place during the COVID-19 pandemic were removed and the border reopened.
- Previous research has shown that net immigration tends to put upward pressure on inflation. Changes in the ages, countries of origin and occupations of recent immigrants suggest that the current upswing could have a different inflationary impact from past immigration flows. It is possible that the net inflationary impact of migration is less than it was because of the tight labour market.
- In the projections, we assume that current immigration flows will have a low but positive impact on inflation, although there remains considerable uncertainty around this. We are doing additional research to investigate this further.

Figure 4.1

Net working-age immigration

(annual, share of working-age population)



Source: Stats NZ, RBNZ estimates.

Migration has a large impact on the New Zealand economy

New Zealand has been growing its population through positive net migration for most of the past 150 years. From the 1970s to the 1990s, emigration from New Zealand increased, particularly to Australia. This was a result of incomes in New Zealand falling behind those of leading OECD countries, resulting in net outflows. To counter this trend, New Zealand's immigration policies were changed over the 1980s and 1990s, with emphasis on attracting skilled migrants and migrants from a wider range of countries.[4]

In general, net immigration in the past two decades has been strongly positive. From early 2010 to the start of 2020, New Zealand's total population grew by around 17 percent, of which just under half came from net immigration.

The pandemic and resulting border closures disrupted this trend. While arrivals of New Zealand citizens surged initially, these were outweighed by outflows of non-New Zealand citizens from mid-2020 to early 2022.

Since the border reopened in 2022, net immigration has rebounded strongly (figure 4.1). While we expect net immigration to continue moderating from its recent peak, the annual net inflow of working-age immigrants is still projected to be around 80,000 in the September 2023 quarter. New Zealand is on track to experience its largest annual net immigration of the last century. This would be equivalent to around 1.9 percent of the projected working-age population, the highest proportion recorded since the start of the Household Labour Force Survey in 1986.

4 See Immigration - Fit for the future. Final report. (https://www.productivity.govt.nz/inquiries/immigration-settings/)

Existing research finds that net immigration adds to inflationary pressure, but the composition matters

Net immigration increases both the supply of labour and demand in the economy. Past empirical research on the New Zealand economy has found that the demand impact is greater than the supply impact, particularly in the short term. For this reason, the Reserve Bank has tended to assume that positive net immigration adds more to aggregate demand than aggregate supply, and therefore increases inflationary pressure.

During the large net immigration increase from 2013, the Reserve Bank published three *Analytical Notes* investigating the economic impacts of net immigration. Collectively, these papers found that net immigration increases inflation and house prices. They also found that the composition of migrants influences the extent to which it increases inflation.

- McDonald (2013)[5] found that arrivals have larger upward effects on house prices than departures have downwards effects. The strength of this impact depends on the regions from which non-New Zealand citizens arrive. On average, arrivals from European countries and the UK tended to have a more inflationary effects on house prices than arrivals from Asia.
- McDonald and Armstrong (2016)[6] showed that the impact of immigration depends on the primary reason causing migration. In particular, a weaker Australian labour market that causes net immigration typically leads to relatively higher unemployment and a larger reduction in nominal wage inflation in New Zealand.
- Lastly, Vehbi (2016)[7] investigated the macroeconomic impact of net immigration by age group. An increase in net immigration was found to increase inflation, real house prices, residential investment and real rents. It also led to a decrease in the unemployment rate gap. Further, migrants aged 17-29 years had lower economic impacts than those aged 30-49 years.

Positive net immigration may be less inflationary than it was before the COVID-19 pandemic

Since the start of the COVID-19 pandemic, the New Zealand labour market has been tighter than it has been for several decades. In an environment of acute labour shortages, it is likely that net immigration contributes even more to the supply of labour than otherwise and is therefore less inflationary. As noted above, the composition of net immigration also influences the extent to which it is inflationary. Table 1 compares the composition of net immigration before and after the COVID-19 pandemic and assesses the likely inflationary impact. Figures 4.2 to 4.5 provide supporting evidence.

5 See McDonald (2013), 'Migration and the housing market', *Analytical Note*, Reserve Bank of New Zealand.

6 See McDonald and Armstrong (2016), 'Why the drivers of migration matter for the labour market', *Analytical Note*, Reserve Bank of New Zealand.

7 See Vehbi (2016), 'The macroeconomic impact of the age composition of migration', *Analytical Note*, Reserve Bank of New Zealand."

Table 1

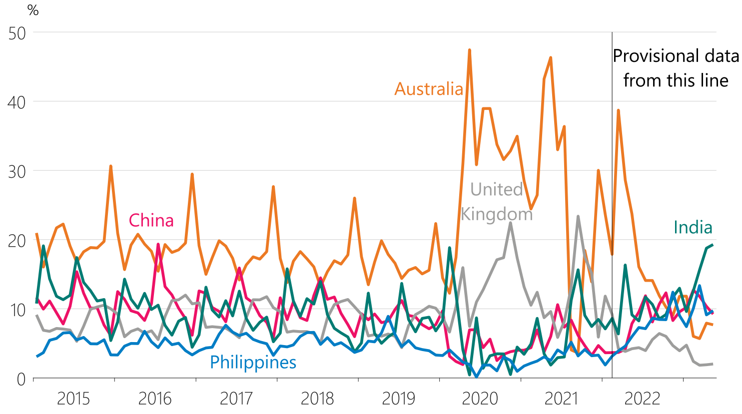
Key observations on the composition of migrants and links to research findings

Factor	Pre-COVID-19	Post-COVID-19	Implications for inflation
Country of origin (figure 4.2)	The largest share of arrivals was from Australia, with similar shares from the UK, China and India.	The largest shares of arrivals are coming from India, China and the Philippines, and lower shares are arriving from Australia and the UK.	**Less inflationary.** McDonald (2013) found that arrivals from Europe and the UK have a greater impact on real house prices than arrivals from Asia. This implies a currently more subdued impact on house prices, and on demand generally, relative to before the COVID-19 pandemic.
Age (figure 4.3)	The largest share of arrivals was the 15- to 29-year-old age bracket.	The largest share of arrivals is the 30- to 49-year-old age bracket.	**More inflationary.** Vehbi (2016) found that migrants in both the 17- to 29-year-old and 30- to 49-year-old age groups have a significant positive impact on inflation and the housing market. However, the effect coming from the younger group is less. The growing share of the older group implies a larger effect of current migration on inflation compared to before the COVID-19 pandemic.
Occupation (figure 4.4)	Of immigrants who stated their occupations on arrival cards, the greatest share comprised professionals, technicians and trade workers.	Of immigrants who stated their occupations on arrival cards, technicians and trade workers are now the largest share, followed by professionals. There has also been a significant increase in arrivals who stated their occupations as labourers and machinery operators and drivers.	**Less inflationary.** The mix of immigrant occupations is likely providing relief in a very tight labour market. Several policy changes have been introduced since the border reopened to target workers to fill labour shortages via the ‘Green List’. A better matching of immigrant skills to skills gaps in the labour market could alleviate wage pressure.
Arrivals and departures (figure 4.5)	Net immigration was accounted for by arrivals fluctuating around 12,000, outweighing departures fluctuating around 7,000.	High net immigration is accounted for by higher arrivals rather than lower departures compared to pre-COVID-19.	**More inflationary.** McDonald (2013) found that arrivals have larger upward effects on house prices than decreased departures. As high net immigration since COVID-19 has been due to much higher arrivals and only somewhat higher departures, the impact on house prices is likely more inflationary than it was before the COVID-19 pandemic.

Figure 4.2

Estimated migrant arrivals by country of last permanent residence

(monthly, share of total arrivals)



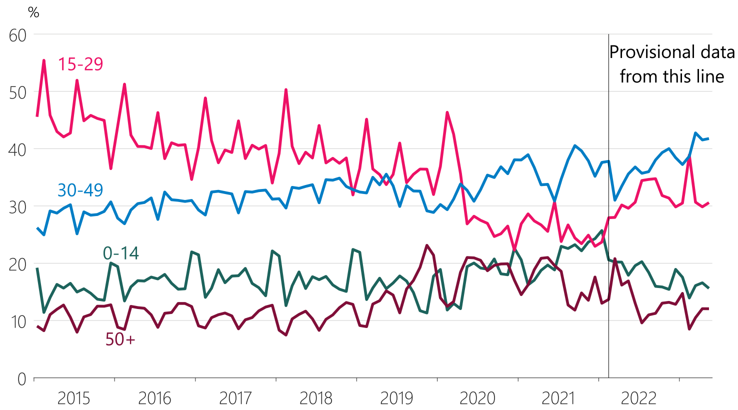
Source: Stats NZ.

Note: The figure represents a selection of the largest country contributions to arrivals and therefore does not add up to 100 percent. Travel and border restrictions due to the COVID-19 pandemic disrupted usual migration patterns. Sudden drops and sustained low levels in migration can distort values when applying seasonal adjustment factors and therefore we applied no seasonal factor in this figure.

Figure 4.3

Estimated migration arrivals by age group

(monthly, share of total arrivals)



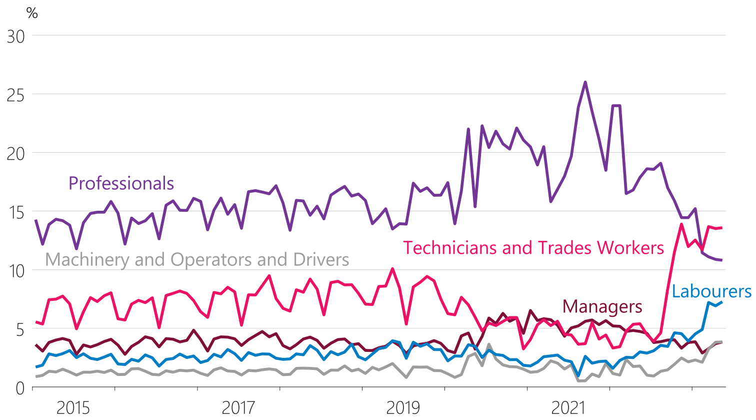
Source: Stats NZ.

Note: Travel and border restrictions due to the COVID-19 pandemic disrupted usual migration patterns. Sudden drops and sustained low levels in migration can distort values when applying seasonal adjustment factors and therefore we applied no seasonal factor in this figure.

Figure 4.4

Permanent and long-term arrivals by occupation

(monthly, share of total arrivals)



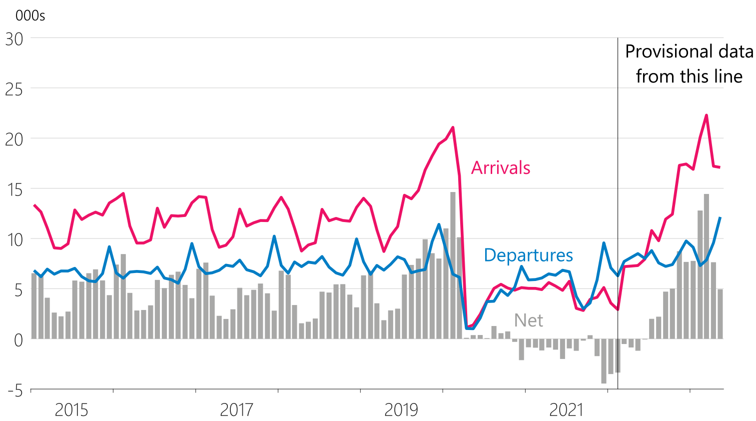
Source: Stats NZ.

Note: Data sourced from the New Zealand Passenger arrival card. Approximately 50% of responses fall into the residual categories: 'outside of scope' (i.e. students), 'not stated' and 'response unidentifiable'. Travel and border restrictions due to the COVID-19 pandemic disrupted usual migration patterns. Sudden drops and sustained low levels in migration can distort values when applying seasonal adjustment factors and therefore we applied no seasonal factor in this figure.

Figure 4.5

Estimated migration by direction

(monthly)



Source: Stats NZ.

Note: Travel and border restrictions due to the COVID-19 pandemic disrupted usual migration patterns. Sudden drops and sustained low levels in migration can distort values when applying seasonal adjustment factors and therefore we applied no seasonal factor in this figure.

We are doing further research to investigate the degree to which the recent surge in immigration is inflationary and how persistent its impacts will be. An update of Vehbi (2016) using data to 2019 provides early tentative results suggesting that immigrants aged 30-49 years might no longer have greater inflationary impacts than 15- to 29-year-old immigrants. Overall, immigration may no longer have a statistically significant positive effect on inflation.

This initial analysis indicates that we should be cautious about relying on our previous assumption that net immigration is net inflationary to the New Zealand economy. As noted in the May *Statement* , the inflationary impact of net immigration is highly uncertain at present. However, until the results of this work are confirmed, our central forecast continues to incorporate a low but positive impact of net immigration on inflation (see chapter 6).

2 Factors contributing to New Zealand's current account deficit and outlook

Summary

- The current account is the nominal net sum of balances in the exports and imports of goods and services, and the balance of income paid to New Zealanders from overseas less income paid to foreigners. The current account surplus or deficit is often expressed as a share of nominal GDP.
- New Zealand's annual current account deficit has widened since 2021 and sat at 8.5 percent of GDP in the year to March 2023. Current account deficits are funded by non-residents, so persistently large deficits make New Zealand more vulnerable to changes in the availability or cost of that funding.
- The recent widening of the current account deficit is primarily due to circumstances arising from the COVID-19 pandemic, the subsequent strong recovery in domestic demand and a terms of trade shock partially due to the Ukraine war. Our projection assumes that the current account deficit will steadily narrow towards 4 percent over the next three years.
- 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 than it was during the global financial crisis (GFC).
- New Zealand's net foreign liabilities – essentially, the difference between what New Zealand owes the rest of the world (liabilities) and what the rest of the world owes New Zealand (assets) – are at 49 percent of GDP, much lower than the 84 percent peak in 2009. The composition of these liabilities is also more stable than it was at that time, largely reflecting a reduced banking system reliance on short-term offshore funding.
- There are several factors that financial market participants consider when assessing the sustainability of a large current account deficit. These factors include the stability of the financial system, whether the country has a floating exchange rate, and the country's fiscal position. At this stage, the risk of a deterioration in the economic or financial stability outlook arising from the current account deficit is viewed as low, particularly because the deficit is expected to narrow steadily over the projection horizon.

New Zealand's current account deficit is at levels last seen in the 1980s

New Zealand has historically had a current account deficit, rather than a surplus. However, at 8.5 percent of GDP in the year to March 2023, the current account deficit is currently much wider than the 4 percent it has averaged since 2000. New Zealand also has a larger current account deficit than many of our trading partners (figure 4.6).

The current account is the nominal net sum of balances on the exports and imports of goods and services, and the balance of income paid to New Zealanders from overseas, less income paid to foreigners (figure 4.7). If the sum of these balances is in deficit, New Zealand is spending more on imports and/or servicing overseas obligations than it is earning through exports and/or returns on overseas assets. Since New Zealanders are spending more than we earn in aggregate, as a country we need to rely on non-residents to fund this difference.

Persistently large current account deficits could make New Zealand more vulnerable to changes in the availability or cost of funding from overseas. It is therefore important to understand the factors that have driven the widening of the current account deficit since 2021 and assess how long these factors are likely to persist.

Services account for much of the widening since 2021

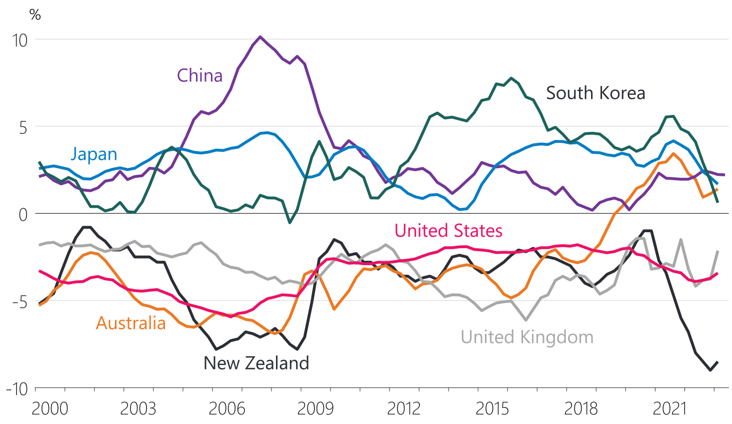
As seen in figure 4.7, the key factors that account for the widening of the deficit since 2021 are:

- **Services trade moving from a surplus to a deficit.** Since the mid-1990s, New Zealand has maintained a services surplus. However, COVID-19 and the border closure led to a sudden decrease in exports of services, particularly tourism and education. While the border re-opening has led to a recovery, exports of travel services remain materially below pre-COVID-19 levels (figure 4.8). This accounts for much of the widening in the current account deficit;

Figure 4.6

Current account balances for key trading partners

(annual, share of nominal GDP)

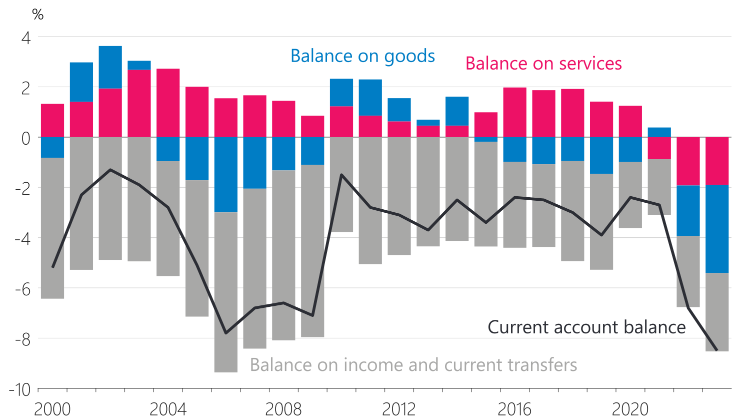


Source: Bloomberg.

Figure 4.7

Current account decomposition

(March year, share of nominal GDP)

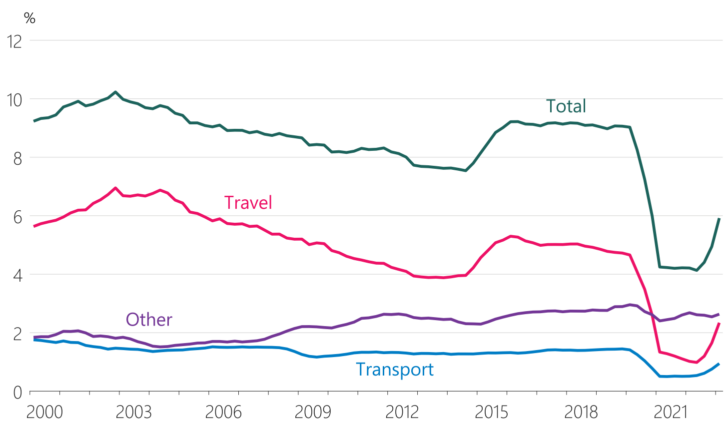


Source: Stats NZ.

Figure 4.8

Exports of services decomposition

(annual, share of nominal GDP)



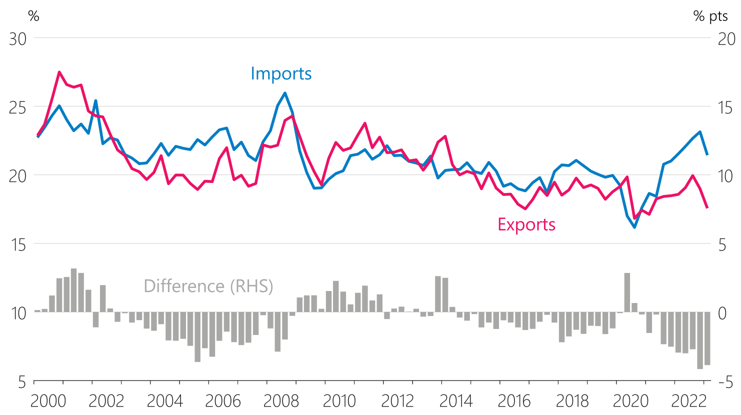
Source: Stats NZ.

- **A wider deficit in goods trade.** Strong domestic demand in recent years has contributed to a wider goods deficit (figure 4.9). This was most clearly reflected in an increase in durable goods imports, which were also relatively more expensive in recent years. Export volume growth has been relatively more subdued; and
- **A wider income deficit.** The income deficit increased from 2 percent of GDP in 2021 to 3 percent in 2023. This reflects the increased cost of servicing New Zealand's net foreign liability position due to higher global interest rates.

Figure 4.9

Exports and imports of goods

(quarterly, seasonally adjusted, share of nominal GDP)

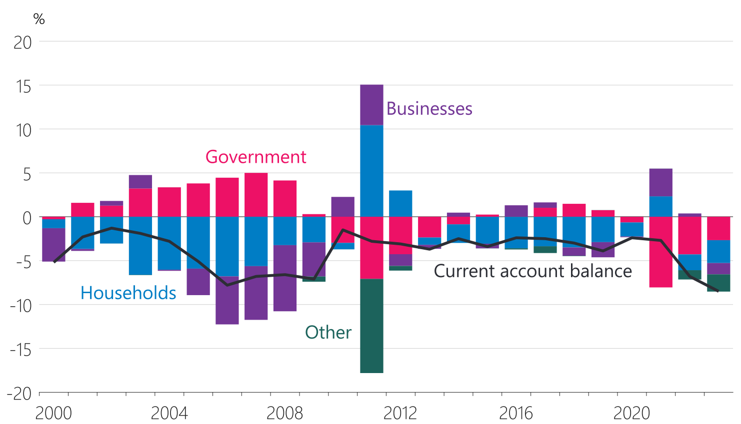


Source: Stats NZ.

Figure 4.10

Sectoral contributions to the current account

(March year, share of nominal GDP)



Source: Stats NZ.

Note: Contributions shown here are annual net lending by sector.

While the government sector contributed to the initial widening in the current account deficit, the household and business sectors have played an increasing role

The current account deficit means New Zealand is spending more than it is earning. We can look at the net international borrowing – the difference between gross saving and investment – of different sectors to see their contributions to the current account (figure 4.10). Government spending contributed to the initial widening of the current account deficit during the start of the COVID-19 pandemic, and more than offset the increase in private sector net saving. However, the subsequent fiscal consolidation has not been sufficient to offset the savings-investment gaps that have re-emerged in the household and business sectors.

The recent widening in the current account deficit reflects that domestic savings have not been enough to fund government, household and business sector investments. The shortfall has been funded by non-residents. Over the medium term, a sustained narrowing of the deficit will likely require some adjustment in each of these sectors. The Government's plan to return the budget to surplus is part of that rebalancing. Higher interest rates are also encouraging households and businesses to save more and invest less.

We forecast the current account deficit will narrow in an orderly manner

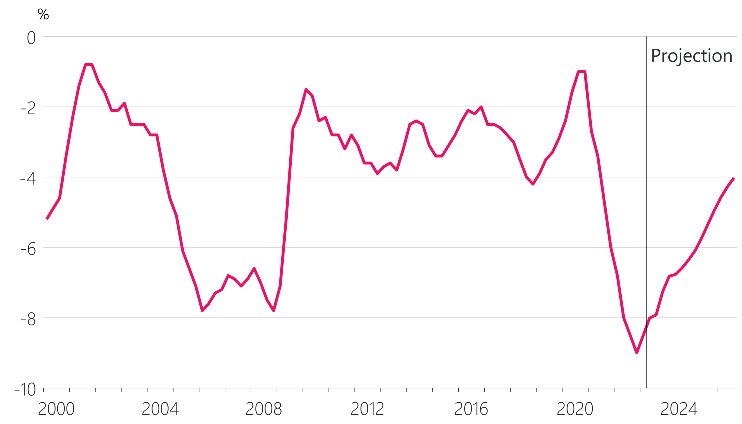
In our central projection, the current account deficit narrows over the medium term towards a level more consistent with its long-term average (figure 4.11).

- The services deficit is expected to narrow, driven by a continued recovery in tourism. International visitor arrivals have continued to increase, supported in the near term by the FIFA Women's World Cup. Arrivals are expected to be supported further by the return of Chinese tourists from this year onwards.
- The goods deficit is also expected to narrow as high interest rates weaken private demand for imports, and import prices ease further as global inflation declines. The outlook for goods exports is more mixed, but stronger in the June 2023 quarter due to exceptionally good pasture growth conditions.

Figure 4.11

Current account balance

(annual, share of nominal GDP)

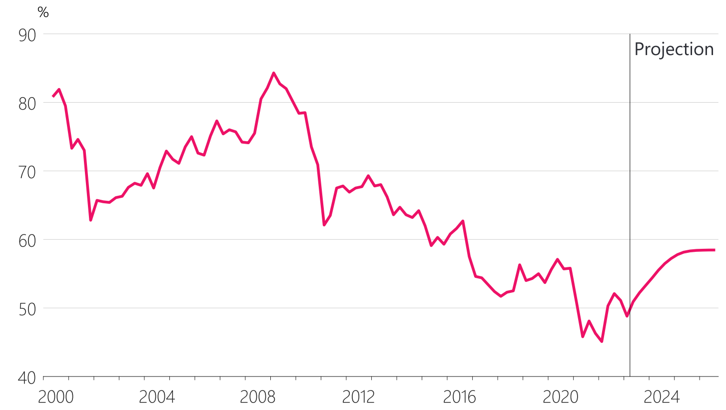


Source: Stats NZ, RBNZ estimates.

Figure 4.12

Net foreign liabilities

(annual, share of nominal GDP)



Source: Stats NZ, RBNZ estimates.

The current account deficit poses limited risks to financial stability, especially when compared to the GFC

Because New Zealand's current account deficit is funded by foreign borrowing, its recent widening could potentially have implications for financial stability. Key considerations are New Zealand's ability to repay this debt and the risk that some of this funding for banks, especially short-term funding, is withdrawn. The risk of a deterioration in financial stability arising from the current account deficit is viewed as very low. Some of the key reasons for this are:

- New Zealand's external debt position is relatively sustainable, with a significantly lower ratio of net foreign liabilities to GDP than during the GFC (figure 4.12);
- The share of bank funding that is core – such as longer-term wholesale funding and deposits – is high, and much higher than it was before the GFC.[8] This minimises the risk of a sudden funding withdrawal or that a large share of debt will roll over at a time when funding conditions are stressed;
- As was also the case before the GFC, the vast majority of New Zealand debt is either denominated in New Zealand dollars or is hedged; and
- With inflation currently well above target, the extent that the change in New Zealand's foreign liabilities is accurately reflected by the current account deficit is less than it would be in a low inflation environment. This is because the current account records our nominal interest earnings and payments, rather than New Zealand's real interest earnings and payments. Inflation erodes the real value of our foreign liabilities, meaning the current account deficit overstates the increase in our foreign liabilities.[9]

8 From April 2010, banks had to comply with the core funding ratio as part of the Liquidity Policy. Prior to that the core funding ratio data has been backdated using other data sources.

9 See Obstfeld and Rogoff (1996), Foundations of International Macroeconomics, Box 1.1 on Nominal vs Real Current Accounts.

Financial conditions

CHAPTER 05

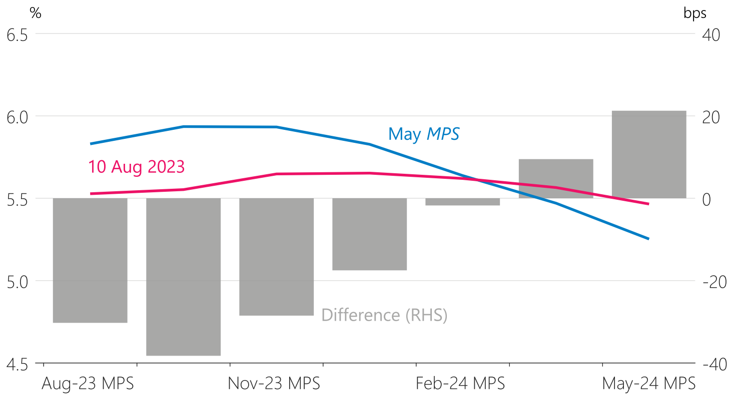
Rangituhi. Photo: Matthew Brunt

CHAPTER 5
Domestic financial conditions

Monetary policy affects economic activity by influencing financial conditions in New Zealand. These include the interest rates at which households and businesses save and borrow, the exchange rate, and other factors such as credit availability.

Financial conditions are broadly similar to those at the time of the May *Statement*. Retail interest rates (such as mortgage and term deposit rates) have increased, especially at shorter horizons. Wholesale interest rates (such as swap rates) at shorter horizons have decreased when compared to immediately prior to the May *Statement*, while those at longer horizons have increased slightly.

Figure 5.1
Market expectations for the OCR



Source: Bloomberg.

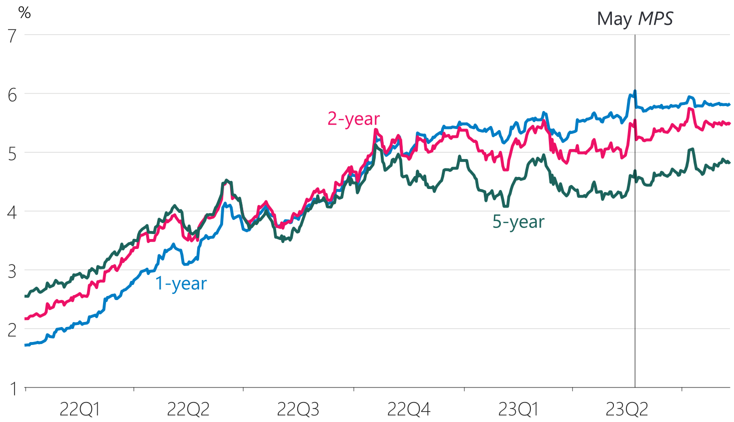
Note: Each data point represents market expectations of the level of the OCR at a given point in the future, as measured by ICAP's overnight indexed swap pricing.

Market participants' near-term expectations for the OCR fell immediately following the May *Statement* but have remained reasonably stable in the months since. Market expectations for upcoming OCR decisions have shifted to be lower and flatter – that is, fewer OCR increases are expected for meetings in 2023, and the policy rate is expected to remain on hold for longer beyond this. Market expectations for the peak in the OCR have fallen 24 basis points from 5.87 percent to 5.63 percent since the May *Statement* (figure 5.1).

Domestic wholesale rates have increased over 2023 (figure 5.2). However, short-term domestic wholesale rates have declined slightly since the May *Statement*, consistent with lower near-term OCR expectations. In contrast, rates at longer horizons have continued to increase, supported by increasing global interest rates (figure 5.3). As a result, the interest rate swap curve is less inverted than it was at the time of the May *Statement*. New Zealand government bond (NZGB) yields have increased relative to swap yields, as the pace of new bond issuance and expectations for future issuance have increased.

The New Zealand dollar exchange rate has depreciated on a trade-weighted basis since the May *Statement*. Global interest rates have increased by more than comparable domestic rates, resulting in a narrowing of interest rate differentials between New Zealand and its key trading partners. This narrowing in interest rate differentials has put downward pressure on the New Zealand dollar (figure 5.4). Additionally, the recent slowdown in China's economic recovery has weakened demand for New Zealand's export commodities, putting downward pressure on dairy prices and the New Zealand dollar. In contrast, stronger global risk sentiment (see "Risk sentiment" in table 5.1) has provided some support to the New Zealand dollar over this period.

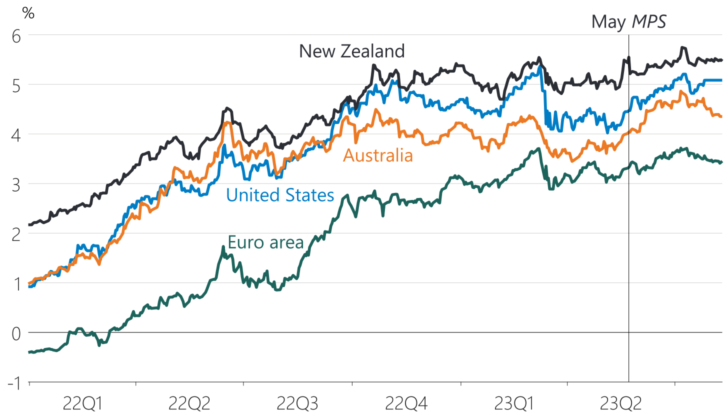
Figure 5.2
Domestic swap rates



Source: Bloomberg.

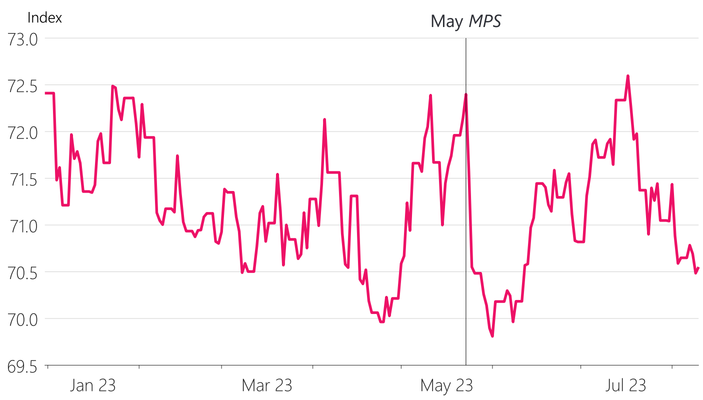
Note: Swap rates are a wholesale interest rate often used as a benchmark by financial institutions in setting other interest rates in the economy. They represent the fixed interest rate that one party to the swap agreement receives in exchange for paying a floating rate to the other party over the time period of the agreement.

Figure 5.3
Global 2-year swap rates



Source: Bloomberg.

Figure 5.4
New Zealand dollar TWI
(nominal)



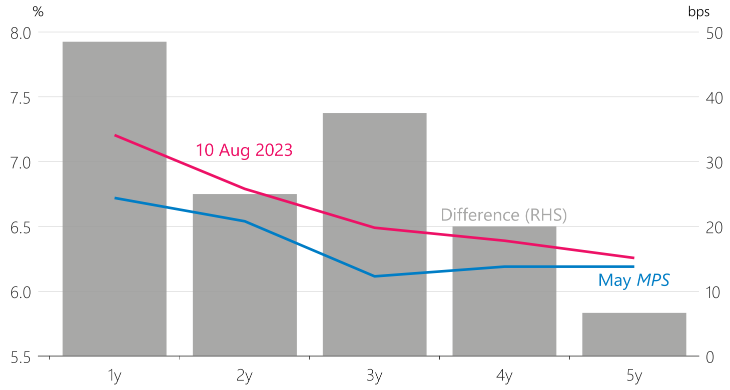
Source: NZFMA, RBNZ.

Retail interest rates have continued to increase since the May *Statement*. Increases have been most significant for 1-year mortgage rates, which are around 50 basis points higher than in May, while 2-year mortgage rates have increased by around 25 basis points (figure 5.5).

Interest rates for term deposits, which make up a large percentage of banks' core funding, have continued to increase. Since the May *Statement*, 6-month term deposit rates have increased by 28 basis points, while longer-term rates are around 10 basis points higher (figure 5.6). The spread (difference) between 6-month term deposit rates and comparable wholesale rates has continued to narrow slowly but remains negative. This is in contrast to typical pre-pandemic spreads of around positive 100 basis points.

Figure 5.5

New Zealand mortgage rates

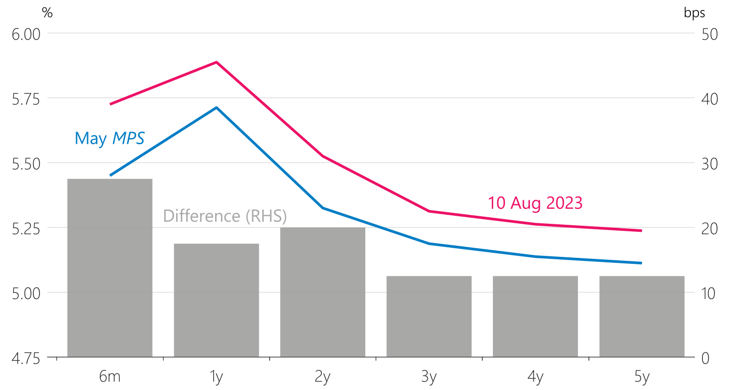


Source: interest.co.nz.

Note: The mortgage rates shown are the average of the latest fixed-term rates on offer from ANZ, ASB, BNZ and Westpac.

Figure 5.6

Term deposit rates



Source: interest.co.nz.

Note: The term deposit rates shown are the average of the latest fixed-term rates on offer from ANZ, ASB, BNZ and Westpac.

Table 5.1

Developments in domestic financial conditions as at 10 August 2023

Wholesale interest rates	
Market pricing for the OCR	• The May *Statement* contributed to a downward shift in market participants' expectations for the OCR during this cycle. The main reason for this shift was the projected OCR track being lower than what market participants had anticipated. However, expectations for the level of the OCR next year have increased, with fewer cuts priced through 2024 than prior to the May *Statement*. • Current market expectations for the OCR are lower over the near term than at the time of the May *Statement*. Financial market expectations for the peak OCR in this cycle, as measured by overnight indexed swap pricing, have decreased by 24 basis points to 5.63 percent. However, expectations for the level of the OCR in early 2024 are higher than at the time of the May *Statement*, with the OCR expected to be at around 5.63 percent after the February 2024 meeting. The current and expected OCR settings are contractionary, sitting above our estimates for the neutral OCR (see figure 7.4).
New Zealand government bonds	• NZGB yields have increased across the curve since the May *Statement*. The increase in NZGB yields has been influenced by higher global interest rates, and New Zealand Debt Management's (NZDM's) updated issuance schedule, which was announced at the May *Budget*. • At the May *Budget*, NZDM projected an additional $20 billion in NZGB issuance over the next four years. NZDM has increased weekly bond tender sizes by $100m to $500m. • Measures of volatility in the NZGB market have declined following the May *Statement*, with bid-ask spreads narrowing and the intra-day trading range for bonds remaining relatively low. Demand for NZGBs at NZDM tenders has remained relatively stable despite the increased weekly tender sizes. • NZGB yields have increased by more than swap rates since the May *Statement*, likely due to the increase in supply of NZGBs.
Interest rate swaps	• Moves in New Zealand interest rate swaps have been relatively small since the May *Statement*. The 1-year swap rate is around 10 basis points lower over this period, while rates beyond 2 years are around 10-20 basis points higher. As a consequence, the degree of inversion in the interest rate swap curve has reduced, with the difference between 10- and 2-year swap rates narrowing from minus 100 to minus 80 basis points. • Global interest rate swaps have increased since May, in response to reduced concerns about the banking systems in the US and Europe, stronger than expected economic data, and further monetary policy tightening by central banks. Global interest rates continue to be a key influence on longer-term domestic interest rate movements.

New Zealand dollar	
Interest rate differentials	• The difference between interest rates in New Zealand and those of our advanced trading partner economies such as Australia, the US, and the UK has narrowed since May, particularly following the May *Statement*. For example, the difference between the 2-year NZGB yield and the 2-year US government bond yield has decreased by around 17 basis points since the May *Statement*, as US yields have increased by more than New Zealand yields. • Declines in New Zealand interest rates relative to those of key trading partners are often associated with a depreciation in the New Zealand dollar. Narrowing interest rate differentials have been an important influence on the New Zealand dollar since the May *Statement*. On net, the New Zealand dollar has fallen 2.6 percent on a trade-weighted basis since the May *Statement*.

Risk sentiment	• During periods of low uncertainty or volatility, financial market participants' willingness to take on additional risks increases and demand for safe haven currencies, such as the US dollar, decreases. Typically, more positive risk sentiment is associated with an appreciation in the New Zealand dollar. • Market risk sentiment has broadly improved since the May *Statement*, in response to an easing of banking stress in the US and Europe, stronger-than-expected US economic data, and falling inflation. This has contributed to strength in US equity prices, with the S&P 500 up 8.56 percent since the May *Statement*. Improving risk sentiment has likely supported the New Zealand dollar, although this has been outweighed by other factors.
Commodity prices	• Prices of key export commodities in New Zealand have continued to fall since the May *Statement*, with one driver being weaker demand from China. • Declines in New Zealand's key export commodity prices tend to be associated with a depreciation in the New Zealand dollar, all else equal.
Retail interest rates	
Mortgage rates	• The mortgage rate curve has continued to invert further in recent months. The average 1-year mortgage rate has increased by 48 basis points since the May *Statement*, while average 5-year mortgage rates have remained broadly unchanged. Despite this curve inversion, the majority of new lending is at 1- to 2-year horizons, although the volume of 3-year fixed-rate lending has increased in recent months.
Deposit rates	• Term deposit rates have increased since the May *Statement*. Rates for 6-month and 1-year terms have increased by around 28 basis points and 17 basis points respectively, resulting in a less negative spread to respective wholesale rates. However, these spreads have remained negative when they were positive prior to the COVID-19 pandemic. Bonus saver interest rates have also been slow to increase, and their spread to the OCR is also significantly below pre-COVID-19 averages. • The term deposit curve remains inverted, with the 1-year rate around 65 basis points higher than the 5-year term deposit rate.

Bank funding conditions	
Funding composition	• Term deposit volumes have continued to increase since the May *Statement*, particularly in the 6-month and 1-year terms. Depositors have continued to switch from on-call accounts as the spread between term and on-call deposit rates has continued to increase. Term deposit volumes grew by around $4.5 billion in the two months after the May *Statement*, while on-call account volumes fell by around $4.6 billion. • Banks remain well funded and have strong liquidity buffers. Lower-cost deposits remain a larger share of bank funding than before the COVID-19 pandemic. Bank core funding ratios remain relatively high, at 89.7 percent in May.
Credit spreads	• The cost of raising long-term wholesale bank funding relative to benchmark wholesale rates has been stable since the May *Statement*. • Domestic bank credit spreads are currently slightly lower than at the time of the May *Statement*. Offshore credit spreads have declined by more than domestic credit spreads over this period, as further easing in US and European banking stresses have filtered through to credit spreads. This is contributing to slightly lower average funding costs for the largest New Zealand banks, which obtain a large portion of their wholesale funding offshore.

Economic projections

CHAPTER 06

Tongariro Alpine Crossing. Photo: Thomas Bohm

CHAPTER 6
Economic projections

This chapter summarises the baseline economic projections that MPC members considered when making their policy assessment. The projections were finalised on 10 August 2023.

These projections rely on a set of key assumptions about the global and domestic factors influencing the economy. They include:

- the extent to which activity and inflation in our key trading partners slows over coming years and the consequences for domestic financial conditions, demand for New Zealand's goods and services exports, and export and import prices;
- the speed and strength of the recovery in international tourism in New Zealand;
- the persistence of labour market tightness and wage pressures, and the impacts of these factors on household spending and core inflation;
- the outlook for net immigration, and whether high net immigration contributes relatively more to labour supply or aggregate demand and over what period;
- the extent to which the decline in house prices since late 2021 and their recent stabilisation contribute to lower residential construction activity and household consumption;
- the extent to which business investment weakens on the back of lower export prices and declining capacity pressures in the economy;
- how businesses, consumers and workers respond to rising costs and higher interest rates in New Zealand; and
- the extent to which government consumption and investment contribute to the demand and inflation outlook.

Uncertainty around these assumptions is high, as there are several large and partially offsetting factors influencing the economic environment. These factors include: the normalisation in activity and supply chains after most COVID-19 restrictions were lifted; the rapid rise in global inflation, including the impact of Russia's war against Ukraine; the rapid increase in interest rates globally and the speed with which inflation declines as a result; and the normalisation in fiscal spending from high levels during the height of the COVID-19 pandemic.

The projections take into account recent data, which show that the economy contracted in the first quarter of 2023 despite resilient employment growth. Although timely data suggest a modest expansion in the second quarter of 2023, we are seeing signs that broad economic activity is slowing. This has been seen particularly in parts of the economy more sensitive to interest rates. Capacity pressures are still inflationary but have reduced over the second quarter of 2023, roughly as anticipated in the May *Statement*. The factors underpinning this starting point are discussed in chapter 2.

Over the medium term, we assume that lower global goods demand, high interest rates and their dampening impact on house prices, consumption and investment, as well as a declining share of government spending in the economy will substantially temper economic growth.

This moderation in economic activity is expected to further reduce capacity pressures and, hence, contribute to lower inflation over the medium term. In addition, global inflationary pressures are easing, which is expected to result in lower imported inflation in New Zealand. High interest rates in most of New Zealand's trading partners are reducing demand. The normalisation of global supply chains and falls in global food and energy commodity prices over the past 18 months are reducing imported cost pressures. As a result, New Zealand's import prices have decreased in recent months, and we expect this trend to continue over the medium term.

Core inflation is still high. Measures of core inflation remained at elevated levels or increased further in the June 2023 quarter. In addition, non-tradables inflation was somewhat higher in the June 2023 quarter than expected in the May *Statement*. However, non-tradables and core inflation are materially affected by labour market pressures, and these have been easing over recent quarters. Consequently, non-tradables inflation is expected to decline slowly as capacity and labour market pressures continue to ease over the medium term.

Overall, annual consumer price inflation is expected to return to its 2 percent target midpoint towards the end of 2025. Given the expected slowing in domestic demand, a softening in the labour market is likely. Employment is expected to fall below its maximum sustainable level for a time.

Relative to the May *Statement*, stronger supply-led export volumes in the near term, an earlier stabilisation in house prices, and a slight upward revision to the nominal neutral OCR are partially offset by lower overall domestic activity at the start of 2023 and lower import and export prices. Conditional on our central economic outlook, it is expected that the OCR will need to remain near its current level for slightly longer than assumed in the May *Statement* for the MPC to meet its inflation and employment objectives.

Based on our neutral OCR indicator suite, we have revised up our estimate of the long-run nominal neutral OCR from 2.0 percent to 2.25 percent from the September 2023 quarter onwards.[10] The neutral OCR is the rate that, on average over time, would be consistent with no over- or underutilisation of resources and stable inflation in the economy. The increase in our neutral indicator suite primarily reflects that long-term interest rates have increased substantially since the end of 2021. The OCR remains contractionary at its current level based on this revised assumption. Taken on its own, the upward revision to the neutral OCR would create slightly more upward pressure on the OCR over time.

10 For more information on the neutral interest rate and our indicator suite see chapter 4.1 in the November 2022 *Statement*.

Table 6.1

Key projection assumptions

Key factors	
Global factors	• The global economy is continuing to slow in response to monetary policy tightening by central banks around the world. However, economic momentum is mixed across New Zealand's trading partners. Economic activity in the US is more resilient and the labour market has remained robust, supporting consumer spending. US banking stress in early 2023 has been contained and an agreement to increase the US government debt ceiling was reached. In contrast, economic growth in China after the removal of most COVID-19 restrictions has been lower than expected. Lower global goods demand, ongoing weakness in the highly indebted Chinese property market and other long-term structural issues – such as a worsening skills mismatch in the labour market for youth – are constraining economic activity in China. • On balance, global economic growth is expected to remain below pre-COVID-19 levels over coming years, similar to what was anticipated in the May *Statement*. Several factors are assumed to dampen demand, including still-high inflation, high interest rates, and the normalisation of government spending from the high levels reached during the COVID-19 pandemic. A shift back towards services consumption given the removal of most COVID-19 restrictions reduces global demand for goods more than it does for services. • Overall, slowing global demand is reducing capacity and inflationary pressures. In addition, supply chains have normalised and the impact on global inflation of Russia's war against Ukraine has receded. Consequently, we expect that lower global inflation will result in lower imported inflation in New Zealand over time. • Expected future global monetary policy interest rates are significantly higher than assumed in the May *Statement*. This has narrowed the difference in interest rates between New Zealand and its trading partners, creating downward pressure on the TWI. However, the TWI has depreciated only slightly since the May *Statement*, supported by factors such as lower financial market volatility. • The TWI is assumed to remain at 71.0 over the projection.
International tourism	• Services exports, particularly tourism and education, have recovered rapidly since the border was reopened in 2022. We maintain a strong growth projection for service exports. The FIFA Women's World Cup in July and August 2023 is expected to have added noticeably to exports of tourism services in an otherwise seasonally quiet time of year. Additional spending by overseas tourists is contributing to capacity pressures across the transport, accommodation, and hospitality sectors. • We assume that tourism exports will have recovered to around 90 percent of their pre-pandemic levels in inflation-adjusted terms over the 2023/2024 summer season and will surpass pre-pandemic levels by the end of the projection.
House prices	• Monthly REINZ house prices fell around 15 percent in seasonally adjusted terms from their peak in November 2021 to March 2023. Since then, house prices have stabilised. • The stabilisation in house prices over the June 2023 quarter was earlier than anticipated in the May *Statement*. The rapid return of net immigration, an increase in the number of residents due to the one-off 2021 resident visa, strong employment and nominal wage growth, slower increases in retail mortgage interest rates and a relatively low number of houses available for sale have contributed to this recent stabilisation in house prices. • Consequently, we assume no further falls in house prices. We assume house prices grow gradually over the next year before increasing at a slightly faster pace in nominal terms over the remainder of the projection. • Although house prices have stabilised, they are significantly below their previous peak. This lower level of house prices is expected to flow through to less household spending over the projection, as aggregate household wealth has fallen substantially.

Economic growth	
Production	• We assume that production GDP grew by 0.5 percent in the June 2023 quarter, supported by continued recovery in services exports and temporarily strong goods exports. In particular, exceptionally good pasture growth conditions over the first half of 2023 have supported dairy and meat production and, consequently, goods exports. • Capacity pressures have reduced broadly as expected in the May *Statement*. However, they are still at an inflationary level. We estimate that the output gap peaked at 3.2 percent of potential GDP in the September 2022 quarter and has reduced to 0.8 percent of potential GDP in the June 2023 quarter. • These projections contain a shallow period of economic contraction. We project the economy to contract over the second half of 2023, as temporary supportive factors from the June 2023 quarter unwind, global growth slows, and high interest rates keep domestic demand subdued. However, quarterly changes in GDP are highly uncertain. Annual GDP growth is projected to be 0.0 percent in the December 2023 quarter. • Over the medium term, the productive capacity of the economy is expected to improve, increasing economic activity. In large part, this is supported by strong population growth through net immigration adding to labour supply. • We expect the output gap to close and become negative over the second half of 2023. An extended period of below-trend growth is expected to be necessary to see both our employment and inflation objectives met sustainably over the medium term.
Consumption	• Consumption is estimated to have slowed in the June 2023 quarter, reflecting weaker card spending data and changing seasonal factors related to international travel. • Over coming quarters, consumption is expected to slow further as households with mortgages continue to roll onto higher interest rates, and the effect of lower house prices continues to pass through. In addition, employment growth and wage inflation are forecast to slow. However, stronger net immigration is likely to provide some support for aggregate consumption and house prices. Consumption is expected to decline on a per capita basis to trough at around pre-pandemic levels by early 2024. • Over the later part of the forecast horizon, consumption is expected to recover, supported by declining interest rates and increasing house price inflation.
Investment	• Significant pressure on available resources has supported high levels of business investment over the last few years. • Business investment is expected to decline over coming quarters, due to high interest rates, declining export prices and easing capacity pressures. Global weakness is also likely to reduce business investment further by adding to uncertainty about future global demand. • Residential construction has been higher than anticipated in the May *Statement*. However, dwelling consents have fallen rapidly this year. Our projected decline in residential construction is consistent with current high mortgage interest rates, high construction costs and lower house prices relative to their peak in November 2021. Business contacts have suggested that these factors have led to a large decline in development pre-sales, which will lead to a significant reduction in residential construction over the next year. • Increased net immigration is assumed to support a lagged recovery in residential construction activity over the later part of the forecast horizon. We project the share of residential construction to potential GDP to return to pre-pandemic levels by the end of the forecast horizon.
Government	• We assume that government consumption and investment evolve in line with the macroeconomic and fiscal forecasts in the *Budget* 2023. • Government investment, particularly in infrastructure, is projected to increase considerably as rebuild and repair work associated with the severe weather events in the North Island in early 2023 continues. • Over the medium term, the sum of real government consumption and investment as a share of potential GDP is expected to continue to decline gradually from high levels. This means that government spending will be adding less to inflationary pressures over the forecast horizon.

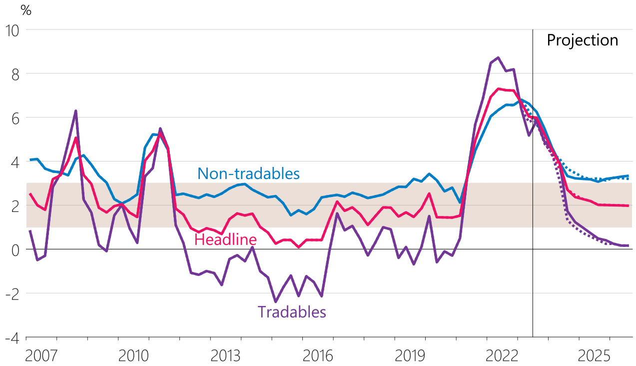
Exports and imports	• Goods export prices have weakened, reflecting softening global demand and increased supply. In particular, the volume of dairy products exported has increased due to exceptionally good pasture growth conditions in parts of New Zealand over the first half of 2023. This is expected to increase goods export volumes substantially in the June 2023 quarter. • The exceptionally good pasture growth conditions are not expected to persist. The global economic slowdown is also assumed to reduce demand for our goods exports. • In addition, many types of our goods exports have seen little or no volume growth for a number of years, even before the COVID-19 pandemic. This suggests that the industries producing these goods may have reached maturity and may not grow to the same extent as previously. This dynamic is visible for goods such as dairy; meat; metal products and machinery; wood and paper products; coal, petrol and ores; textiles and apparel. As a result, we expect goods exports to grow only modestly over the medium term and less than assumed in the May *Statement.* • International travel is recovering as expected. By the end of the projection, services exports are assumed to have surpassed pre-COVID-19 levels. • Non-oil import prices increased strongly over 2021 and 2022. However, recent GDP data and other indicators suggest that non-oil import prices fell over the first half of 2023 by more than anticipated in the May *Statement*. This is in line with slightly faster falls in global inflation, declining global goods demand and falling shipping costs. We assume this lower price level will persist and that non-oil import prices will decline only slightly more over the medium term. • The lower forecast for non-oil import prices is partially offset by a stronger outlook for oil import prices than assumed in the May *Statement*. Stronger oil prices have mainly resulted from Saudi Arabia and Russia reducing oil supply. In line with futures pricing, the price for Dubai oil is assumed to decline from around US$83 currently to around US$77 by the end of the projection.

Labour market	
Employment and wages	• The New Zealand labour market remains tight but has shown clearer signs of easing recently. The unemployment rate increased from 3.4 to 3.6 percent in the June 2023 quarter, while the number of employed people and the size of the labour force continued to grow strongly. Overall, our suite of labour market indicators provides consistent evidence that labour market pressures have been easing relative to last year. Still, employment remains above its maximum sustainable level. • Over the medium term, employment growth is projected to decline in line with slowing economic activity. Employment may fall below its maximum sustainable level for a time. These projections contain a modest decline in total employment, while the population continues to grow. The slowing in economic growth, together with gradual growth in the labour force, is expected to relieve labour market pressures. The unemployment rate is assumed to increase from low levels to around 5.3 percent in the first half of 2025, in line with the declining output gap. • Strong net immigration has been alleviating labour shortages. While immigrants fill existing job vacancies – increasing the number of employed people in the economy – high interest rates reduce new labour demand. Consequently, the number of job vacancies has been falling. • We assume that these factors reduce the overall bargaining power of workers when negotiating new wages. This reduces inflationary pressures, at least in the near term, without a large increase in the unemployment rate. In line with this, annual same-job wage inflation decreased from 4.5 to 4.3 percent in the June 2023 quarter, which was slightly lower than assumed in the May *Statement*. • Immigrants not only add to supply but also to demand. As a result, the net impact of immigration on inflation and over what period is uncertain (see chapter 4.1 for a more detailed discussion). • We expect same-job wage inflation to decline gradually over the medium term, as labour market pressures continue to ease. However, wage inflation is assumed to stay above pre-COVID-19 levels as nominal same-job wages continue to catch up with lost purchasing power as a result of high consumer price inflation in recent years.

Inflation	
Headline	• Annual headline CPI inflation is assumed to have peaked. It is assumed to remain at 6.0 percent in the September 2023 quarter, due primarily to higher fuel prices and local body rates, before declining further. • Annual headline CPI inflation is projected to return to within the 1 to 3 percent target band in the second half of 2024, reaching the 2 percent target midpoint in 2025.
Tradables	• Annual tradables inflation is assumed to have peaked and is projected to decline over the projection. Generalised easing of global inflationary pressures is assumed to reduce imported inflation. While petrol prices are expected to be higher in the September 2023 quarter, they are projected to gradually decline over the medium term. Similarly, non-oil import prices – including food prices – are forecast to gradually decline over the forecast horizon, contributing to the fall in tradables inflation. • Temporary reductions in the fuel excise tax ended on 30 June 2023. This will boost tradables inflation in the September 2023 quarter.
Non-tradables	• Annual non-tradables inflation is assumed to have peaked, but is still supported by ongoing domestic capacity pressures and strong wage growth. • Capacity pressures are expected to continue easing over 2023. High interest rates reduce domestic demand while the productive capacity of the economy improves, mainly because of strong net immigration. However, non-tradables inflation is assumed to decline only slowly, in light of only gradually reducing core inflation and inflation expectations.

Charts

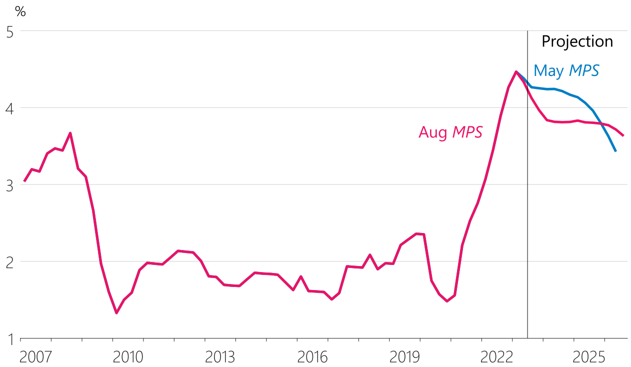
Figure 6.1
Inflation components
(annual)



Source: Stats NZ, RBNZ estimates.

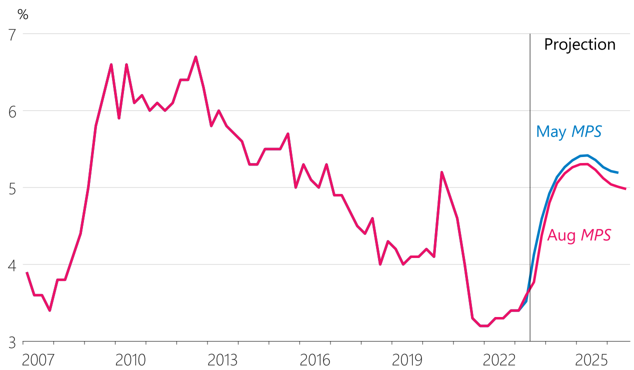
Note: Dotted lines show the projections from the May *Statement*. The shaded area represents the MPC's 1 to 3 percent target range for annual CPI inflation over the medium term.

Figure 6.2
Private sector LCI wage inflation
(annual)



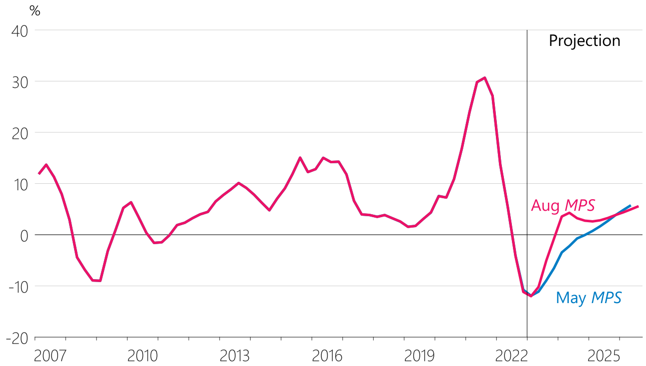
Source: Stats NZ, RBNZ estimates.

Figure 6.3
Unemployment rate
(unemployed people as a share of the labour force, seasonally adjusted)



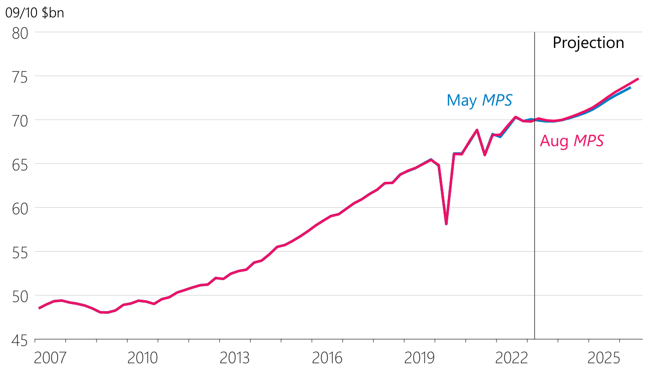
Source: Stats NZ, RBNZ estimates.

Figure 6.4
House price growth
(annual)



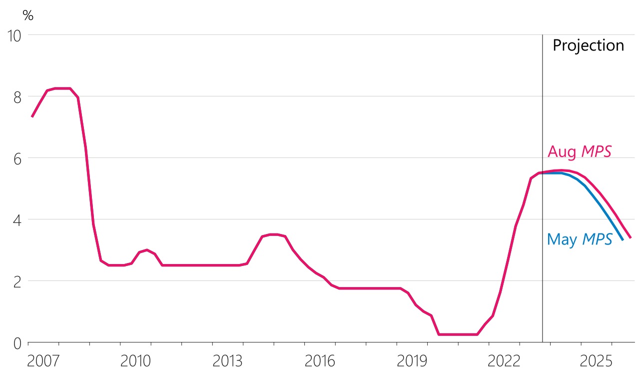
Source: CoreLogic, RBNZ estimates.

Figure 6.5
Production GDP
(quarterly, seasonally adjusted)



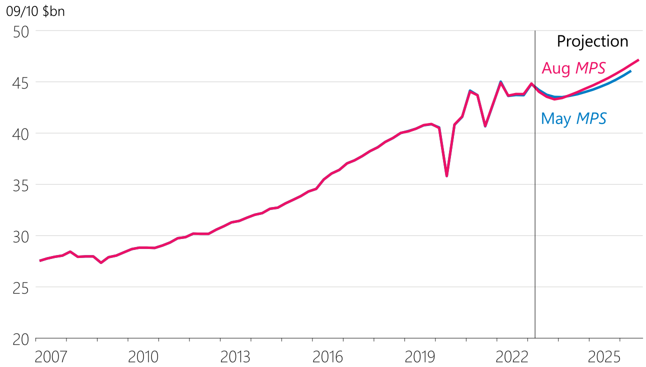
Source: Stats NZ, RBNZ estimates.

Figure 6.6
OCR
(quarterly average)



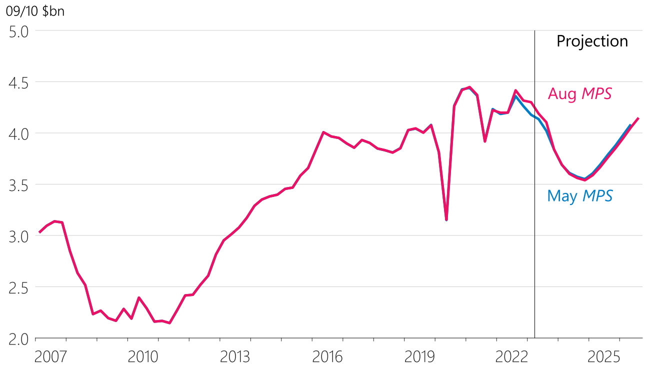
Source: RBNZ estimates.

Figure 6.7
Private consumption
(quarterly, seasonally adjusted)



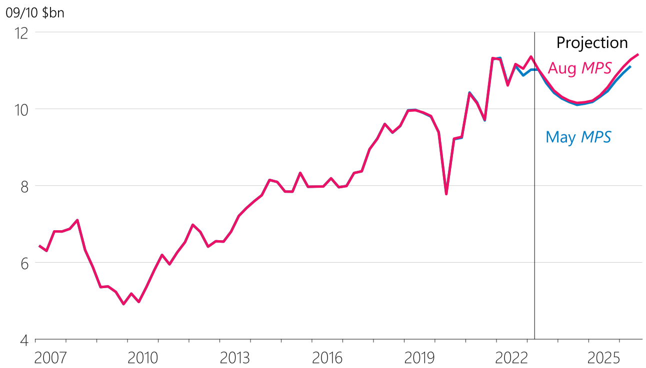
Source: Stats NZ, RBNZ estimates.

Figure 6.8
Residential investment
(quarterly, seasonally adjusted)



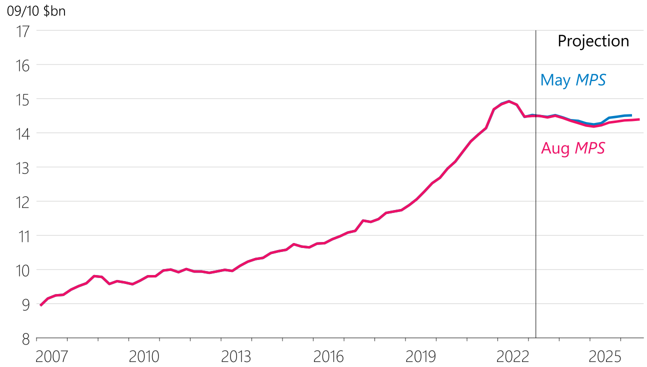
Source: Stats NZ, RBNZ estimates.

Figure 6.9
Business investment
(quarterly, seasonally adjusted)



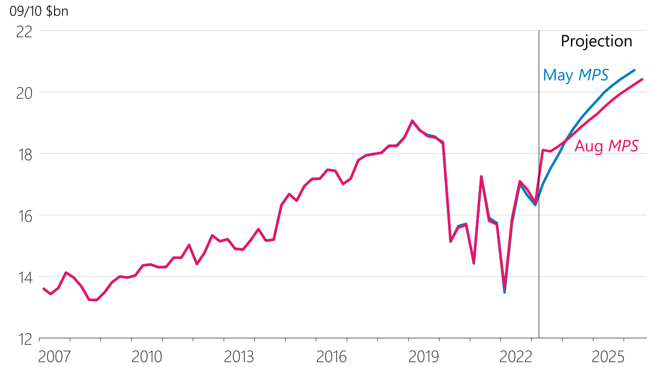
Source: Stats NZ, RBNZ estimates.

Figure 6.10
Government consumption
(quarterly, seasonally adjusted)



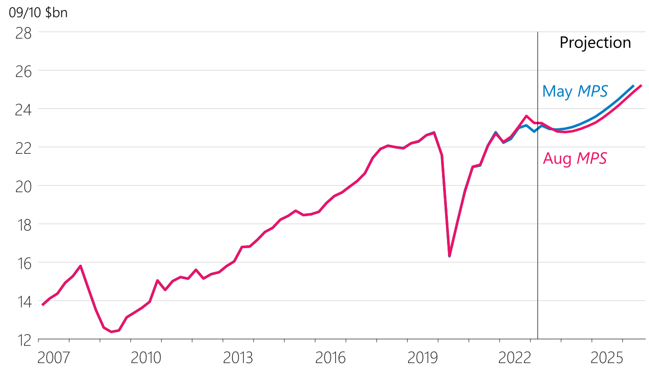
Source: Stats NZ, RBNZ estimates.

Figure 6.11
Total exports
(quarterly, seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

Figure 6.12
Total imports
(quarterly, seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

Appendices

CHAPTER 07

Blue Springs. Photo: Jinny Leong

CHAPTER 7
Appendices

Appendix 1: Statistical tables

Table 7.1
Key forecast variables

		GDP growth Quarterly	CPI inflation Quarterly	CPI inflation Annual	Unemployment rate	TWI	OCR
2021	Mar	2.3	0.8	1.5	4.6	74.9	0.3
	Jun	1.9	1.3	3.3	4.0	74.7	0.3
	Sep	-4.2	2.2	4.9	3.3	74.4	0.3
	Dec	3.5	1.4	5.9	3.2	74.3	0.6
2022	Mar	0.1	1.8	6.9	3.2	72.6	0.9
	Jun	1.5	1.7	7.3	3.3	72.1	1.6
	Sep	1.4	2.2	7.2	3.3	70.6	2.7
	Dec	-0.7	1.4	7.2	3.4	70.8	3.8
2023	Mar	-0.1	1.2	6.7	3.4	71.3	4.5
	Jun	**0.5**	1.1	6.0	3.6	71.0	5.3
	Sep	**-0.3**	**2.1**	**6.0**	**3.8**	**71.0**	**5.5**
	Dec	**-0.1**	**0.7**	**5.2**	**4.4**	**71.0**	**5.5**
2024	Mar	**0.2**	**0.6**	**4.5**	**4.8**	**71.0**	**5.6**
	Jun	**0.4**	**0.5**	**3.9**	**5.1**	**71.0**	**5.6**
	Sep	**0.5**	**0.9**	**2.7**	**5.2**	**71.0**	**5.6**
	Dec	**0.5**	**0.4**	**2.4**	**5.3**	**71.0**	**5.5**
2025	Mar	**0.6**	**0.5**	**2.3**	**5.3**	**71.0**	**5.4**
	Jun	**0.8**	**0.4**	**2.2**	**5.3**	**71.0**	**5.1**
	Sep	**0.9**	**0.8**	**2.0**	**5.2**	**71.0**	**4.8**
	Dec	**0.8**	**0.4**	**2.0**	**5.1**	**71.0**	**4.5**
2026	Mar	**0.7**	**0.5**	**2.0**	**5.0**	**71.0**	**4.1**
	Jun	**0.7**	**0.4**	**2.0**	**5.0**	**71.0**	**3.8**
	Sep	**0.7**	**0.8**	**2.0**	**5.0**	**71.0**	**3.4**

Table 7.2

Measures of inflation, inflation expectations, and asset prices

	2021	2022				2023		
	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep
Inflation (annual rates)								
CPI	5.9	6.9	7.3	7.2	7.2	6.7	6.0	
CPI non-tradables	5.3	6.0	6.3	6.6	6.6	6.8	6.6	
CPI tradables	6.9	8.5	8.7	8.1	8.2	6.4	5.2	
Sectoral factor model estimate of core inflation	4.2	4.7	5.1	5.5	5.8	5.8	5.8	
CPI trimmed mean (30 percent measure)	4.3	5.2	5.8	6.4	6.1	6.1	6.0	
CPI weighted median	3.8	3.9	4.8	5.0	5.0	5.6	6.6	
GDP deflator (expenditure)	5.3	6.1	5.8	5.2	4.9	5.7		
Inflation expectations								
ANZ Business Outlook – inflation 1 year ahead (quarterly average to date)	4.0	5.4	6.0	6.1	6.3	5.9	5.5	5.1
RBNZ Survey of Expectations – inflation 2 years ahead	3.0	3.3	3.3	3.1	3.6	3.3	2.8	2.8
RBNZ Survey of Expectations – inflation 5 years ahead	2.2	2.3	2.4	2.3	2.4	2.4	2.4	2.3
RBNZ Survey of Expectations – inflation 10 years ahead	2.0	2.1	2.1	2.1	2.2	2.2	2.3	2.2
Asset prices (annual percent changes)								
Quarterly house price index (CoreLogic NZ)	27.1	13.7	5.4	-4.2	-11.2			
REINZ Farm Price Index (quarterly average to date)	20.5	25.6	31.0	5.9	0.6	-3.5	-7.5	
NZX 50 (quarterly average to date)	3.0	-3.9	-9.0	-11.3	-12.8	-3.5	3.8	4.0

Table 7.3

Measures of labour market conditions

(seasonally adjusted, changes expressed in annual percent terms, unless specified otherwise)

	2021	2022				2023	
	Dec	Mar	Jun	Sep	Dec	Mar	Jun
Household Labour Force Survey							
Unemployment rate	3.2	3.2	3.3	3.3	3.4	3.4	3.6
Underutilisation rate	9.2	9.3	9.2	9.1	9.4	9.1	9.8
Labour force participation rate	71.0	70.9	71.0	71.6	71.8	72.0	72.4
Employment rate (percentage of working-age population)	68.7	68.6	68.6	69.3	69.4	69.6	69.8
Employment growth	3.3	2.5	1.3	1.2	1.7	2.9	4.0
Average weekly hours worked	33.3	33.4	33.7	33.8	34.0	33.6	33.4
Number unemployed (thousand people)	93	94	96	97	100	103	109
Number employed (million people)	2.82	2.82	2.81	2.85	2.87	2.90	2.93
Labour force (million people)	2.91	2.91	2.91	2.95	2.97	3.00	3.04
Extended labour force (million people)	2.99	3.00	3.00	3.02	3.05	3.09	3.13
Working-age population (million people, age 15 years+)	4.10	4.10	4.10	4.11	4.14	4.17	4.19
Quarterly Employment Survey – QES							
Filled jobs growth	4.1	4.3	1.5	1.5	1.3	2.2	6.5
Average hourly earnings growth (private sector, ordinary time)	4.1	5.3	7.0	8.6	8.1	8.2	7.7
Other data sources							
Labour cost index growth, private sector, adjusted	2.8	3.1	3.4	3.9	4.3	4.5	4.3
Labour cost index growth, private sector, unadjusted	4.5	5.0	5.2	5.6	6.1	6.1	6.1
Estimated net working-age immigration (thousands, quarterly)	-6.0	-7.1	-3.1	6.6	17.8	29.4	
Change in All Vacancies Index	31.0	22.8	3.4	7.4	-2.2	-16.6	-22.0

Note: The All Vacancies Index is produced by MBIE as part of the monthly Jobs Online report, which shows changes in job vacancies advertised by businesses on internet job boards. The unadjusted labour cost index (LCI) is an analytical index that reflects quality change in addition to price change (whereas the official LCI measures price changes only). For definitions of underutilisation, the extended labour force, and related concepts, see Statistics New Zealand (2016), '<u>Introducing underutilisation in the labour market</u>'. Estimated net working-age immigration is the Stats NZ outcomes-based measure.

Table 7.4

Composition of real GDP growth

(annual average percent change, seasonally adjusted, March years, unless specified otherwise)

	Actuals								Projection		
March year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Final consumption expenditure											
Private	4.2	6.5	4.8	4.5	2.4	-0.2	6.1	2.3	**-1.0**	**1.4**	**3.2**
Public authority	2.1	2.1	3.9	3.4	5.5	7.6	8.1	1.9	**-1.4**	**-1.5**	**0.3**
Total	**3.7**	**5.4**	**4.6**	**4.3**	**3.1**	**1.6**	**6.5**	**2.2**	**-1.1**	**0.7**	**2.5**
Gross fixed capital formation											
Residential	7.1	8.8	-1.8	-0.1	2.7	2.2	2.6	3.1	**-8.2**	**-9.7**	**6.6**
Other	2.2	0.0	10.1	7.2	2.8	-2.8	13.3	3.6	**-1.0**	**-1.5**	**3.5**
Total	**3.4**	**2.3**	**6.8**	**5.3**	**2.8**	**-1.6**	**10.6**	**3.5**	**-2.7**	**-3.3**	**4.1**
Final domestic expenditure	3.6	4.7	5.1	4.5	3.0	0.9	7.5	2.5	**-1.5**	**-0.3**	**2.9**
Stockbuilding*	-0.3	0.1	0.2	-0.2	-0.2	-0.3	0.6	-0.2	**-0.6**	**0.5**	**0.0**
Gross national expenditure	**3.2**	**4.8**	**5.6**	**4.4**	**2.7**	**-0.3**	**8.7**	**2.6**	**-1.9**	**0.2**	**2.9**
Exports of goods and services	6.9	2.0	3.8	3.3	0.2	-17.9	2.4	6.2	**10.0**	**4.2**	**4.5**
Imports of goods and services	3.1	5.2	7.8	4.8	1.2	-15.9	17.4	4.9	**-0.7**	**0.3**	**4.3**
Expenditure on GDP	**4.3**	**3.9**	**4.4**	**3.9**	**2.5**	**0.0**	**4.8**	**2.6**	**0.5**	**1.2**	**2.9**
GDP (production)	3.8	3.7	3.5	3.5	2.4	-0.7	5.2	2.9	**0.2**	**1.2**	**2.9**
GDP (production, March qtr to March qtr)	4.0	3.3	3.6	3.5	1.0	4.2	1.1	2.2	**0.3**	**2.0**	**3.2**

* Percentage point contribution to the growth rate of GDP.

Table 7.5

Summary of economic projections

(annual percent change, March years, unless specified otherwise)

	Actuals								Projection		
March year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Price measures											
CPI	0.4	2.2	1.1	1.5	2.5	1.5	6.9	6.7	**4.5**	**2.3**	**2.0**
Labour costs	1.8	1.5	1.9	2.0	2.4	1.6	3.1	4.5	**3.8**	**3.8**	**3.8**
Export prices (in New Zealand dollars)	0.7	4.1	3.3	1.2	7.0	-5.9	21.0	1.1	**-4.2**	**2.3**	**5.6**
Import prices (in New Zealand dollars)	0.5	1.3	1.7	4.1	2.5	-2.4	19.0	8.2	**-1.6**	**-0.8**	**-0.5**
Monetary conditions											
OCR (year average)	2.9	2.0	1.8	1.8	1.2	0.3	0.5	3.1	**5.5**	**5.5**	**4.7**
TWI (year average)	72.6	76.5	75.6	73.4	71.7	72.4	74.0	71.2	**71.0**	**71.0**	**71.0**
Output											
GDP (production, annual average % change)	3.8	3.7	3.5	3.5	2.4	-0.7	5.2	2.9	**0.2**	**1.2**	**2.9**
Potential output (annual average % change)	3.2	3.3	3.3	3.3	3.0	-0.7	3.2	2.9	**2.8**	**2.6**	**2.5**
Output gap (% of potential GDP, year average)	-0.2	0.2	0.4	0.7	0.1	0.1	2.1	2.1	**-0.4**	**-1.8**	**-1.5**
Labour market											
Total employment (seasonally adjusted)	2.3	5.9	2.9	1.5	2.6	0.1	2.5	2.9	**1.1**	**0.8**	**1.8**
Unemployment rate (March qtr, seasonally adjusted)	5.3	4.9	4.4	4.2	4.2	4.6	3.2	3.4	**4.8**	**5.3**	**5.0**
Trend labour productivity	0.7	0.6	0.6	0.7	0.8	0.7	0.5	0.3	**0.2**	**0.4**	**0.6**
Key balances											
Government operating balance* (% of GDP, year to June)	0.7	1.5	1.9	2.4	-7.3	-1.3	-2.6	**-1.7**	**-2.3**	**-1.3**	**0.0**
Current account balance (% of GDP)	-2.4	-2.6	-3.1	-3.8	-2.3	-2.7	-6.6	-8.4	**-6.8**	**-6.1**	**-4.6**
Terms of trade (SNA measure, annual average % change)	-2.6	2.1	4.5	-2.1	2.0	-1.0	0.4	-4.9	**-4.3**	**0.7**	**5.8**
Household saving rate (% of disposable income)	-0.8	-0.4	-0.5	0.3	2.6	8.9	2.9	**2.2**	**0.8**	**1.2**	**1.0**
World economy											
Trading-partner GDP (annual average % change)	3.4	3.5	3.9	3.5	1.7	-0.6	6.0	2.7	**2.8**	**2.7**	**3.2**
Trading-partner CPI (TWI weighted)	1.2	1.9	1.9	1.4	2.4	0.8	4.1	4.8	**2.8**	**2.1**	**2.2**

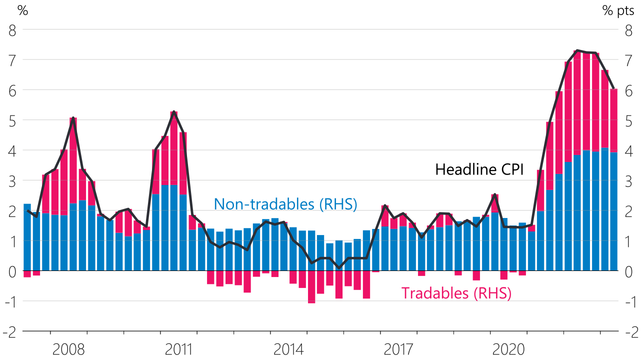
* Government operating balance is a model-based estimate of OBEGAL divided by nominal GDP in the projection. The estimate is partial because it relies on projections for some components from the *Budget* 2023.

Appendix 2: Chart pack

Figure 7.1

Composition of CPI inflation

(annual)

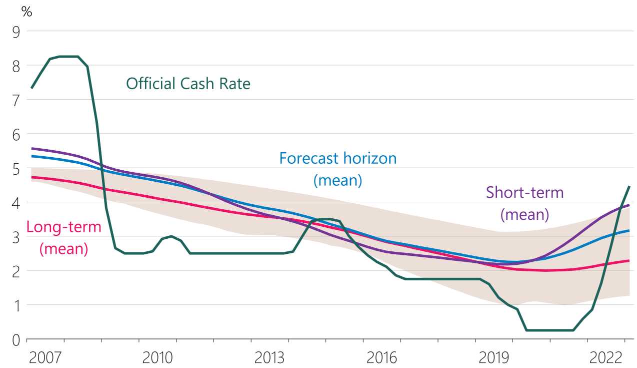


Source: Stats NZ.

Figure 7.4

OCR and nominal neutral OCR indicator suite

(quarterly average)



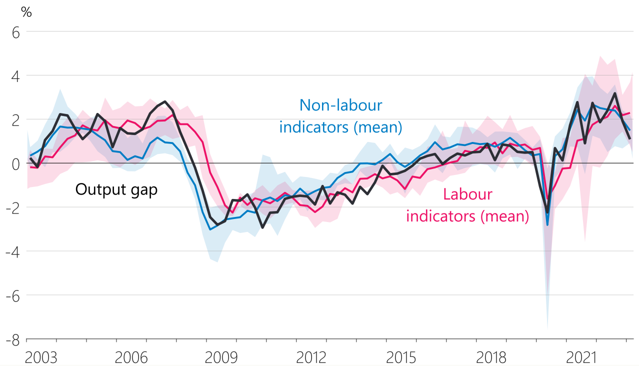
Source: RBNZ estimates.

Note: The shaded area indicates the range between the maximum and minimum values from our suite of long-run nominal neutral OCR indicators. See chapter 4.1 of the November 2022 *Statement* for more information.

Figure 7.2

Output gap and output gap indicators

(share of potential)



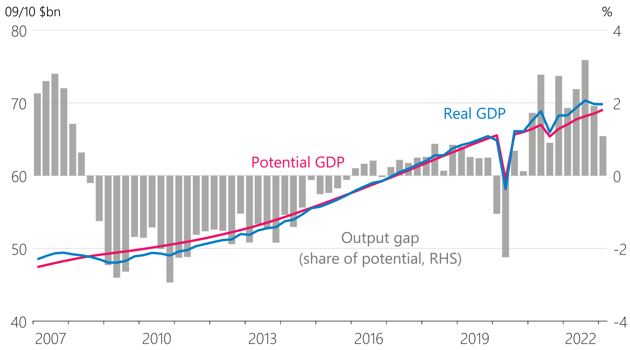
Source: NZIER, MBIE, Stats NZ, RBNZ estimates.

Note: The output gap indicators based on information about the labour market are shown separately from the other indicators. For each group of indicators, the shaded area shows the range of values and the line shows the mean value.

Figure 7.5

GDP and potential GDP

(seasonally adjusted)

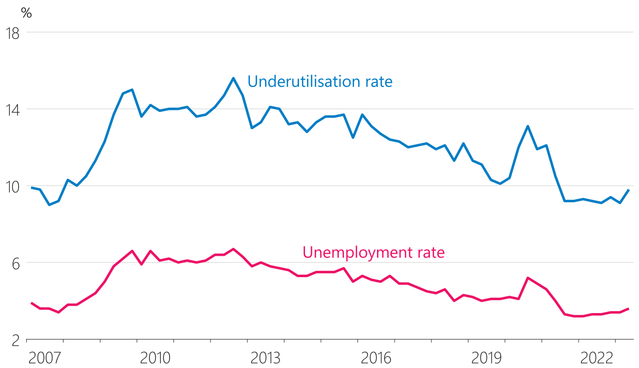


Source: Stats NZ, RBNZ estimates.

Figure 7.3

Unemployment and underutilisation rates

(seasonally adjusted)

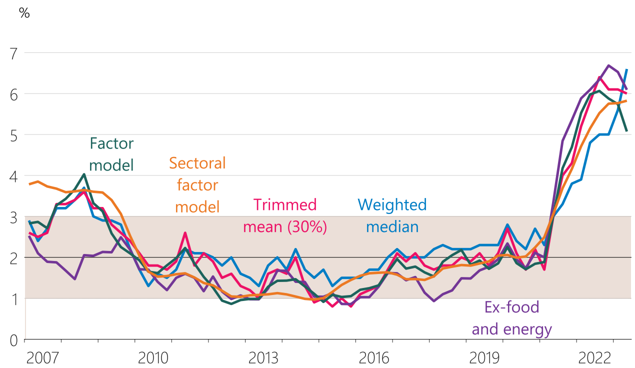


Source: Stats NZ.

Figure 7.6

Measures of core inflation

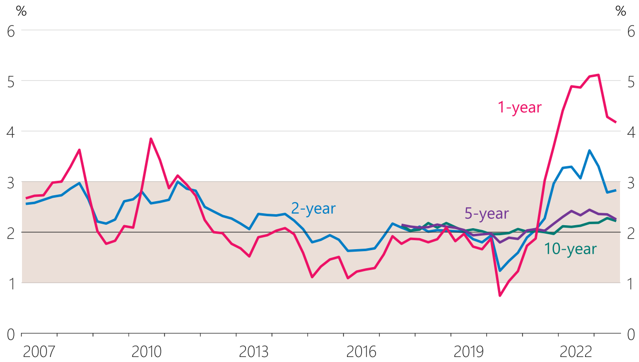
(annual)



Source: Stats NZ, RBNZ estimates.

Note: Core inflation measures exclude the GST increase in 2010. The shaded area represents the MPC's 1 to 3 percent target range for annual CPI inflation over the medium term.

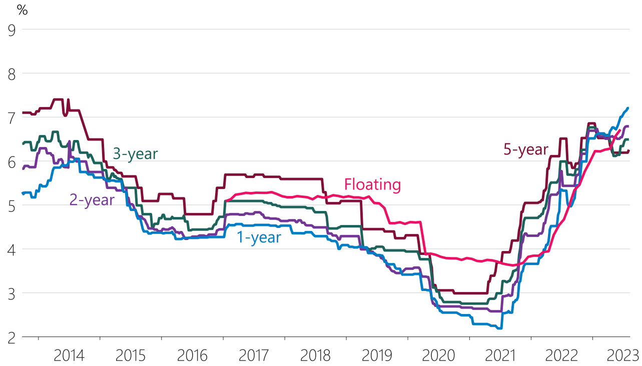
Figure 7.7
Inflation expectations
(annual, years ahead)



Source: RBNZ *Survey of Expectations (Business).*

Note: The shaded area represents the MPC's 1 to 3 percent target range for annual CPI inflation over the medium term.

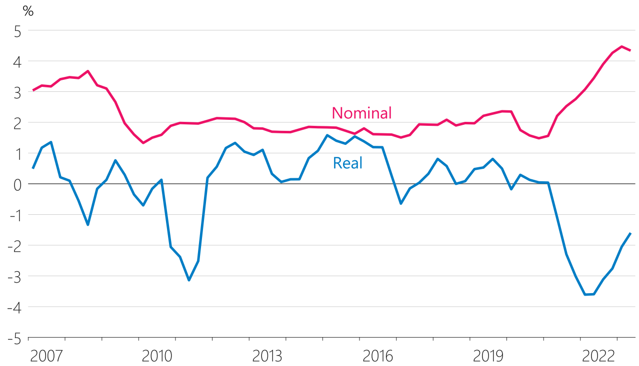
Figure 7.10
Mortgage interest rates



Source: interest.co.nz, RBNZ estimates.

Note: The rates shown for the fixed terms are the average of the advertised rates from ANZ, ASB, BNZ, and Westpac, shown as weekly data. The floating rate represents the monthly yield on floating housing debt from the RBNZ *Income Statement* survey.

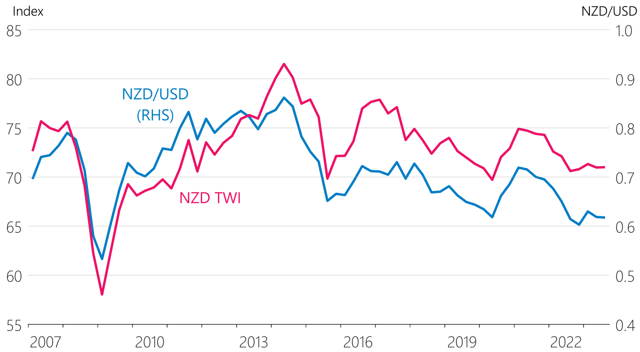
Figure 7.8
Private sector wage growth
(annual)



Source: Stats NZ, RBNZ estimates.

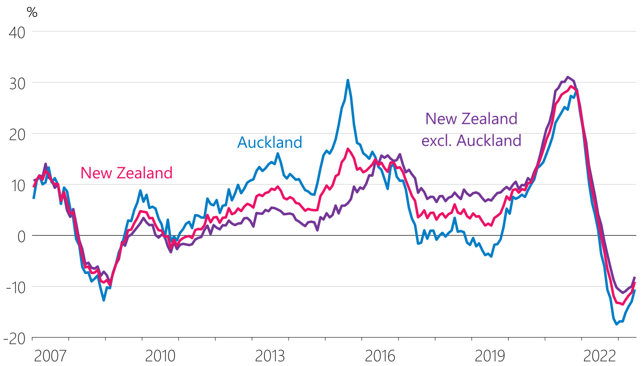
Note: Private sector wage growth is measured by the labour cost index, all salary and wage rates, private sector. Real labour cost index is deflated with headline CPI inflation.

Figure 7.11
New Zealand dollar exchange rates
(quarterly average)



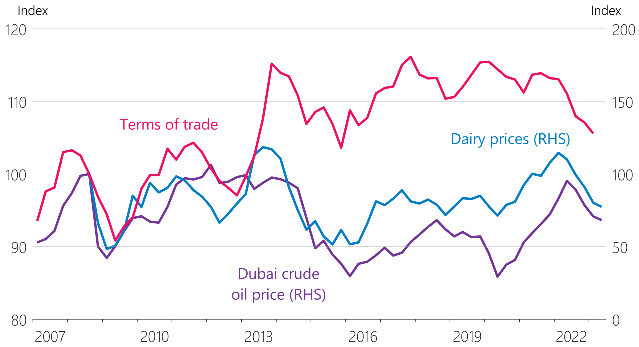
Source: NZFMA, RBNZ.

Figure 7.9
House price inflation
(annual, nominal)



Source: REINZ.

Figure 7.12
Terms of trade, dairy and oil price indices



Source: Stats NZ, Global Dairy Trade, Refinitiv, RBNZ estimates.

Reserve Bank
of New Zealand
Te Pūtea Matua