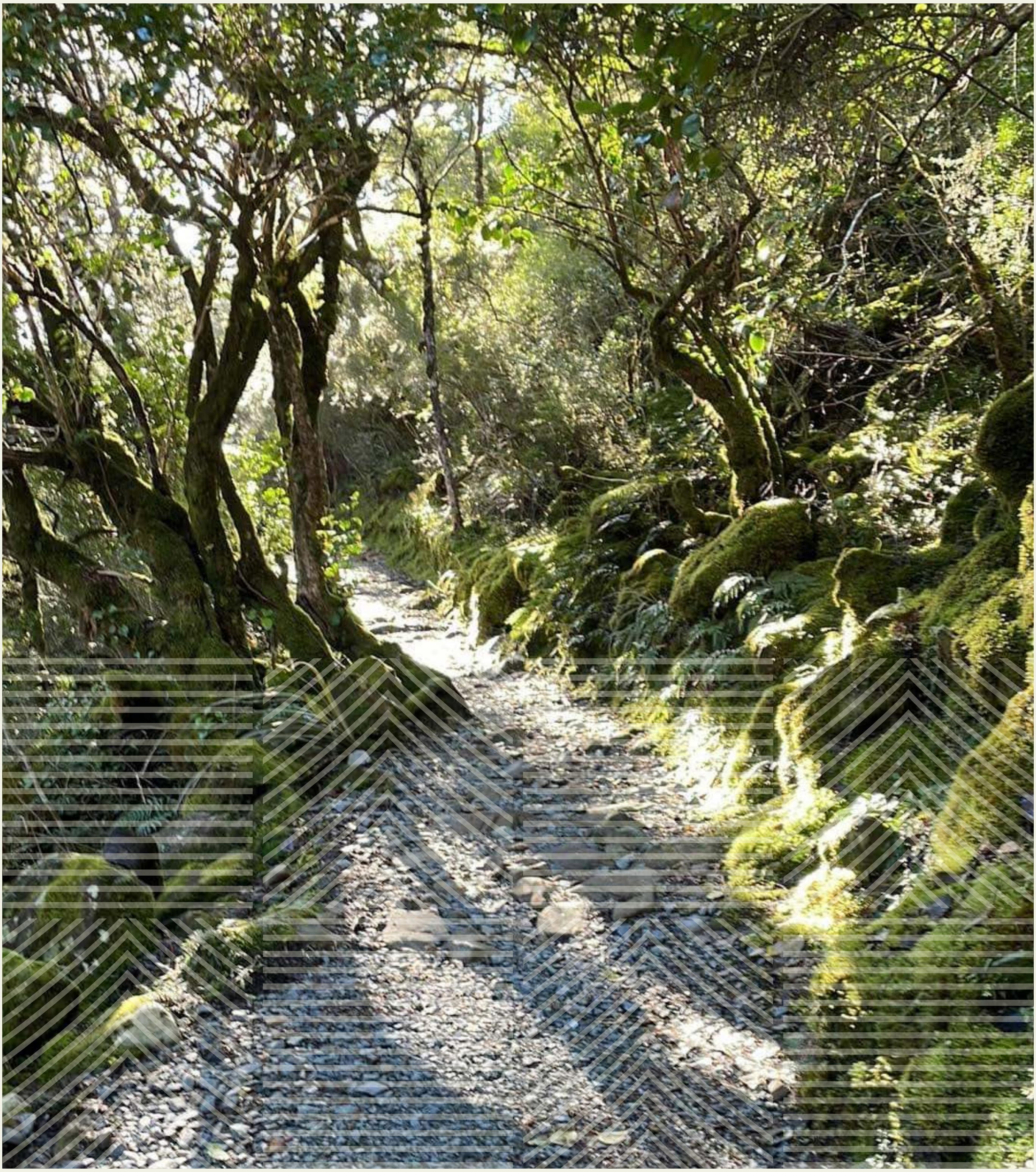
08/2022

Monetary Policy
STATEMENT

Reserve Bank
of New Zealand
Te Pūtea Matua



STATEMENT of the MPC's monetary policy strategy

The Monetary Policy Committee's (MPC's) monetary policy strategy is its overarching plan for how it will formulate monetary policy under different circumstances to achieve its objectives.[1] It outlines a consistent approach to how the MPC intends to achieve its objectives across time, accounting for trade-offs and uncertainty. Agreeing on and publishing a strategy promotes transparency, public understanding, and accountability.

Monetary policy framework and objectives

Under the *Reserve Bank of New Zealand Act 1989* (the Act), the MPC is responsible for formulating monetary policy to maintain a stable general level of prices over the medium term and to support maximum sustainable employment.[2] Operational objectives for monetary policy are set out in the *Remit*. The current *Remit* sets out a flexible inflation targeting regime, under which the MPC must set policy to:

- keep future annual inflation between 1 and 3 percent over the medium term, with a focus on keeping future inflation near the 2 percent mid-point; and
- support maximum sustainable employment, considering a broad range of labour market indicators and taking into account that maximum sustainable employment is largely determined by non-monetary factors.

In pursuing these objectives, the *Remit* requires the MPC to have regard to the efficiency and soundness of the financial system, seek to avoid unnecessary instability in the economy and financial markets, and discount events that have only transitory effects on inflation. The MPC must also assess the effects of its monetary policy decisions on the Government's policy to support more sustainable house prices.

The Reserve Bank's flexible inflation targeting framework and the MPC's monetary policy strategy reflect the fact that:

- low and stable inflation is monetary policy's best long-run contribution to the well-being of New Zealanders;
- in the short to medium term, monetary policy can influence real variables such as employment, and hence policy trade-offs can arise; and
- monetary policy is more effective if the Bank's policy targets are credible, so policy should be formulated in a way that ensures credibility is maintained.

Key aspects of monetary policy strategy

The MPC **practises forecast targeting**, which means that it sets monetary policy such that it expects to achieve its inflation and employment goals in the medium term. In most instances the MPC aims to return inflation to the target mid-point within a one- to three-year horizon. The appropriate horizon at each policy decision will vary based on how different policy paths will contribute to maximum sustainable employment, whether price-setters' expectations are consistent with the inflation target, and other considerations such as the balance of risks to the MPC's central economic outlook.

1 For a more in-depth discussion of monetary policy strategy in New Zealand, see J. Ratcliffe and R. Kendall (2019), 'Monetary policy strategy in New Zealand', Reserve Bank of New Zealand, *Bulletin*, Vol. 82, No. 3, April.

2 These economic objectives contribute to the overall purpose of the Act, which is to promote the prosperity and well-being of New Zealanders, and contribute to a sustainable and productive economy. See monetary policy framework for more information on New Zealand's monetary policy framework, including the full text of the *Remit*.

The MPC does not attempt to return inflation and employment to target immediately, because monetary policy actions take time to transmit through the economy. Attempting to return inflation to target too quickly would result in unnecessary instability in the economy and financial markets. The 1 to 3 percent target range for inflation provides the MPC with flexibility to ensure that managing inflation variability does not come at the cost of excessive variability in the real economy. For similar reasons, the MPC does not attempt to offset events that are expected to have only transitory effects on inflation.

The MPC **takes into account both its inflation and employment objectives** when setting policy. In the long run, no trade-off exists between the MPC's objectives. In the short to medium term, there may be situations where monetary policy can move one objective closer to target only at the cost of the other, resulting in a trade-off. When a trade-off does arise, the MPC will consider outcomes for both objectives in setting policy. In general, if employment is projected to be below its long-run sustainable level, the MPC would let inflation overshoot the target mid-point for a time, and vice versa (while staying within the 1 to 3 percent target range).

The MPC **responds to both deviations above target and deviations below target**. The MPC sets policy to stabilise employment near its maximum sustainable level, and to return inflation near to the target mid-point, regardless of whether inflation is currently below or above 2 percent. This approach helps to anchor inflation expectations at the target mid-point and promotes sustainable growth and employment by dampening fluctuations in the business cycle.

The MPC **considers the balance of risks** to its objectives that arise from uncertainty about the economic outlook and the transmission of its policy decisions. In general, the MPC will incorporate likely future developments into its central economic projections and set monetary policy in response. However, the MPC will also take into account risks to its central projections when setting policy. Under extreme uncertainty, the MPC may choose to publish scenarios instead of central projections to illustrate the range of possible situations and economic outcomes that could occur when circumstances are highly unpredictable.

The MPC **has regard to the efficiency and soundness of the financial system**, while recognising that in most instances prudential policy is better suited to leaning against risks to financial stability. The Reserve Bank takes prudential policy settings into account when setting monetary policy, and vice versa.

Implementation of strategy

The MPC applies the following process when formulating a policy decision:

1. Firstly, it assesses the outlook for the economy and the implications for its policy objectives. It then discusses risks to achieving its policy objectives.
2. Next, it considers which stance of monetary policy is most consistent with its monetary policy strategy given the current economic outlook, risks, and trade-offs.
3. Finally, the MPC decides how it will achieve the desired stance of monetary policy, including whether or not to adjust its policy settings at the current meeting and how it will communicate the policy outlook. The MPC has a suite of monetary tools to achieve its goals, and uses its Principles for Monetary Tools to make decisions on which tools to deploy.

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Thank you to RBNZ staff for photography in this report.

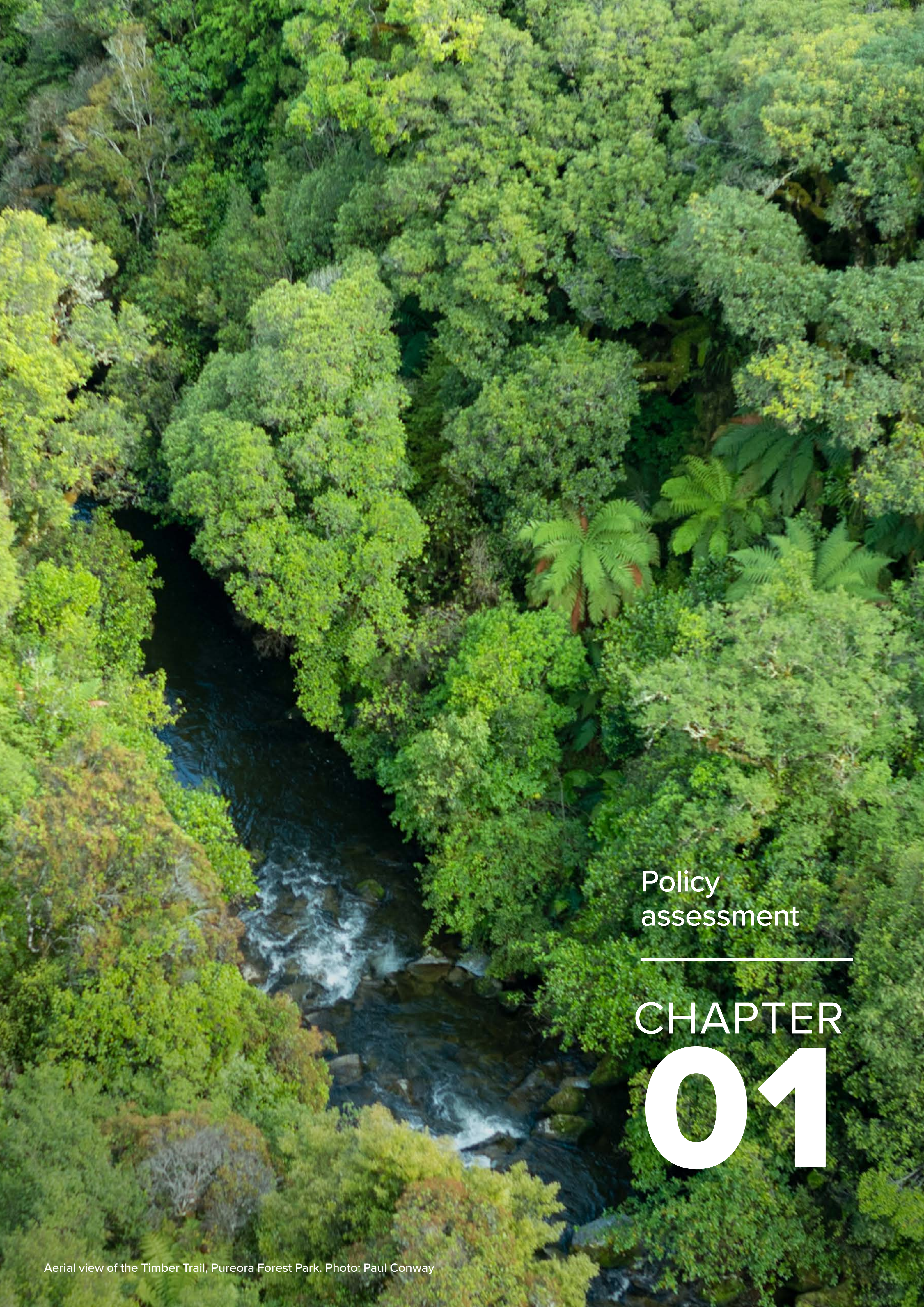
Cover image: Arthur's Pass. Photo: Rebecca Williams

08/2022

Monetary Policy STATEMENT

Contents

The projection was finalised on 12 August 2022. 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 17 August 2022.



Policy assessment

CHAPTER 01

Aerial view of the Timber Trail, Pureora Forest Park. Photo: Paul Conway

CHAPTER 1
Policy assessment

Tēnā koutou katoa, welcome all.

The Monetary Policy Committee today increased the Official Cash Rate (OCR) to 3 percent from 2.5 percent. The Committee agreed it remains appropriate to continue to tighten monetary conditions at pace to maintain price stability and contribute to maximum sustainable employment. Core consumer price inflation remains too high and labour resources remain scarce.

Global consumer price inflation has continued to rise, albeit with some recent reprieve from lower global oil prices. The war in Ukraine continues to underpin high commodity prices, with global production costs and constraints further exacerbated by supply-chain bottlenecks due to the ongoing COVID-19 health challenge. The outlook for global growth continues to weaken, reflecting the ongoing tightening in global monetary conditions.

In New Zealand, domestic spending has remained resilient to global and local headwinds to date. Spending levels are supported by a robust employment level, continued fiscal support, an elevated terms of trade, and sound household balance sheets in aggregate.

However, production is being constrained by acute labour shortages, heightened by seasonal and COVID-19 related illnesses. In these circumstances, spending and investment continues to outstrip supply capacity, and wage pressures are heightened. A range of indicators highlight broad-based domestic pricing pressures.

Committee members agreed that monetary conditions needed to continue to tighten until they are confident there is sufficient restraint on spending to bring inflation back within its 1-3 percent per annum target range. The Committee remains resolute in achieving the *Monetary Policy Remit*.

Meitaki, thanks.

Adrian Orr
Governor

SUMMARY
Record of meeting

The Monetary Policy Committee discussed developments affecting the outlook for inflation and employment in New Zealand. Consumer price inflation is currently too high and labour remains scarce. The Committee agreed to continue increasing the Official Cash Rate (OCR) at pace to achieve price stability and to support maximum sustainable employment. The Committee is resolute in its commitment to ensure consumer price inflation returns to within the 1 to 3 percent target range.

The Committee judged that the global economic outlook has weakened since May, reflecting tightening financial conditions, ongoing geopolitical tensions, and continued disruption to global supply of goods and services. The war in Ukraine has put upward pressure on global commodity prices, especially oil and food, and disrupted global trade. Lockdowns in some Chinese cities to combat the spread of COVID-19 has contributed to supply-chain bottlenecks and shipping times and costs remain elevated.

Inflation is at the highest level in many decades in most advanced economies, due to disrupted and curtailed global supply coupled with a strong recovery of demand following the disruptions and uncertainties caused by earlier phases of the pandemic. Most central banks are raising interest rates, in many cases at a much faster pace than has been seen in recent history. Higher interest rates abroad have placed downward pressure on New Zealand's exchange rates, making our imports more expensive while supporting exporter returns.

Developments in the New Zealand economy were discussed by the Committee. Demand has remained resilient to global and domestic headwinds to date. However, output is being constrained by the disrupted global supply of goods and services and acute labour shortages, made worse by high levels of sickness from COVID-19 and other illnesses.

Members discussed the outlook for domestic demand. Residential construction activity has been strong, but the Committee discussed downside risks to future construction activity, with some construction firms reporting a fall in forward orders. Business surveys and direct reports from businesses suggest a more general slowing in business activity in the coming months. However, inbound international tourism is recovering from a low base and that is expected to provide some offset to weaker domestic spending.

Household balance sheets on the whole are strong, but higher interest rates and rising costs of living are putting pressure on household finances, and are expected to reduce household spending and house prices. House prices have steadily dropped from high levels since November last year, and are expected to keep falling over the coming year towards more sustainable levels.

Production capacity pressures remain. In particular, labour shortages are a major constraint on business activity. Wage growth has continued to pick up in line with tightness in the labour market, and there is some evidence from discussions with businesses that firms are increasing wages more frequently. However, hourly wage rates are rising more slowly than inflation. The Committee was encouraged by recent declines in survey measures of inflation expectations, but remains alert to the risk of a more pronounced change in wage and price setting behaviour.

The Committee discussed the outlook for fiscal policy, and noted upside risks to overall government spending due to the rising cost of delivering government services.

The Committee expects some easing of the rate of inflation in the near term due to falling petrol prices and stabilisation in international shipping costs. However, inflation pressures have broadened and measures of core inflation have increased. Nevertheless, inflation is expected to return to the Committee's 1-3 percent target range by the middle of 2024, but this will require a better balance between supply and demand.

The Committee discussed changes in the level of commercial bank cash balances held at the central bank. Noting current high levels, the Committee discussed the factors influencing those balances, including the Large Scale Asset Purchases (LSAP) and Funding for Lending programmes (FLP). Both of these programmes provided monetary stimulus through lowering longer-term interest rates.

The Committee noted that the volume of commercial bank lending is determined by several factors including customer demand for loans, banks' perception and appetite for risk, and prudential requirements on banks' capital, cash and other liquid assets and funding. The LSAP and FLP programmes did support bank funding and liquidity positions, but there is no evidence that this is currently having a direct impact on lending activity over and above their impact on interest rates. Credit growth is modest in the context of rising interest rates. Settlement cash balances will gradually reduce as the Reserve Bank sells back government bonds to the government as the LSAP programme is unwound.

The drawdown window of the FLP will expire in early December, and some further usage of the programme is expected in the coming months. In total, the programme will fund no more than 6 percent of bank lending. The programme has lowered funding costs for banks, which has contributed to lower lending rates for borrowers and provided additional stimulus to the economy while the OCR was low. However, the Committee sets policy to achieve the overall desired level of monetary conditions, and has offset the impact of the FLP with a higher OCR as monetary policy stimulus has been removed. The Bank's experience using monetary policy instruments such as LSAP and FLP will be reviewed as part of the five-yearly Review and Assessment of the Formulation and Implementation of Monetary Policy.

The Committee discussed the possibility that neutral interest rates may be higher. For example, market-based estimates of neutral nominal interest rates have increased over the past year. Staff will be undertaking further work to review their estimates.

The Committee agreed that further increases in the OCR were required in order to meet their Remit objectives, and discussed the appropriate pace at which to raise rates. The Committee discussed whether more rapid increases could improve the credibility of the inflation target and reduce the risk of a significant increase in inflation expectations. However, the Committee agreed that maintaining the recent pace of tightening remains the best means by which to meet their Remit.

The Committee noted that a number of central banks had increased interest rates by more than 50 basis points recently, but that most of these countries had started increasing interest rates later than New Zealand did and were often starting at a lower level of interest rates.

The Committee agreed that domestic inflationary pressures had increased since May and to further bring forward the timing of OCR increases. The Committee agreed to continue increasing the OCR until it is confident that monetary conditions are sufficient to maintain expectations of low inflation in the longer term and bring consumer price inflation to within the target range. The Committee viewed this strategy as consistent with achieving their primary inflation and employment objectives without causing unnecessary instability in output, interest rates and the exchange rate.

On Wednesday 17 August, the Committee reached a consensus to increase the OCR to 3 percent from 2.5 percent.

Attendees:

Reserve Bank members of MPC:

Adrian Orr, Christian Hawkesby, Karen Silk, Adam Richardson

External MPC members:

Bob Buckle, Peter Harris, Caroline Saunders

Reserve Bank observer:

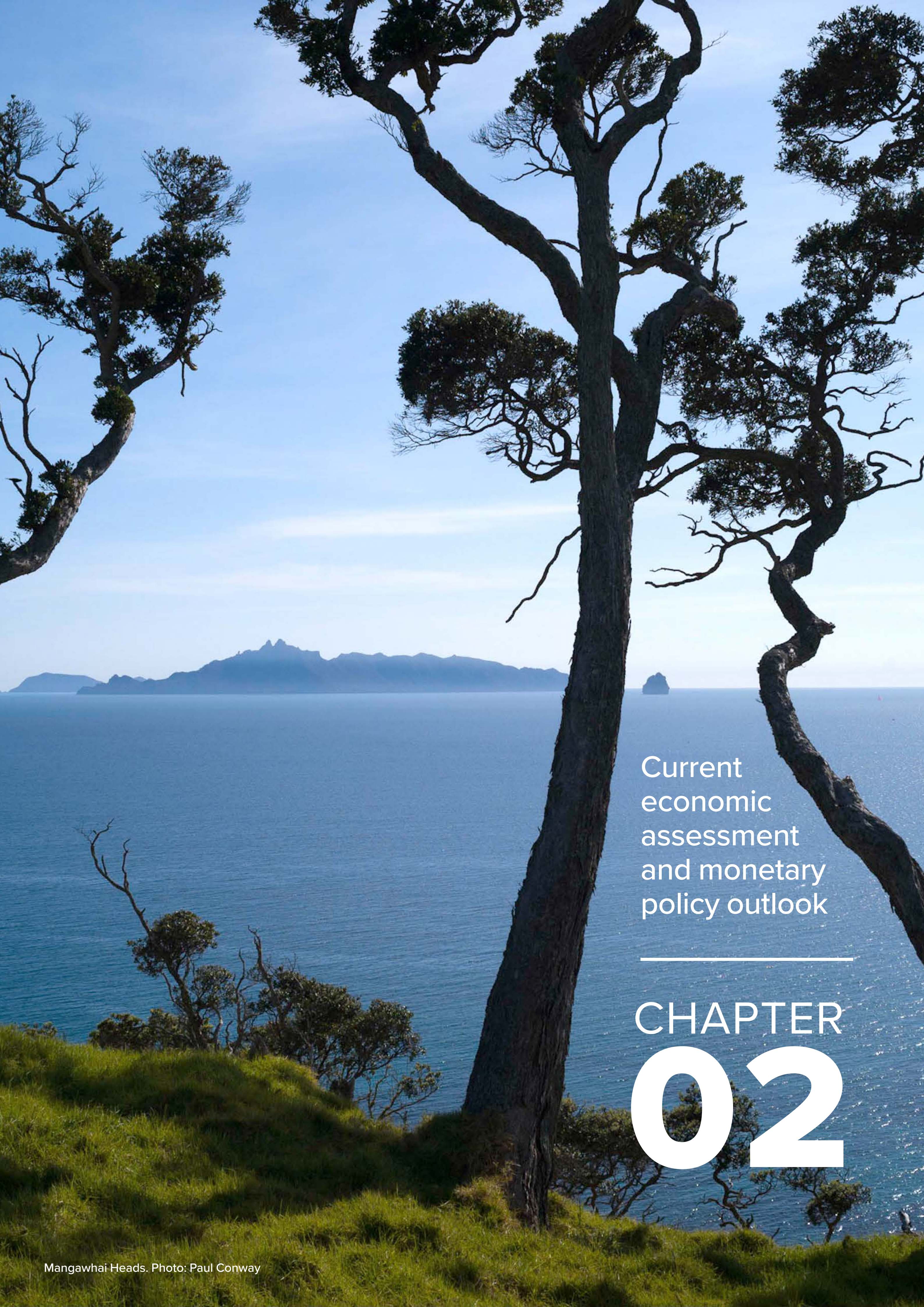
Paul Conway

Treasury Observer:

Dominick Stephens

MPC Secretary:

Chris Bloor



Current economic assessment and monetary policy outlook

CHAPTER 02

Mangawhai Heads. Photo: Paul Conway

CHAPTER 2
Current economic assessment and monetary policy outlook

Key points

- Demand in the New Zealand economy has remained resilient to global and domestic headwinds to date. Household spending has held up over the first half of 2022, despite low consumer confidence and high inflation. Overall household budgets have been bolstered by high levels of employment, savings built up during COVID-19 lockdowns, and government support payments. However, there are very early signs that spending growth may be slowing.
- The New Zealand economy is being constrained by acute labour shortages, made worse by high levels of sickness from COVID-19 and other illnesses. The unemployment rate is very low at 3.3 percent. Global and local supply-chain bottlenecks for some materials are also limiting and delaying production of goods, and adding to overall costs.
- Consumers Price Index (CPI) inflation has continued to increase. Due to a mix of domestic and international factors, annual inflation was 7.3 percent in the June 2022 quarter – well above the MPC's 1 to 3 percent target band. Measures of persistent or 'core' inflation have also increased. Expectations for inflation one, two and five years ahead have eased recently, but remain elevated relative to history.
- Global events have been a significant contributor to high headline inflation in New Zealand in recent quarters. The war in Ukraine initially resulted in sharp increases in the prices of oil and other commodities, including food. International trade patterns have been impacted by the war and by COVID-19-related lockdowns in major Chinese cities, adding to production and trade bottlenecks.
- Central banks around the world have responded to high inflation by raising interest rates, often rapidly. Higher interest rates globally have placed downward pressure on the New Zealand dollar trade-weighted index (TWI) exchange rate. A lower New Zealand dollar over the first half of 2022 supported incomes for exporters, and made our imported goods and services more expensive. Annual tradables inflation was 8.7 percent in the June 2022 quarter.
- The very tight labour market is adding to high CPI inflation. Wage growth is increasing, adding to business costs but supporting household spending. Annual non-tradables inflation was 6.3 percent in the June 2022 quarter.
- In response to rising inflationary pressures and a tight labour market, the MPC began tightening monetary policy from mid-2021. The MPC has been increasing the Official Cash Rate (OCR) since October 2021, to bring demand in the economy to a more sustainable rate of growth. So far, tighter monetary policy has contributed to a decline in nationwide house prices, and supported a higher New Zealand dollar exchange rate than otherwise.

- However, a period of more moderate growth is needed to better match demand with production capacity in New Zealand. Higher interest rates are intended to slow the pace of household and business spending growth, with the usual lag of several quarters. In parallel, global growth is expected to ease as central banks respond to higher inflationary pressure in their own economies. Lower global activity will reduce demand for our exports, and eventually lead to lower import prices.
- Conditional upon our central economic outlook, the OCR is projected to increase by more than was assumed at the time of the May *Statement*. The higher outlook for interest rates reflects stronger inflationary pressures (global and domestic) than had been previously assumed. These pressures more than offset the weaker outlooks for the housing sector and global growth. Higher interest rates will ensure that demand growth slows enough for the MPC to meet its employment and inflation objectives.

Current economic assessment

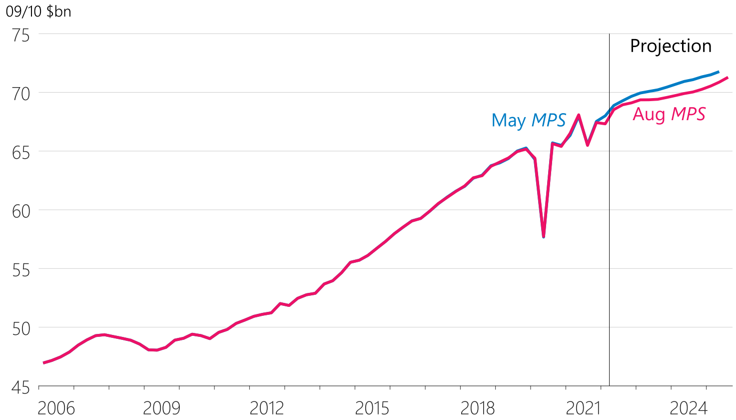
Demand has remained resilient to economic headwinds to date

Underlying demand in the New Zealand economy has remained resilient to date, although there are early signs that growth may be slowing. High levels of government expenditure, ongoing construction activity, and elevated world prices for our commodity exports have underpinned economic growth. While quarterly GDP growth was weaker over the first three months of this year than previously assumed (figure 2.1), much of this weakness was likely due to significant capacity constraints associated with high COVID-19 case numbers. Additionally, the increase in government consumption in the March quarter 2022 was smaller than indicated in the 2022 *Budget*.

Household consumption increased 4.6 percent in the March 2022 quarter. This quarterly increase was higher than otherwise due to changing seasonal factors since the onset of the COVID-19 pandemic. More recent electronic card transaction data indicate that nominal spending held up at a national level during the June quarter (figure 2.2), despite weak consumer confidence. Spending growth is showing very early signs of slowing in the latest monthly data.

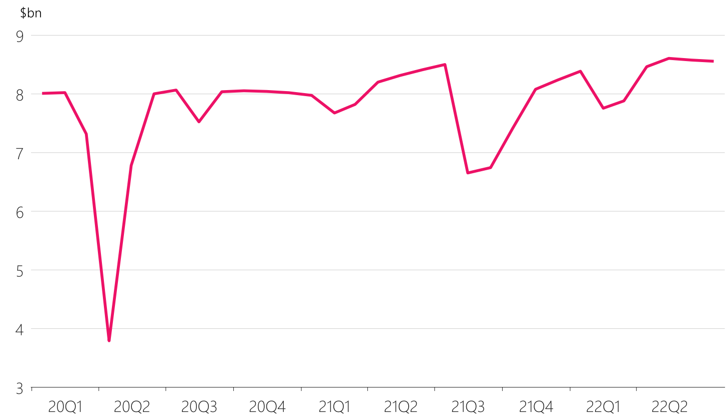
High employment (figure 2.3) and savings built up during lockdowns have boosted household balance sheets on aggregate. In the near term, the Government's Cost of Living Payment – being transferred to a large share of New Zealand's adult population – will boost household spending temporarily. Although aggregate spending appears resilient there will be many households throughout New Zealand finding current economic conditions very challenging as the rising cost of living has outpaced income growth.

Figure 2.1
Production GDP
(real, seasonally adjusted)



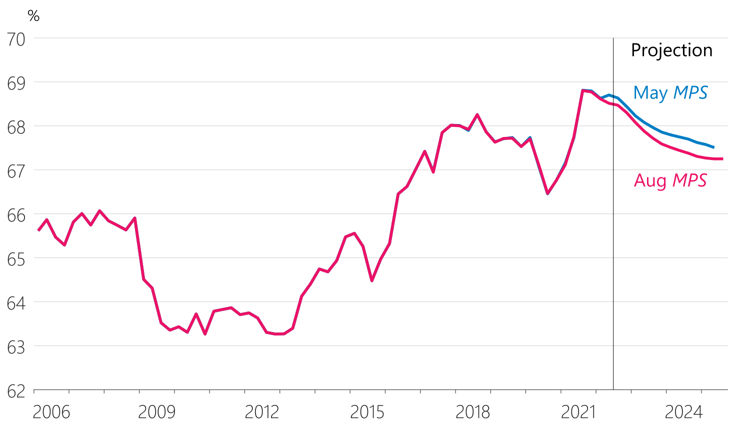
Source: Stats NZ, RBNZ estimates.

Figure 2.2
Electronic card transactions
(nominal, seasonally adjusted)



Source: Stats NZ.

Figure 2.3
Employment rate
(seasonally adjusted, share of working-age population)



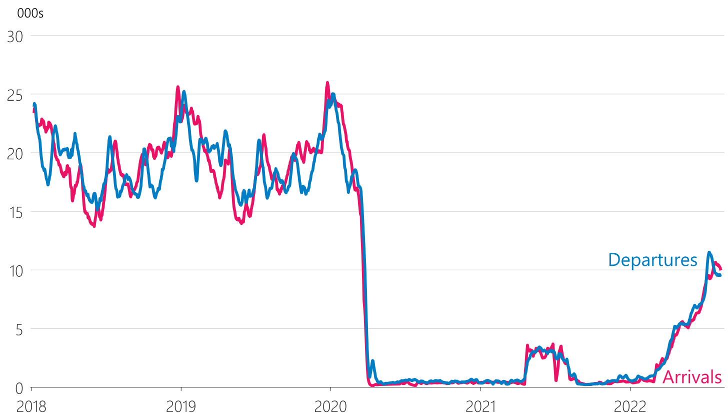
Source: Stats NZ, RBNZ estimates.

Construction sector activity has remained at a high level, although the outlook for residential construction has weakened as forward orders have slowed. While there have been declines in some of New Zealand's export prices recently, global demand for our goods exports has stayed relatively strong. This has supported exporters' incomes and industries that serve agricultural producers. The recent increase in international visitor arrivals following the full reopening of New Zealand's border will likely have provided a boost to demand for our tourism and hospitality sectors (figure 2.4). However, this will be partly offset by more New Zealanders travelling and spending abroad.

Figure 2.4

Air passenger arrivals and departures

(7-day moving average)



Source: NZ Customs.

Output is being constrained by labour shortages

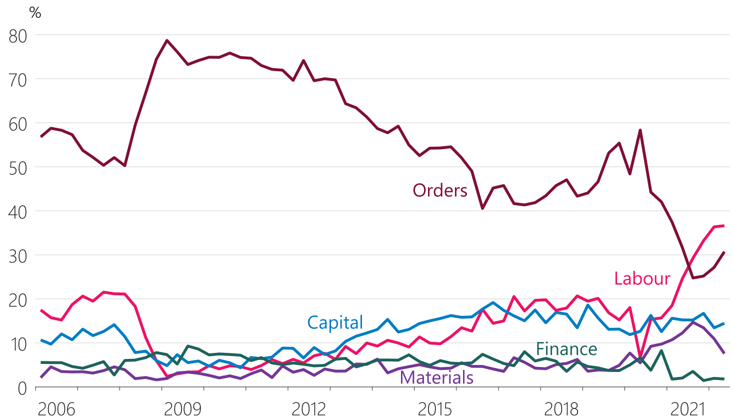
Although underlying demand has remained resilient, output is being held back by widespread labour shortages. In the Quarterly Survey of Business Opinion (QSBO), businesses are reporting that labour is the factor most limiting production (figure 2.5). Labour shortages are being worsened by workers having to stay home sick or to care for sick family members, due to COVID-19 and other winter illnesses. More people are leaving New Zealand than new migrants are arriving, so net migration has also been negative since 2020 and made labour shortages worse. Many businesses are having to cut output, shorten hours or close temporarily because they can't find enough staff (see section 3.3).

Acute labour and materials shortages in the construction sector have constrained activity and added to inflationary pressures, as discussed later in this chapter. The number of building consents issued had been rising strongly since late 2020 with the level of consent issuance recently reaching a record level. However, the rate of translation of consents into completions appears to have slowed down, and the level of new consents has declined slightly in recent months (figure 2.6).

Figure 2.5

QSBO factor most limiting production

(seasonally adjusted)

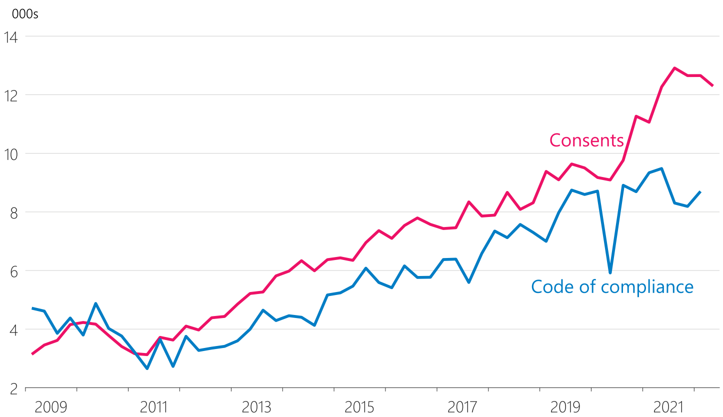


Source: NZIER, RBNZ estimates.

Figure 2.6

Building consents and code of compliance certificates issued

(seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

Employment is well above its maximum sustainable level

Acute labour shortages have resulted in an increase in staff turnover, with businesses finding it increasingly difficult to retain staff. Workers are being offered higher wages to change roles or to stay in current ones. This is reflected in average hourly earnings in the Quarterly Employment Survey increasing by 7.0 percent in the year to the June 2022 quarter.

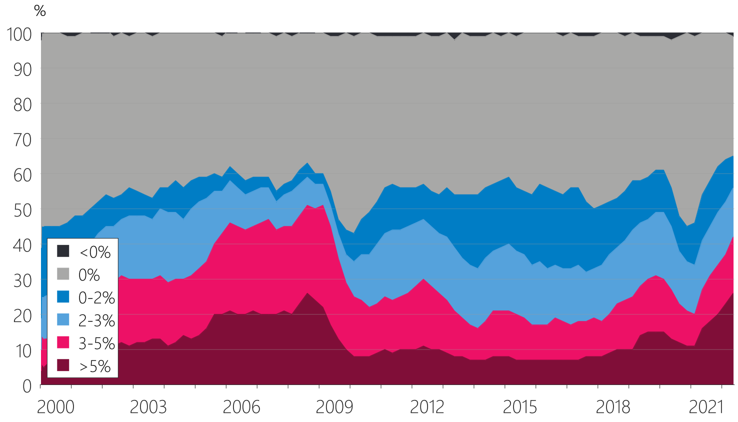
Business contacts noted that the higher cost of living is being increasingly factored in to wage negotiations, and the increase in the minimum wage is to some extent being passed on to those already above the minimum rate. The proportion of same-job wage increases greater than 5 percent now sits near 25 percent (figure 2.7).

The unemployment rates for different ethnicities, age groups, and genders are all at very low levels by historic standards, although differences persist. A wide range of indicators point to employment being well above its maximum sustainable level (figure 2.8).

Figure 2.7

Distribution of annual wage increases

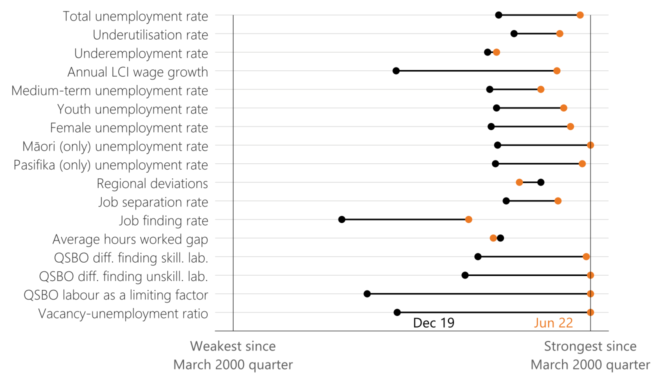
(labour cost index, all sectors combined, salary and ordinary time wage rates)



Source: Stats NZ.

Figure 2.8

Maximum sustainable employment (MSE) indicator suite



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

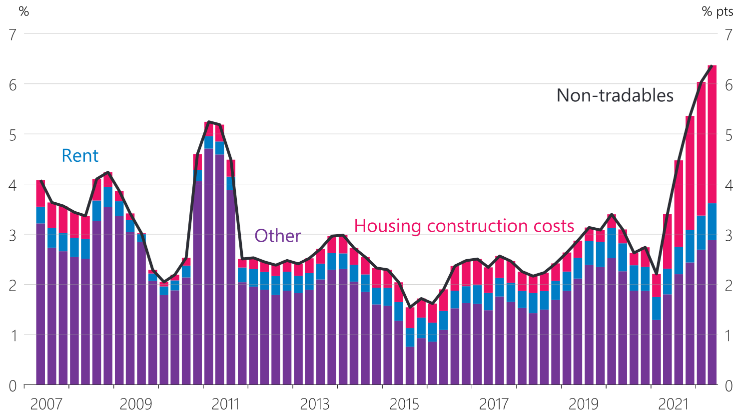
Note: The Reserve Bank uses a range of indicators when assessing MSE and regards the December 2019 quarter as a period when this selection of indicators pointed to employment being at MSE. However, current outturns should not be directly compared to the December 2019 quarter as the level of MSE is likely lower (discussed further in the August 2021 *Statement*). The vertical lines on the left-hand and right-hand sides represent the lowest and highest data outcomes since 2000, respectively. An orange dot to the right of a black dot means that the latest data outcome was stronger than in the December 2019 quarter.

Domestic inflationary pressures are high

Pressure on available resources and increasing wage inflation are adding to domestic inflation. Annual non-tradables inflation – which captures price changes for goods and services that are relatively less exposed to international competition – was 6.3 percent in the June 2022 quarter. Much of this reflected construction, rent, and other housing-related price growth (figure 2.9). Inflation in these groups is expected to ease eventually as housing market activity continues to decline.

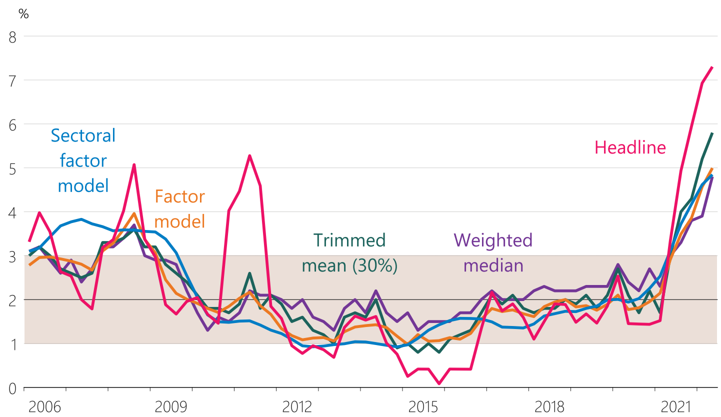
The increases in measures of core inflation over the past 18 months (figure 2.10) and tightness in the labour market suggest that domestic inflationary pressures will remain elevated in the near term, as discussed in section 3.2. Expectations for inflation one, two and five years ahead have eased recently, but remain elevated relative to history (figure 2.11).

Figure 2.9
Contributions to non-tradables inflation
(annual)



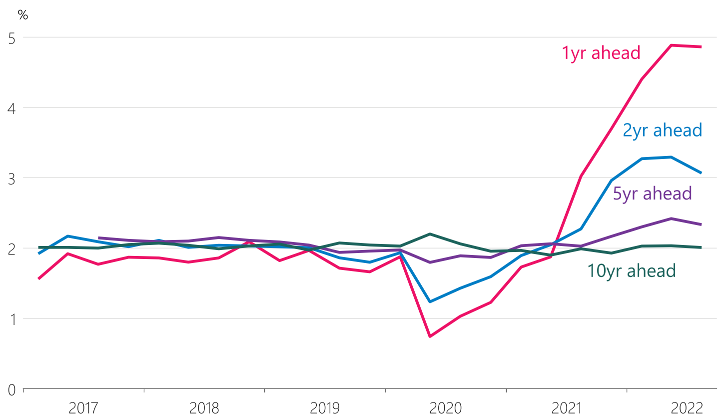
Source: Stats NZ, RBNZ estimates.

Figure 2.10
Core inflation measures
(annual)



Source: Stats NZ, RBNZ estimates.

Figure 2.11
Inflation expectations
(annual, years ahead)



Source: RBNZ Survey of Expectations (Business).

The global growth outlook is weaker, but inflationary pressures remain elevated

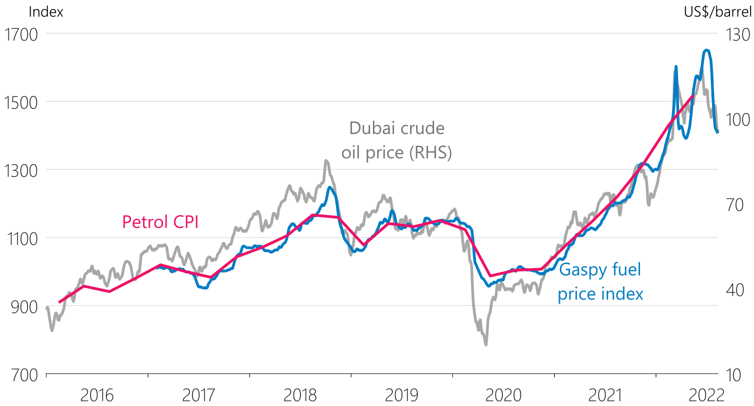
The war in Ukraine resulted in an initial spike in global commodity prices and disrupted global trade. At their peak, Dubai oil prices had increased 64 percent since the start of 2022 (figure 2.12), leading to higher petrol prices in New Zealand and around the world. Lockdowns in some Chinese cities to combat the spread of COVID-19 also added to existing supply-chain bottlenecks and increased shipping times and costs.

Faced with high inflation and underlying inflationary pressures in their respective economies (discussed further in section 3.1), many central banks around the world have started to rapidly raise interest rates. Higher interest rates and elevated geopolitical uncertainty have led to large downwards revisions to the outlook for global growth. Higher interest rates abroad have placed downward pressure on the New Zealand dollar TWI exchange rate, making our imports more expensive while supporting exporters' returns.

High global inflation has also contributed to high inflation within New Zealand, with annual tradables inflation reaching 8.7 percent in the June 2022 quarter. Petrol and food have made the largest contributions (figure 2.13). However, the world prices for other goods that New Zealand imports have also increased sharply over the past year (figure 2.14). These price increases have been across all types of imports, but notably consumer goods and intermediate goods used in domestic production.

Figure 2.12

Petrol and Dubai oil prices



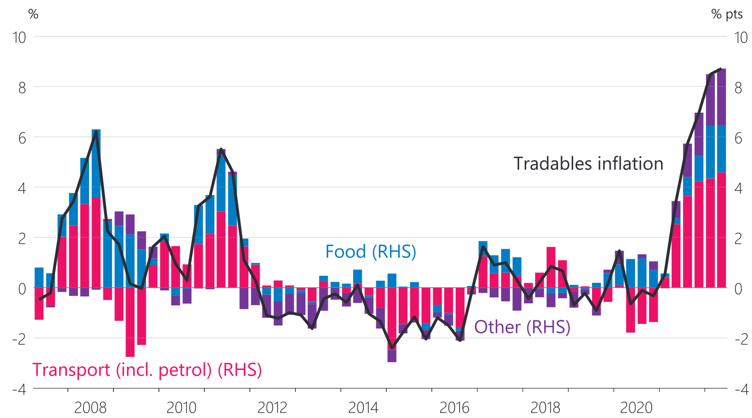
Source: Datamine – Gaspy data, Stats NZ, Reuters, RBNZ estimates.

Note: Gaspy fuel prices are indexed to the petrol CPI level in the December 2019 quarter.

Figure 2.13

Contributions to tradables inflation

(annual)

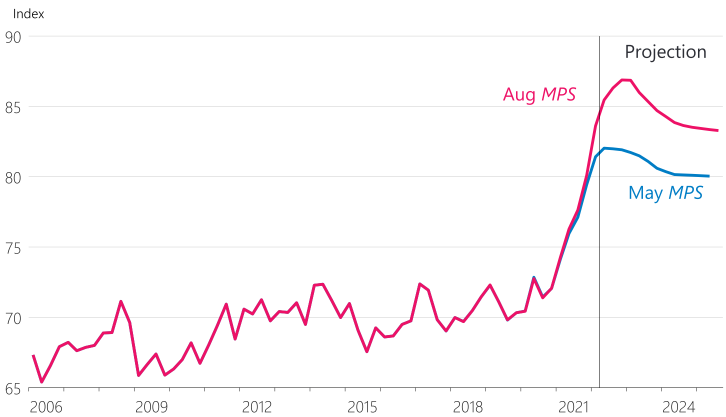


Source: Stats NZ, RBNZ estimates.

Figure 2.14

Ex-oil import prices

(nominal world terms, seasonally adjusted, SNA)



Source: Stats NZ, RBNZ estimates.

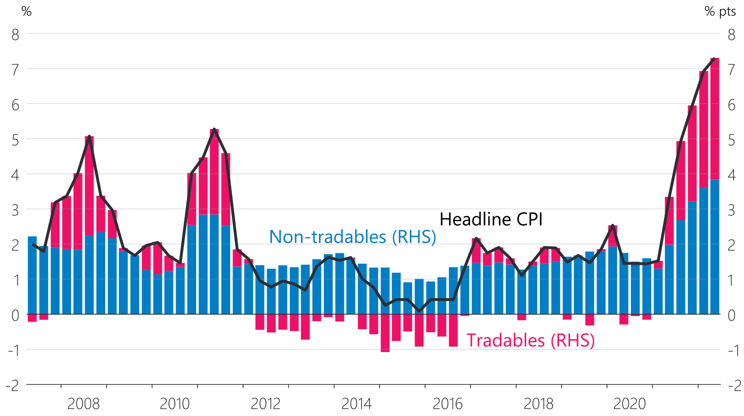
Inflation is too high

At 7.3 percent on an annual basis, headline CPI inflation in New Zealand is well above the MPC's 1 to 3 percent target band. High inflation is accounted for by both domestic and global factors, in roughly equal measure (figure 2.15). As discussed in section 3.2, some of the reasons for inflation being higher than expected are events that could not have reasonably been anticipated at the start of the year, including the Russian invasion of Ukraine. Moreover, there were initially widespread expectations that the impact of the pandemic would lead to a decline in the rate of CPI inflation in the medium term (see figure 2.11). However, non-tradables inflation has also been higher than forecast, which may reflect that the degree of labour market tightness has been greater than previously assumed.

Higher interest rates are lowering house prices

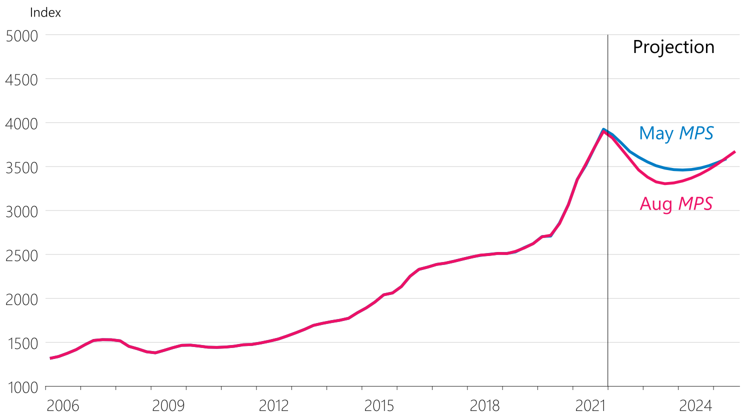
The MPC began tightening monetary policy from mid-2021 in response to growing inflationary pressures and a tight labour market. The actual and forecast increases in the OCR have caused mortgage rates to increase rapidly over the past 12 months. Higher mortgage rates – along with regulatory measures (such as changes to the Credit Contracts and Consumer Finance Act and tighter loan-to-value ratio restrictions), weaker population growth, and strong building activity – have contributed to the decline in house prices since late 2021 (figure 2.16).

Figure 2.15
Contributions to CPI inflation
(annual)



Source: Stats NZ, RBNZ estimates.

Figure 2.16
House prices
(nominal)



Source: CoreLogic, RBNZ estimates.

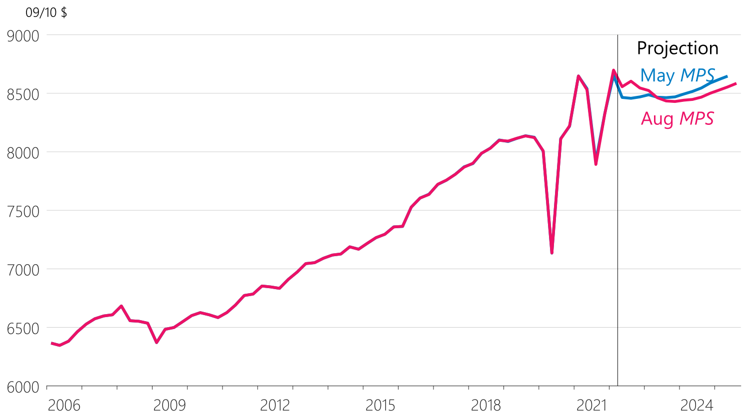
While there is considerable uncertainty about the outlook for house prices, the central projection assumes that prices will continue to decline until the September 2023 quarter. This would result in a total decline of 15 percent from the December 2021 quarter peak, slightly more than assumed in the May *Statement*. Lower house prices and higher mortgage rates are assumed to result in weaker household spending, as households feel less wealthy and more of their incomes go towards servicing their debts. As discussed in section 4.2 of the May *Statement*, there is a portion of recent home buyers who are most vulnerable to rising interest rates, notably those who borrowed for the first time in 2021. Household consumption growth is assumed to decline on a per capita basis over much of the projection (figure 2.17).

While residential construction activity is starting from a strong position, the outlook has cooled. The weaker outlook reflects tighter credit conditions, higher interest rates, labour and materials shortages, and lower house prices, which all make residential property development less attractive. Residential investment is assumed to ease fairly gradually in the near term as builders work through the large pipeline of consented projects, before declining as a share of the economy over the medium term (figure 2.18).

Figure 2.17

Household consumption per capita

(real, seasonally adjusted)

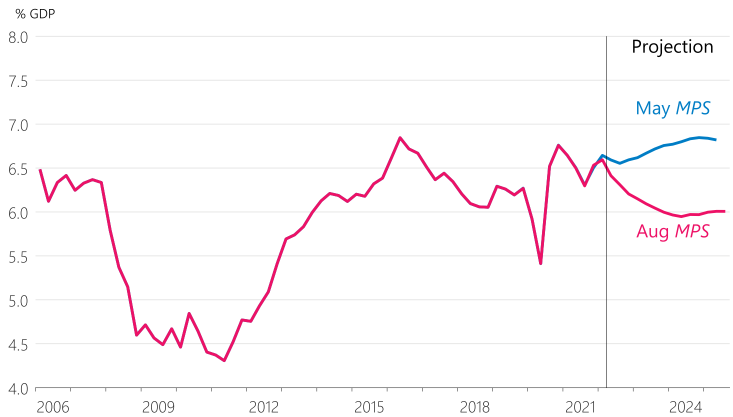


Source: Stats NZ, RBNZ estimates.

Figure 2.18

Residential investment

(real, share of potential output, seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

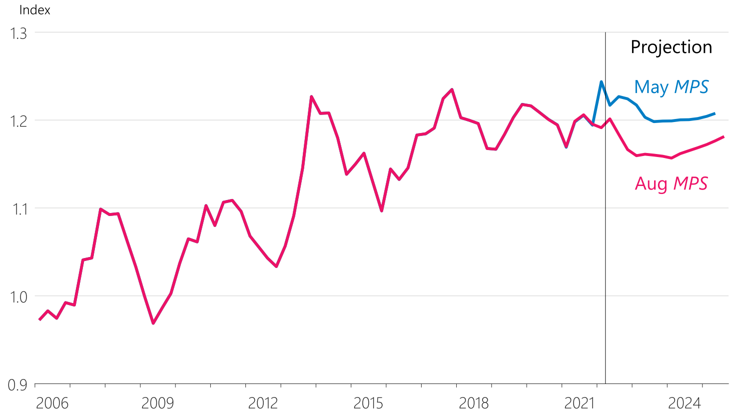
Tighter monetary policy in New Zealand has kept the New Zealand dollar exchange rate higher than it would have otherwise been in the face of higher interest rates abroad. A weaker global outlook due to monetary policy tightening is expected to lower the prices of our exports over the medium term, while the prices of our imported goods ease only gradually. The net result is a lower terms of trade over the projection (figure 2.19). Lower export prices, higher interest rates, easing demand, and elevated uncertainty are also assumed to slow the pace of business investment over the projection.

Overall, the pace of economic growth in New Zealand is expected to ease over coming years. This easing in growth is required to bring employment towards its sustainable level and inflation to target over the medium term. Actual GDP growth will likely be boosted in the near term by the recovery in international tourism, which may create considerable volatility in the published data. Nominal government spending is assumed to grow in a manner consistent with the fiscal forecasts outlined in the 2022 *Budget*. Any government expenditure above this is likely to require higher interest rates in response, to enable the domestic economy to rebalance and reach a more sustainable pace of growth.

Figure 2.19

Terms of trade

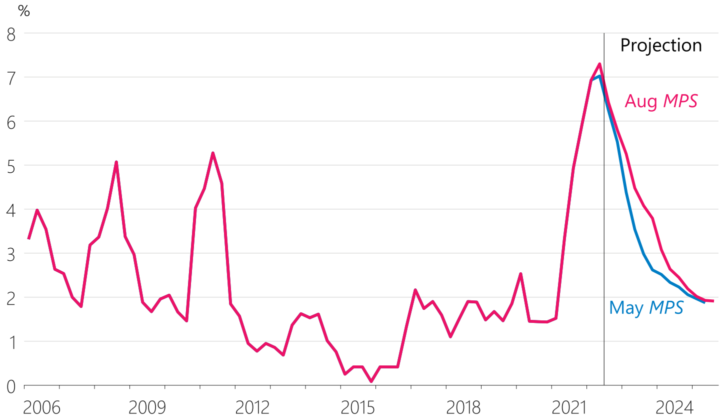
(goods and services, seasonally adjusted, SNA)



Source: Stats NZ, RBNZ estimates.

Figure 2.20

Annual CPI inflation



Source: Stats NZ, RBNZ estimates.

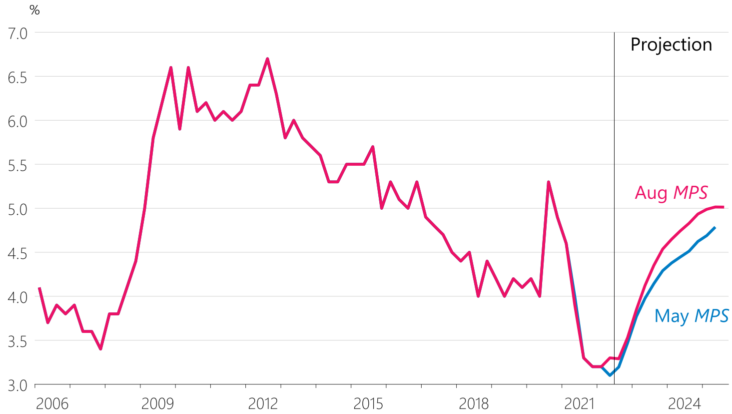
Monetary policy outlook

Higher interest rates are needed

CPI inflation is higher over the projection than assumed in the May *Statement*. Imported inflation remains elevated for longer as global supply constraints linger. Domestic labour and materials constraints, coupled with slightly more domestic spending resilience, underpin momentum in non-tradables inflation. The decline in domestic spending growth due to higher interest rates and an easing in global demand are assumed to reduce pressure on available resources, and ease domestic inflationary pressure. Imported inflation is assumed to decline as higher global interest rates slow inflation abroad and some supply bottlenecks ease. Annual CPI inflation is projected to return to the target band by mid-2024, and to 2 percent by the end of the projection (figure 2.20). The decline in economic growth and gradual increase in labour supply as net immigration recovers are assumed to result in an unemployment rate that is closer to a more sustainable level (figure 2.21).

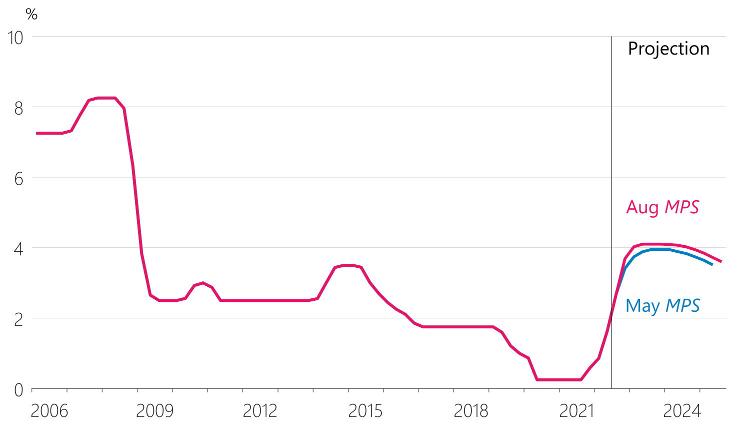
Conditional upon our central economic outlook and assumptions, the OCR is projected to increase by more than was assumed at the time of the May *Statement* (figure 2.22). The higher outlook for interest rates reflects stronger inflationary pressures (global and domestic) than had been previously assumed. These pressures more than offset the weaker outlooks for the housing sector and global growth. Higher interest rates will ensure that demand slows sufficiently for the MPC to meet its employment and inflation objectives.

Figure 2.21
Unemployment rate
(seasonally adjusted)



Source: Stats NZ, RBNZ estimates.

Figure 2.22
OCR
(quarterly average)



Source: RBNZ estimates.

Special topics

CHAPTER 03

Central Otago. Photo: Paul Conway

CHAPTER 3
Special topics

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

Topics for the August *Statement* included:

1. Global inflation developments.
2. Assessing recent inflation surprises.
3. Business conditions.

Previous special topics in the past 12 months

Topic	Date/publication
Global inflation developments	MPS May 2022 (Chapter 4)
The outlook for household spending, house prices, and construction	MPS May 2022 (Chapter 4)
International developments and risks	MPS February 2022 (Chapter 4)
Inflation expectations	MPS February 2022 (Chapter 4)
Transmission of global developments to New Zealand's economy	MPS November 2021 (Chapter 4)
Outlook for New Zealand's productive capacity	MPS November 2021 (Chapter 4)
Climate change and inflation	MPS November 2021 (Chapter 4)
The recovery of New Zealand's labour market	MPS August 2021 (Chapter 4)
The neutral interest rate	MPS August 2021 (Chapter 4)

1 Global inflation developments

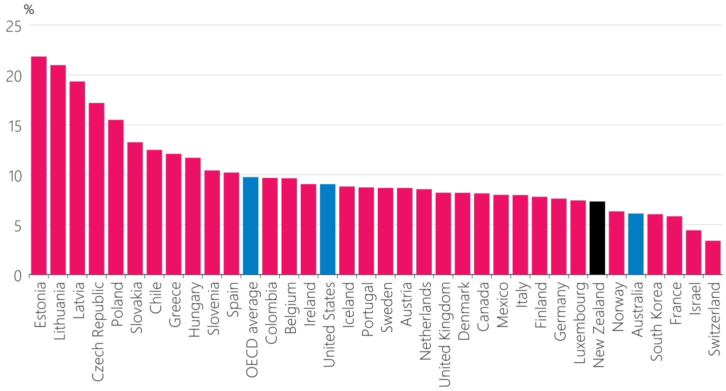
Inflation has risen sharply across the globe, reaching new multi-decade highs in many economies (figure 3.1). Commodity prices, particularly for food and energy, remain elevated due to supply issues caused by the Ukraine war and strong global demand. Ongoing supply-chain disruptions have put upward pressure on consumer goods prices. Underlying inflationary pressure has broadened as consumer demand for both goods and services has strengthened, and tight labour markets have contributed to rising wage growth.

Core and headline inflation measures are elevated in most countries due to shared international influences, with similar patterns across inflation subcomponents like food, transport, and housing. Despite similar trends, there are substantial differences in inflation between economies. These differences reflect both regional factors such as exposure to the war in Ukraine, and local economic conditions.

Figure 3.1

Latest headline consumer price inflation across selected OECD countries

(annual)



Source: Organization for Economic Cooperation & Development (OECD).

Note: OECD average excludes Turkey; data is for the month of June 2022 except for Australia and New Zealand which is for the June 2022 quarter.

Pricing pressures remain high, but are showing early signs of moderation

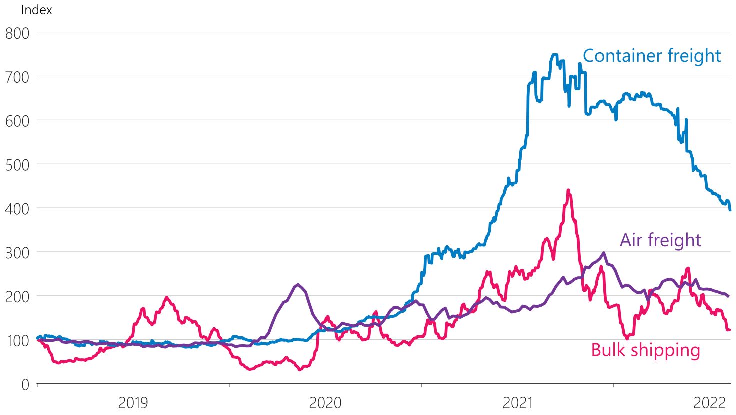
Rapid and large fiscal and monetary support following the onset of the COVID-19 pandemic in 2020, coupled with strict activity restrictions, saw a sharp rise in goods demand worldwide. As most countries lifted mobility restrictions, demand for services also increased. Strong aggregate demand has contributed to higher inflation across a broad range of goods and services, as observed in measures of core inflation.

Capacity pressures have been increasing globally, although the extent varies across countries. Unemployment rates remain low in most advanced economies (table 3.2), with high levels of job vacancies. Tight labour markets, in addition to higher consumer price inflation, have led to rising wage pressures as employers offer increasingly competitive wages.

These labour capacity constraints have been exacerbated by tighter supplies of some global commodities following the start of the Ukraine war in early 2022. These pressures have been particularly pronounced in food and energy markets. Further, recent COVID-19 lockdowns in some major cities across China have disrupted the production and transport of some goods globally, creating widespread pressures in the prices of materials and manufactured goods (see section 4.1 of the May 2022 *Statement*).

Supply-chain and war-related disruptions will continue to be important determinants of the future path of inflation. There have been very early signs that global supply chains are improving as shipping costs for some routes and certain goods have declined this year (figure 3.2), and survey measures of global delivery times for orders have improved. Strict COVID-19 lockdown measures over the first half of the year in a number of Chinese cities disrupted the production and transportation of goods, but activity resumed following the easing of some restrictions. Oil and a number of other commodity prices have declined in recent months due to easing supply-side pressures and expectations of lower global demand, although prices remain elevated.

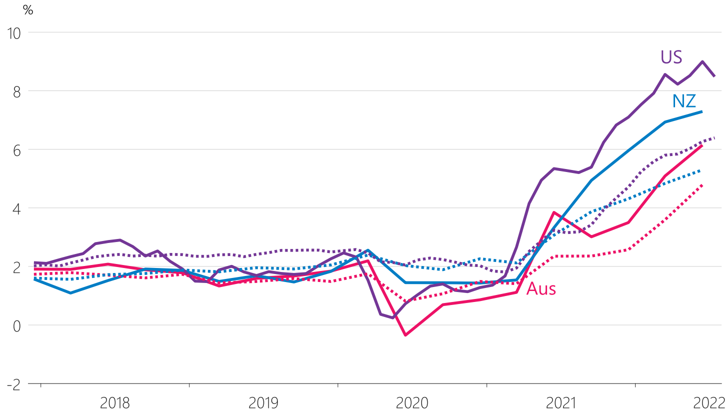
Figure 3.2
Global cross-border transportation costs
(Index = 100 at 1 Jan 2019)



Source: Refinitiv.

Note: Baltic airfreight index, Baltic dry index, and Baltic container index.

Figure 3.3
Headline and core inflation



Source: Stats NZ, Australian Bureau of Statistics, Bureau of Labor Statistics, Haver Analytics.

Note: Solid lines refer to headline inflation, dashed lines refer to the average across a number of core inflation measures.

Inflationary pressures differ across regions

A number of shared global trends are boosting inflation, such as rising food and energy prices, supply-chain disruptions that impact goods prices, rising wages, and strong global demand. However, there are some substantial differences in inflation between economies. These differences reflect both local economic conditions and exposure to disruptions resulting from the Ukraine war.

The rise in headline inflation in Europe has been amplified by the regional impacts of the Ukraine war. This is partly due to Russia's role as a major supplier of natural gas to Europe. The increasing risk of a further reduction in gas flows to Europe has resulted in a significant increase in prices. Prices of other types of energy such as coal, which is a power generation substitute for natural gas, are also higher. These increases in energy prices are making a larger contribution to inflation in Europe than they are in other regions.

In China, inflation remains lower than in the rest of the world. In part, prices in China have been sheltered from global pressures due to domestic production and reserves reducing the reliance on imported food and energy. Domestic demand pressures have been lower as COVID-19 lockdowns in a number of major cities have increased uncertainty and suppressed activity.

New Zealand, Australia, and the United States are experiencing similar trends in headline and core CPI inflation (figure 3.3). Compared to New Zealand, inflation is higher in the US and slightly lower in Australia. Although international factors are important influences on inflation in all three countries, varied economic conditions are contributing to the relative differences in inflationary pressures. We can see differences in some of the key subcomponents of inflation across the three economies (table 3.1).

Table 3.1

Subcomponents of annual CPI inflation, June quarter 2022

	New Zealand	Australia	United States
Food	6.5%	5.9%	10.0%
Petrol	32.5%	32.1%	58.7%
Rents	4.3%	1.6%	5.3%
Construction costs	18.3%	20.3%	N/A
Services (ex. housing)	3.7%	3.4%	6.9%

Note: US figures represent an average of the months over the June quarter. Construction costs are not included in the US CPI basket.

Sources: Stats NZ, Australian Bureau of Statistics, Bureau of Labor Statistics, Haver Analytics.

- Food: Food price increases are higher in the US compared to New Zealand and Australia, in part due to higher transportation costs and input prices like agricultural chemicals. Food price inflation is highest in the US across most sub-groups including dairy, meat, and restaurant meals.
- Petrol: Petrol price inflation is notably stronger in the US, causing transport inflation to be higher than it is in New Zealand and Australia. All three countries have cut taxes on fuel to help consumers with the elevated costs. Tax on US petrol is significantly less than it is in Australia and New Zealand, resulting in oil price fluctuations having a larger proportional impact on consumer fuel prices in the US.
- Consumer goods: Prices for a range of goods have increased faster in the US than in Australia and New Zealand, including prices for new cars and apparel.
- Housing: Rent inflation is lower in Australia than it is in New Zealand and the US, in part reflecting the increase in housing stock in Australia since 2015. Rental inflation is increasing across all three countries. Construction cost inflation is very high in both Australia and New Zealand due to significant shortages of workers and construction materials (construction costs are not included in the US CPI basket).
- Services: Services inflation is rising due to a combination of elevated demand as activity resumes and tighter labour markets. Wage pressures play an important role in the services component of inflation. Compared to New Zealand, wage inflation is higher in the US and slightly lower in Australia. This is consistent with the relative degrees of consumer price inflation and labour market tightness across the economies.

The outlook for inflation remains uncertain, but there are signs pressures are moderating

Globally, central banks are responding to high inflationary pressure by tightening monetary policy faster, and by more, than expected in early 2022. The US Federal Reserve, Bank of Canada, Reserve Bank of Australia, Bank of England, and European Central Bank have all raised their policy rates since the May *Statement* by 50 to 150 basis points (table 3.2).

The rate at which inflation will decline back towards central bank targets will depend on how quickly demand moderates, supply chains improve, and geopolitical tensions are resolved. Most forecasters expect inflation in advanced economies to peak in 2022 and decline significantly over 2023, supported by lower commodity prices, an easing in supply-chain constraints, and slowing aggregate demand growth as a result of central bank tightening. Measures of market-implied inflation expectations also suggest inflation will ease considerably over the next year, and long-term market inflation expectations remain near central bank targets.

There is considerable uncertainty about the outlook for inflation. Further supply-chain or geopolitical disruptions could put additional upward pressure on global inflation. For example, China's ongoing policy for COVID-19 elimination may result in further supply disruptions if containing future outbreaks requires strict lockdown measures. However, global demand could slow more sharply than anticipated in response to tightening monetary policy, resulting in a faster reduction in inflation. How global inflationary pressures evolve will have significant effects on inflation in New Zealand.

Table 3.2
Central bank snapshot as of 12 August 2022

	Fed	BoC	RBA	BoE	ECB	RBNZ
Policy rate	2.25-2.50%	2.50%	1.85%	1.75%	0.00%	2.50%
Policy rate as at the May *Statement*	0.75-1.00%	1.00%	0.35%	1.00%	-0.50%	1.50%
Annual headline consumer price inflation	9.1%	8.1%	6.1%	9.4%	8.6%	7.3%
Unemployment rate	3.5%	4.9%	3.5%	3.8%	6.6%	3.3%

Source: US Federal Reserve (Fed), Bank of Canada (BoC), Reserve Bank of Australia (RBA), Bank of England (BoE), European Central Bank (ECB), Reserve Bank of New Zealand (RBNZ).

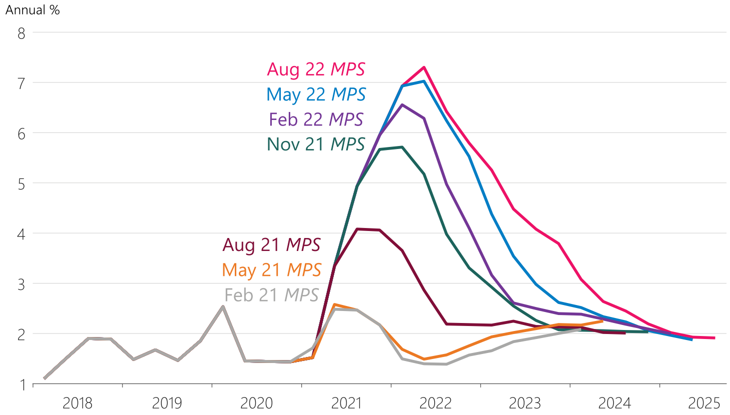
2 Assessing recent inflation surprises

The annual rate of CPI inflation in New Zealand is high, at 7.3 percent in the June 2022 quarter. It has also been significantly higher than the Reserve Bank and most private forecasters expected over the past year (figure 3.4). International forecasters have experienced similar challenges, with most central banks globally underestimating the rate of inflation.[1] Global inflation forecasts have been revised steadily upwards over the last 18 months.[1]

Over the past five quarters, annual inflation in New Zealand has averaged around 0.5 percentage points higher than the Reserve Bank's one-quarter-ahead forecast published in each *Statement* (figure 3.5). While this average is skewed by two particularly large surprises in the June and September 2021 quarters, the overall direction of the surprise has continued. This surprise has been accounted for by both tradables and non-tradables inflation (figures 3.6 and 3.7).

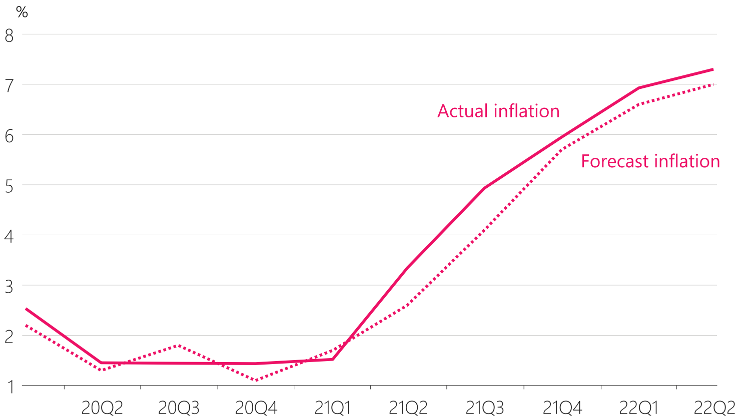
Some of the unexpected strength in inflation can be explained by international developments, such as the COVID-19 resurgence in China and the Russian invasion of Ukraine. Unanticipated global developments can also affect domestic prices, as workers seek higher wages to help afford the increased costs of imported items such as petrol. However, the size and persistence of the surprises in non-tradables inflation imply that domestic factors are also contributing.

Figure 3.4
Reserve Bank annual CPI inflation forecasts since 2021



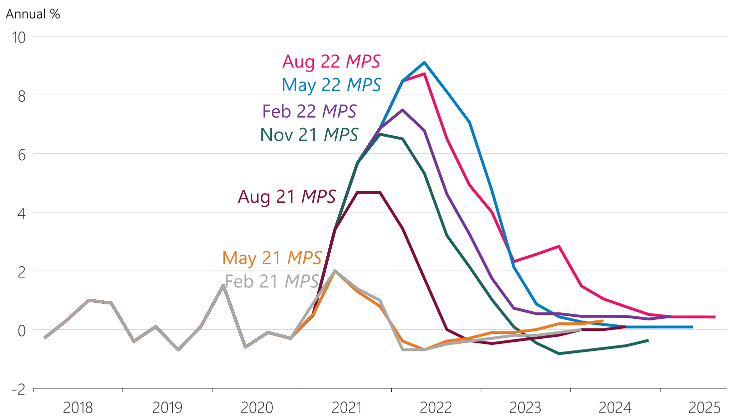
Source: Stats NZ, RBNZ estimates.

Figure 3.5
CPI inflation vs forecast
(one quarter ahead)



Source: Stats NZ, RBNZ estimates.

Figure 3.6
Reserve Bank annual tradables inflation forecasts since 2021

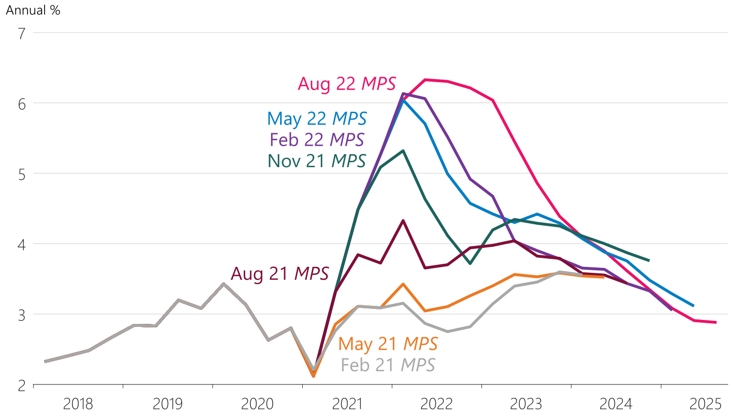


Source: Stats NZ, RBNZ estimates.

1 World Economic Outlook Update (International Monetary Fund, July 2022).

Figure 3.7

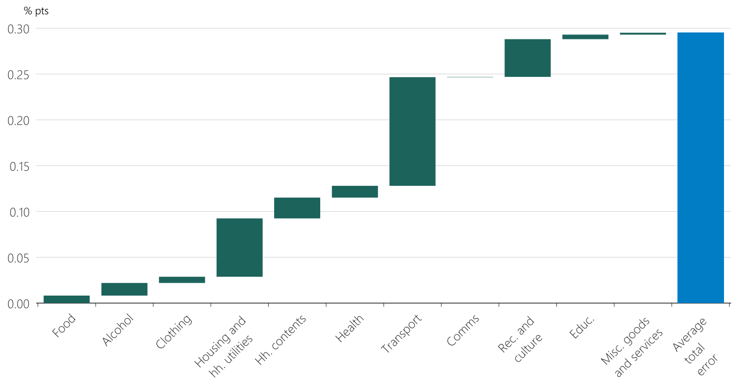
Reserve Bank annual non-tradables inflation forecasts since 2021



Source: Stats NZ, RBNZ estimates.

Figure 3.8

Average forecast error contribution by CPI group



Source: Stats NZ, RBNZ estimates.

Note: Figure 3.8 plots the average one-quarter-ahead forecast error at the CPI group level. The sum of the bars is equal to the average total error.

Figure 3.8 shows that three subgroups of the CPI have made the largest contributions to higher-than-forecast inflation one quarter ahead. These are the transport (mainly fuel), housing and household utilities (mainly home building costs), and recreation and culture groups.

Within the transport group, petrol and other vehicle fuels (which includes diesel) contributed the most to higher-than-forecast inflation. The Reserve Bank uses the pricing of oil futures in financial markets as an indicator for expected oil prices. Petrol price forecasts also take into account the exchange rate, assumptions regarding refining and retailer margins, and fuel tax changes. Energy prices increased much more rapidly than oil futures indicated over 2021 and the beginning of this year, particularly after the Russian invasion of Ukraine, which accounts for much of the forecast error.

The upside surprises in the housing and household utilities group have been from the home ownership subgroup, which represents the cost of building a house. Most of the error occurred in the middle of 2021, when capacity constraints in the construction sector became particularly acute. We currently assume that high construction cost inflation remains more persistent than would historically be expected based on house price growth, given ongoing labour shortages and supply bottlenecks in materials.

The 'other' recreational equipment and supplies subgroup, which includes board games and sports equipment, was another significant contributor to higher-than-forecast inflation. Much of this also occurred in the June and September quarters of 2021. These quarters coincided with the peak in supply-chain issues related to global container shipping and the strong demand for durable goods due to pandemic-related lockdowns and border restrictions.

While these groups have contributed the most on average to inflation being higher than expected, the direction and size of these errors have not been persistent across each quarterly forecast (figure 3.9). For the most part, the source of each quarterly error has been identified and corrected for in subsequent forecasts.

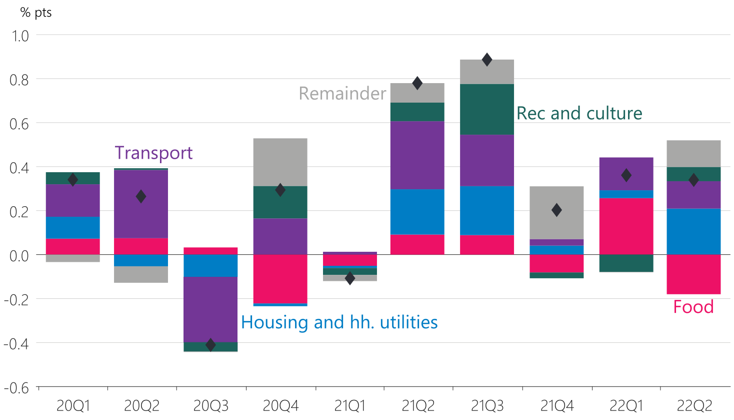
Although it is important for the Reserve Bank to understand and correct for such errors, monetary policy takes time to influence the economy and can therefore do little to address near-term inflation developments. The Reserve Bank's primary concern is to identify any inflation surprises in the most recent data that are likely to persist into the medium term.

Even accounting for the subgroups discussed above, inflation – particularly for non-tradable domestic goods and services – has still been higher than expected. Non-tradables inflation is historically more persistent than tradables inflation, and is also more responsive to monetary policy. The acute shortage of workers in particular has been greater than anticipated (figure 3.10) and has led to increased wage inflation across many industries. This broad-based pressure is consistent with generally higher-than-forecast inflation. The tightness of the labour market reflects labour shortages due to earlier lockdowns and border restrictions, COVID-19 and the spread of other illnesses. It also reflects strong labour demand, in part due to expansionary monetary and fiscal policy in the initial response to the COVID-19 pandemic.

Looking ahead, we expect the balance of inflationary pressures to shift from tradables to non-tradables due to ongoing labour shortages. The inflationary consequences of this labour market tightness are assumed to be greater than they were at the time of the May *Statement*. Over 2021 and early 2022, tradables inflation was high due to strong goods demand. This occurred during a period when international shipping delays and the war in Ukraine meant the ability to transport goods was heavily constrained and raw materials were getting more costly.

Figure 3.9

Forecast error contributions by CPI group

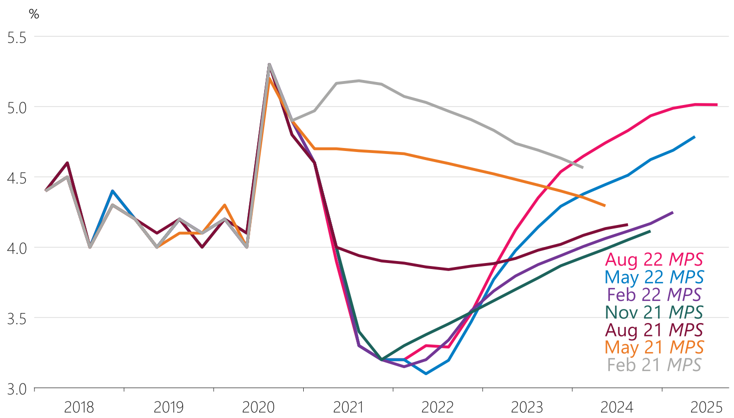


Source: Stats NZ, RBNZ estimates.

Note: Figure 3.9 plots the individual contribution from each CPI group to the overall CPI forecast error. The coloured bars are the four largest group contributions to the forecast error, with the grey bars capturing the residual seven groups. The black diamond indicates the total forecast error.

Figure 3.10

Reserve Bank unemployment rate forecasts since 2021



Source: Stats NZ, RBNZ estimates.

As New Zealand has transitioned to living with COVID-19, spending patterns have changed with the reopening of the economy. This has led to a shift in demand from goods back towards services. This is occurring at a time when the biggest supply constraints are shifting to the services sector due to the incredibly tight labour market.

3 Business conditions

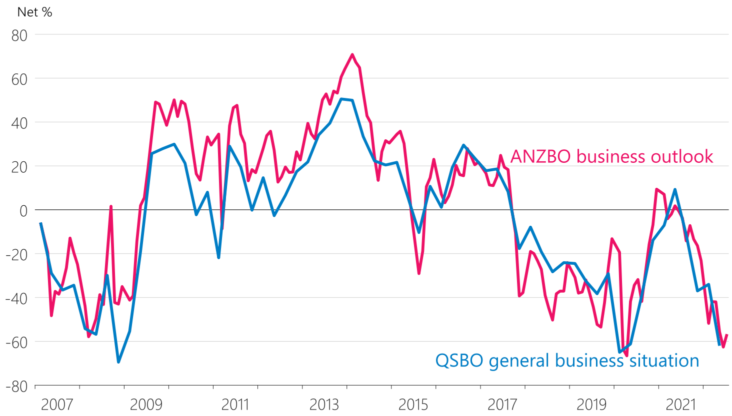
The Reserve Bank regularly meets with businesses, industry representatives, and other organisations across the country to learn more about economic conditions and challenges or constraints being faced. We use this information to complement data from surveys such as the QSBO and ANZBO, and from other sources such as Stats NZ. Insights from businesses are particularly useful when the economic environment is changing rapidly, and when the structure of the economy appears to be shifting.

In the past month, Reserve Bank staff have spoken with representatives from a range of industries and regions. The key observations from these discussions are summarised in this section, supported by insights from economic data.

Demand remains resilient, but output is constrained

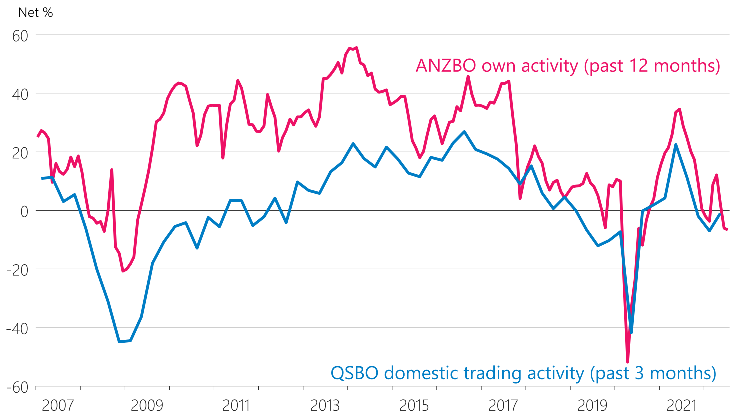
While businesses are facing many headwinds – as reflected in very low levels of business confidence – business activity has remained resilient to date (figures 3.11 and 3.12). As discussed in chapter 2, aggregate retail spending is holding up. Most businesses and sector representatives we spoke to, including exporters, had yet to see any decline in demand. Consistent with larger business surveys, businesses related to residential construction were the exception, with the easing in demand apparent only in recent months (figure 3.13).

Figure 3.11
General business confidence
(seasonally adjusted)



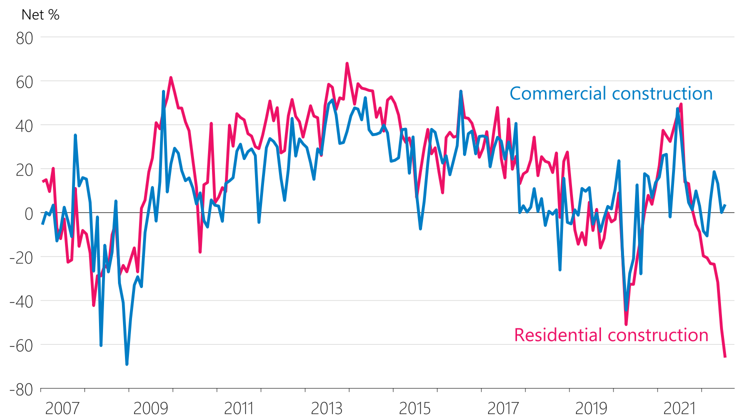
Source: ANZ Bank, NZIER.

Figure 3.12
Own trading activity
(seasonally adjusted)



Source: ANZ Bank, NZIER.

Figure 3.13
ANZBO expected construction sector activity
(seasonally adjusted)



Source: ANZ Bank.

Although demand remains resilient, output is being constrained by an acute shortage of labour across all sectors. The labour market appears to be the tightest it has been in 50 years, indicated by labour exceeding orders as the factor most limiting production for the first time since 1972 (figure 3.14). These general labour shortages are being made worse by high levels of worker sickness due to COVID-19 and other illnesses. Some businesses either reported occasions when more than half their labour force was unable to work, or levels of sickness two or three times higher than usual for this time of year. Some businesses, particularly smaller operators, are having to reduce their operating hours, reduce their levels of service, or close entirely on a temporary basis due to a lack of staff.

While supply-chain disruptions remain an issue, there was a general perception that businesses were able to adapt to these challenges. Many had built up inventory to enable them to better manage production, and some had been able to pass on the storage costs to customers who recognised it would likely be cheaper than trying to source materials later. Several also noted that they had needed to improve their planning processes significantly given longer lead times for inputs. Most felt there was a general recognition from customers that orders would take longer, so they were not losing customers as a result.

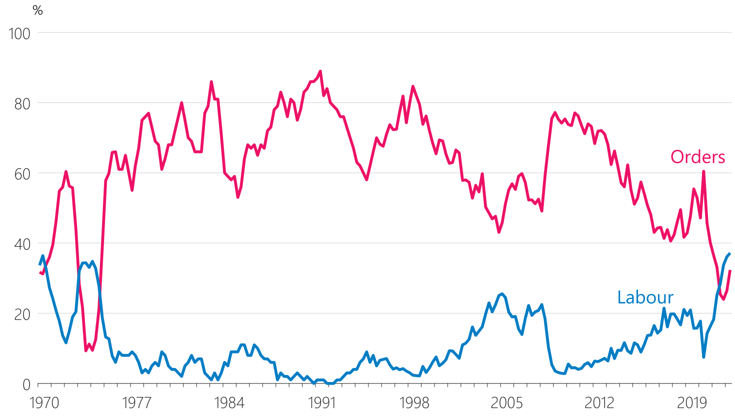
A tight labour market is putting upward pressure on wages

The tight labour market has meant that employee retention has been increasingly difficult, with turnover at historically high levels (figure 3.15). Businesses have seen only slight relief in finding staff since the opening of the New Zealand border. The open border was widely expected to make the overall labour situation worse on net, as more workers (particularly younger ones) were looking to relocate overseas.

Figure 3.14

QSBO labour and orders as the factors most limiting production

(seasonally adjusted)

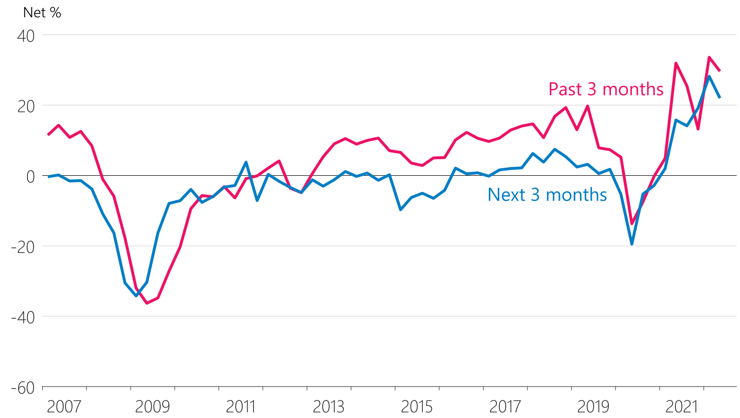


Source: NZIER.

Figure 3.15

Labour turnover

(seasonally adjusted)



Source: NZIER.

As reflected in the QSBO, labour has been difficult to find across all skill levels (figure 3.16). Wage pressures were continuing to increase. Numerous contacts said that the high inflation rate and frequent discussion in the media about the cost of living had resulted in workers seeking higher wages. Some contacts said that staff who would normally not have paid much attention to inflation were now actively using it as part of the wage bargaining process. As shown in chapter 2, the share of annual wage and salary increases above 5 percent has been increasing since 2021.

Some businesses were also increasing the frequency of wage and salary reviews in response to tight labour market conditions. Many contacts noted that employees were being offered higher salaries by competitors. Poaching of staff was increasingly common, as were financial incentives for existing staff if they found an additional worker for the company.

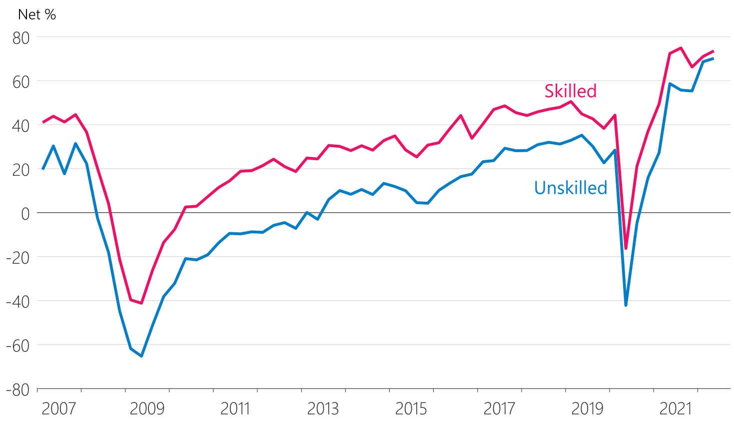
Investment is weakening due to higher interest rates and elevated global uncertainty

To address labour shortages, some businesses were looking to increase automation where possible. Some larger businesses were continuing with investment projects that had been planned for some time. Smaller businesses were holding back on investment (beyond repairs and maintenance) in the face of significant global uncertainty (figure 3.17). At the aggregate level, reported investment intentions have declined in recent quarters, across different investment types (figure 3.18).

Figure 3.16

Difficulty in finding labour

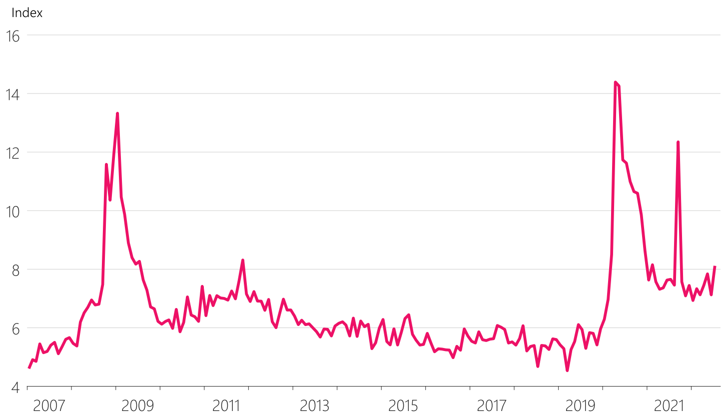
(seasonally adjusted)



Source: NZIER.

Figure 3.17

National economic uncertainty index

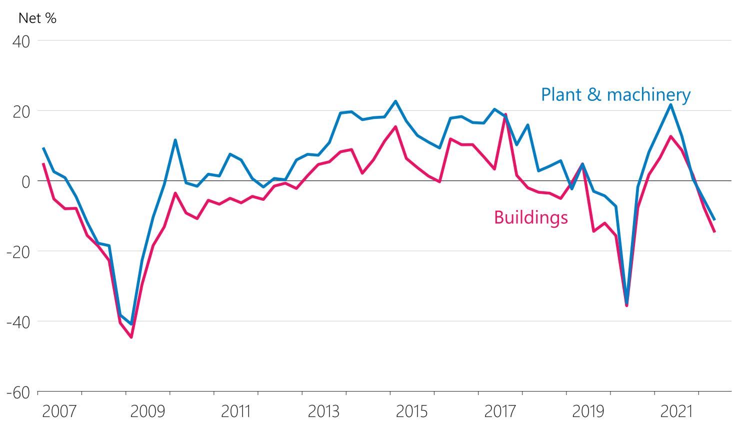


Source: Sense Partners.

Figure 3.18

Investment intentions

(seasonally adjusted)



Source: NZIER.

Firms are passing on higher costs

Businesses told us that they were passing on most of the higher labour and materials costs they were facing. Many said that strong demand made this possible, and others said that they simply had no choice given low profit margins. Builders have not been providing fixed-price contracts for some time.

Labour was the most significant cost for many contacts across sectors, although prices for manufacturing input materials and construction materials had also increased. Consistent with the QSBO, where expected costs and prices are at very high levels (figure 3.19), many contacts expected cost and price pressures to remain elevated for some time. When asked why this was the case, most attributed this to global factors.

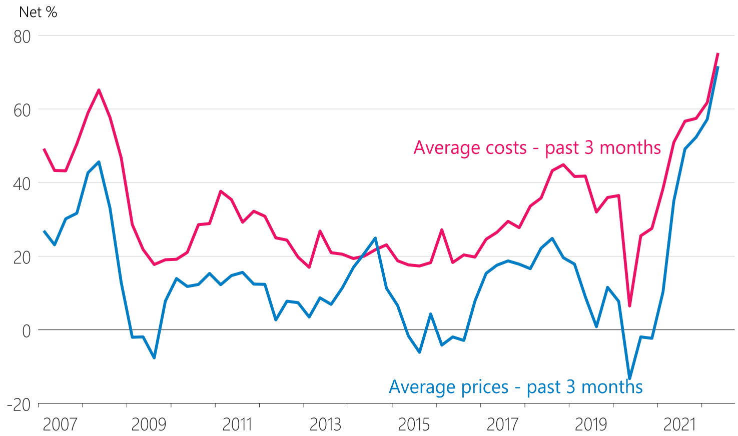
For the first time, we heard several reports of businesses increasing the frequency with which they adjust prices and wages. While data on this has been available in past business operations surveys, it is collected sporadically and has not been updated recently.

With continued demand and the ability to pass on higher costs into prices in most cases, profitability remains relatively resilient to date (figure 3.20). Outside the property development sector, businesses did not report difficulties accessing credit, although this was generally acquired at higher interest rates than experienced recently. Business sector credit growth has been gradually increasing, with much of this reflecting demand for working capital in order to address cash flow challenges posed by unpredictable supply chains.

Figure 3.19

Reported costs and selling prices

(seasonally adjusted)

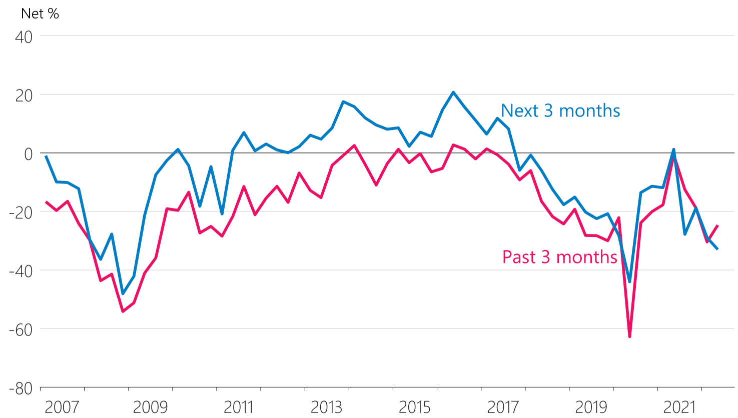


Source: NZIER.

Figure 3.20

Reported profitability

(seasonally adjusted)



Source: NZIER.

Financial conditions

CHAPTER 04

Autumn leaves at Arrowtown. Photo: Paul Conway

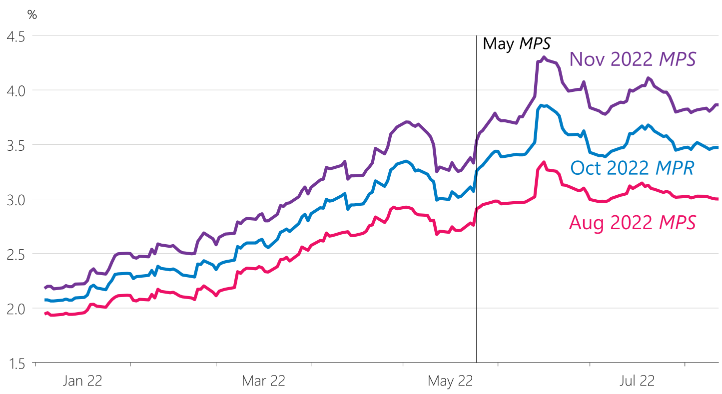
CHAPTER 4
Financial conditions

A key way monetary policy affects economic activity is 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 have tightened slightly since the May *Statement*

The MPC has been tightening monetary conditions since mid-2021. Since the May *Statement*, the MPC has continued to increase the OCR and domestic financial conditions have continued to tighten somewhat. The OCR is above our current estimate of its neutral level, indicating that monetary conditions are likely reducing economic demand. Over recent months, mortgage and term deposit rates have increased. Wholesale interest rates have also risen, largely tracking changes in global interest rates, and movements have been increasingly volatile. Global financial market volatility has been elevated as investors balance expectations of central bank tightening to counter inflationary pressure in the near term, and a deteriorating outlook for economic activity in the medium term.

Figure 4.1
Market expectations for the OCR



Source: Bloomberg.

Note: The three lines represent market expectations of the level of the OCR at a given point in the future, as measured by overnight indexed swap pricing. For example, the August 2022 *Statement* line shows expectations for the OCR at the time of the August 2022 *Statement.*

Wholesale interest rates have been driven by overseas developments

The MPC has continued raising the OCR since the May *Statement*, to above our average estimate of neutral of about 2 percent. This indicates that monetary policy is likely acting to slow down the rate of spending growth, easing domestic inflationary pressure. Furthermore, with the market pricing further OCR increases, financial conditions overall are more restrictive than the level of the OCR alone would imply. Pricing for overnight indexed swap (OIS) contracts suggests that market participants believe the OCR is likely to reach at least 3.75 percent by November 2022 (figure 4.1), and remain around this level over the first half of 2023.

The higher OCR projection in the May *Statement* and the faster pace of monetary policy tightening offshore contributed to higher market expectations for the OCR. Expectations for future settings of the OCR have an important influence on financial conditions today. This is because fixed-term interest rates for households and businesses are influenced by wholesale rates at those terms, which are in turn influenced by expectations of the OCR.

Domestic wholesale rates at terms most relevant to households – one and two years – have increased, although longer-term wholesale rates have not. The 2-year interest rate swap – a key wholesale benchmark rate – is now higher than both the 5-year and 10-year interest rate. This suggests the market expects the OCR to rise in the short term, but to settle at a lower rate in the longer term. This pattern in interest rate expectations is similar to those in several other economies including the US, and consistent with the shape of the OCR projection presented in chapter 2.

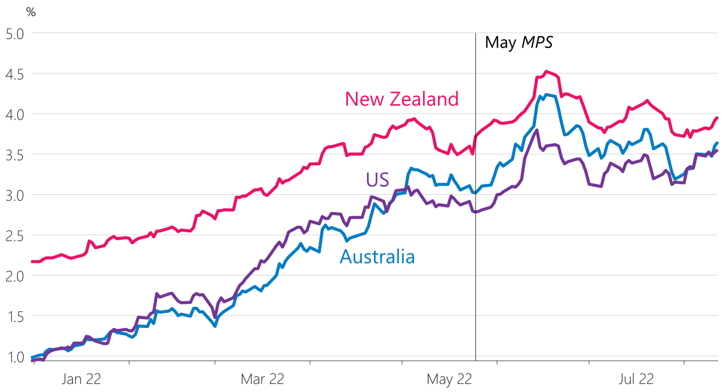
Domestic wholesale rates have been subject to significant volatility recently, and this is linked to similar volatility in overseas wholesale markets. We have observed significant co-movement in the wholesale rate markets of the US, Australia and New Zealand (figure 4.2). Volatility in global wholesale markets has been high as markets perceive there to be considerable uncertainty about the future path of interest rates. Investors are facing uncertainty about how quickly and how far central banks will raise policy rates in order to return inflation to target, and how economies will be affected by tightening in monetary policy. Additionally, the pricing of these macroeconomic considerations has been complicated by a deterioration in market liquidity conditions linked to the volatility in global interest rate markets. This has meant that it has been more expensive for market participants to transact.

The New Zealand dollar is broadly unchanged

The New Zealand dollar exchange rate is broadly unchanged on a trade-weighted basis since the May *Statement,* with movements over this period largely aligning with changes in global investor risk appetite (figure 4.3).

Figure 4.2

Global 2-year interest rate swap rates

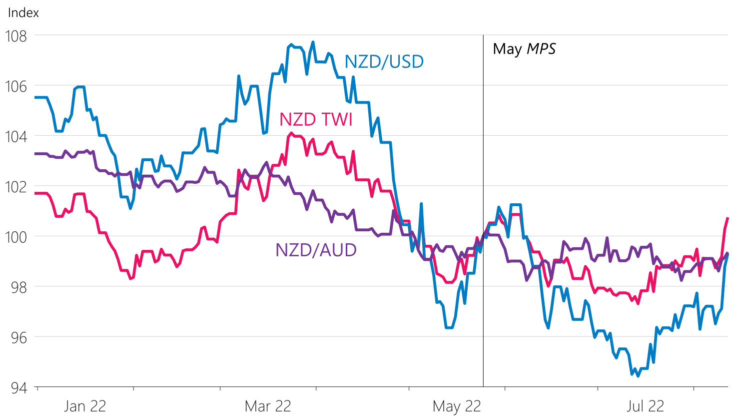


Source: Bloomberg.

Figure 4.3

New Zealand dollar TWI and selected bilateral exchange rates

(Index = 100 at day of May Statement*)*



Source: RBNZ, NZFMA.

An initial period of New Zealand dollar weakness from June until mid-July was driven by deteriorating global risk appetite. This was due to the US Federal Reserve increasing its pace of monetary tightening in response to higher inflation, as well as the global growth outlook deteriorating. These factors increased investors' demand for the US dollar given its status as a safe-haven currency. Commodity prices have also weakened since the May *Statement*, and this has contributed to weakness in the New Zealand dollar.

The subsequent appreciation in the New Zealand dollar has been driven by an improvement in investor sentiment since mid-July, supported by lower expectations for the peak of the US Federal Reserve's policy rate. This improved sentiment was also seen in US equities, with July 2022 being the market's strongest month since 2020.

Bank credit spreads have increased

Bank credit spreads, a measure of the additional cost above benchmark wholesale rates paid by banks to issue debt to wholesale investors, have trended higher over 2022 (figure 4.4). A higher credit spread suggests investors are seeking greater compensation to take on the risk of owning this debt. The widening in this spread is consistent with the deterioration in global risk sentiment and high volatility in global interest rates since the May *Statement*, particularly in June.

Higher wholesale rates have been passed on to mortgage rates

Mortgage rates at the most popular 1- and 2-year terms have increased by around 50 and 20 basis points respectively since the May *Statement* (figure 4.5). Mortgage rates had moved even higher but have since retreated following the partial retracements in wholesale rates. Higher mortgage rates will continue to filter through to larger mortgage payments for many households over the remainder of the year. Roughly 10 percent of mortgages are on floating rates and one quarter of the remaining loans are are due to re-price in the final six months of 2022.

Figure 4.4

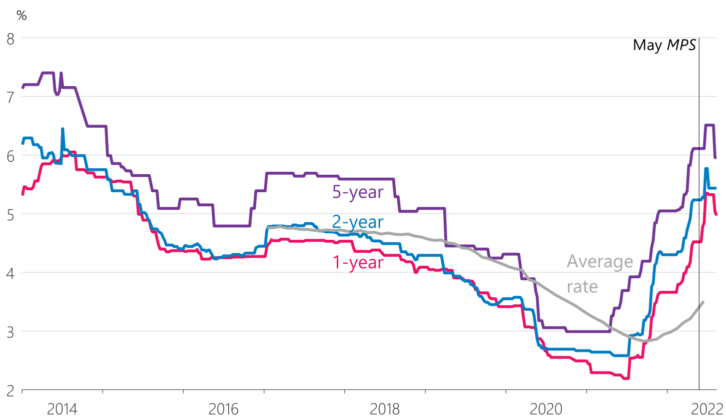
5-year bank credit spread

Source: Bloomberg, RBNZ estimates.

Note: This credit spread is the difference between banks' secondary market bond yields and the interest rate swap curve. The bond yields used for the 5-year measure are the averages of bonds with a remaining maturity of five years issued in New Zealand dollars by ANZ, ASB, BNZ, and Westpac. A lower spread represents a lower implied borrowing cost.

Figure 4.5

Mortgage rates and average interest rate on outstanding mortgages



Source: interest.co.nz, RBNZ Income *Statement* survey.

Note: The mortgage rate shown for each term is the average of the latest 'special' fixed-term rates on offer from ANZ, ASB, BNZ, and Westpac. The average rate is the average interest rate paid on all outstanding mortgages.

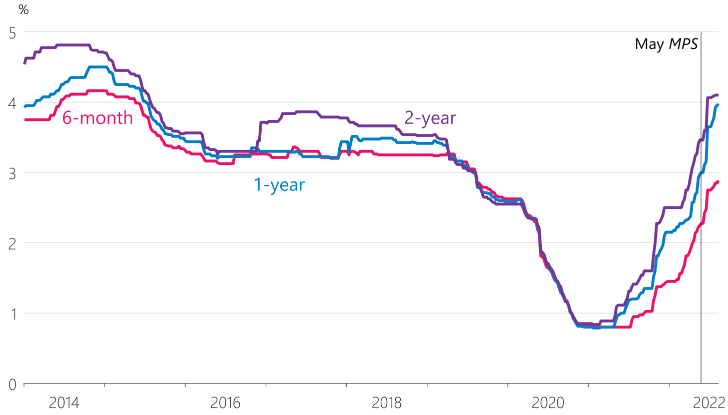
Term deposit rates are increasing as wholesale rates rise

Rates on term deposits, which make up around a quarter of bank funding, have increased by around 60 and 100 basis points respectively at the popular 6-month and 1-year terms since the May *Statement* (figure 4.6). Term deposit volumes have also increased as on-call deposit volumes have decreased (figure 4.7). This increases banks' average funding costs because term deposit rates are higher than the interest rates for on-call deposits.

While term deposit rates have increased since the May *Statement*, the spread of term deposits to relevant benchmark wholesale rates remains very low (figure 4.8). Six-month term deposits were priced roughly one percentage point above the relevant benchmark wholesale rate on average since 2010, whereas currently they are priced close to one percentage point below. The relatively low term deposit rates in part reflect the fact that banks are currently well funded, and may not be competing strongly for term deposits despite them being a relatively cheap source of funding.

Whether and when competition for retail deposits, and hence deposit rates, increases will influence the overall financial conditions faced by households and businesses. Banks are currently well funded and have strong liquidity buffers. Competition between banks for retail deposits is likely to increase as additional allocations from the Funding for Lending Programme end on 6 December. Term deposit rates are low relative to alternative funding sources. As a result, banks are likely to prefer term deposits as their wholesale funding matures. If the spread of deposit rates relative to wholesale rates begins to normalise, it will place upward pressure on banks' funding costs, which may be passed through to their lending rates, resulting in a tightening of financial conditions for borrowers.

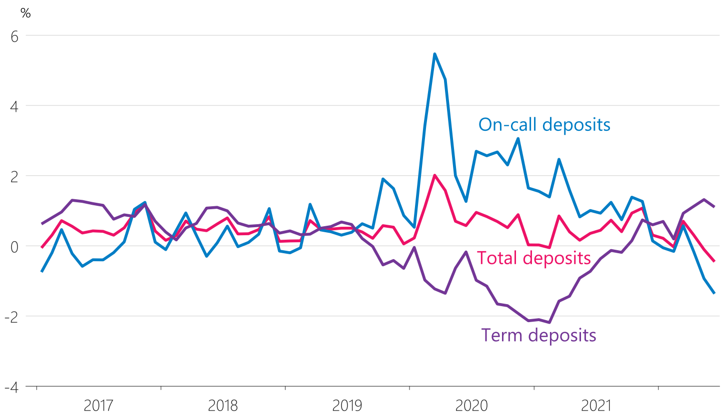
Figure 4.6
Term deposit rates



Source: interest.co.nz.

Note: The rate shown for each term is the average of the latest term deposit rates on offer from ANZ, ASB, BNZ, and Westpac.

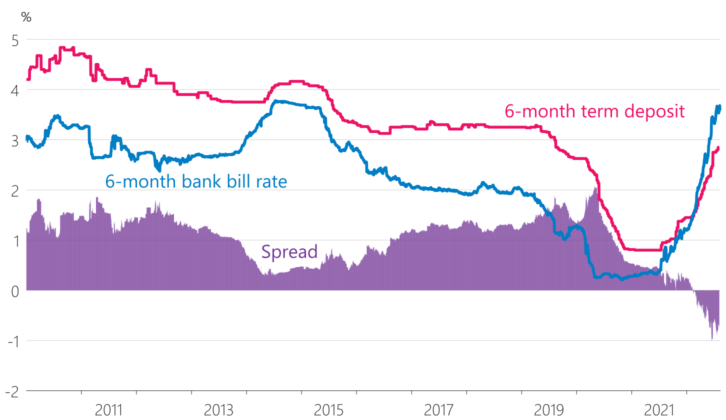
Figure 4.7
Monthly changes in deposit volumes
(3-month moving average)



Source: RBNZ Bank Balance Sheet survey.

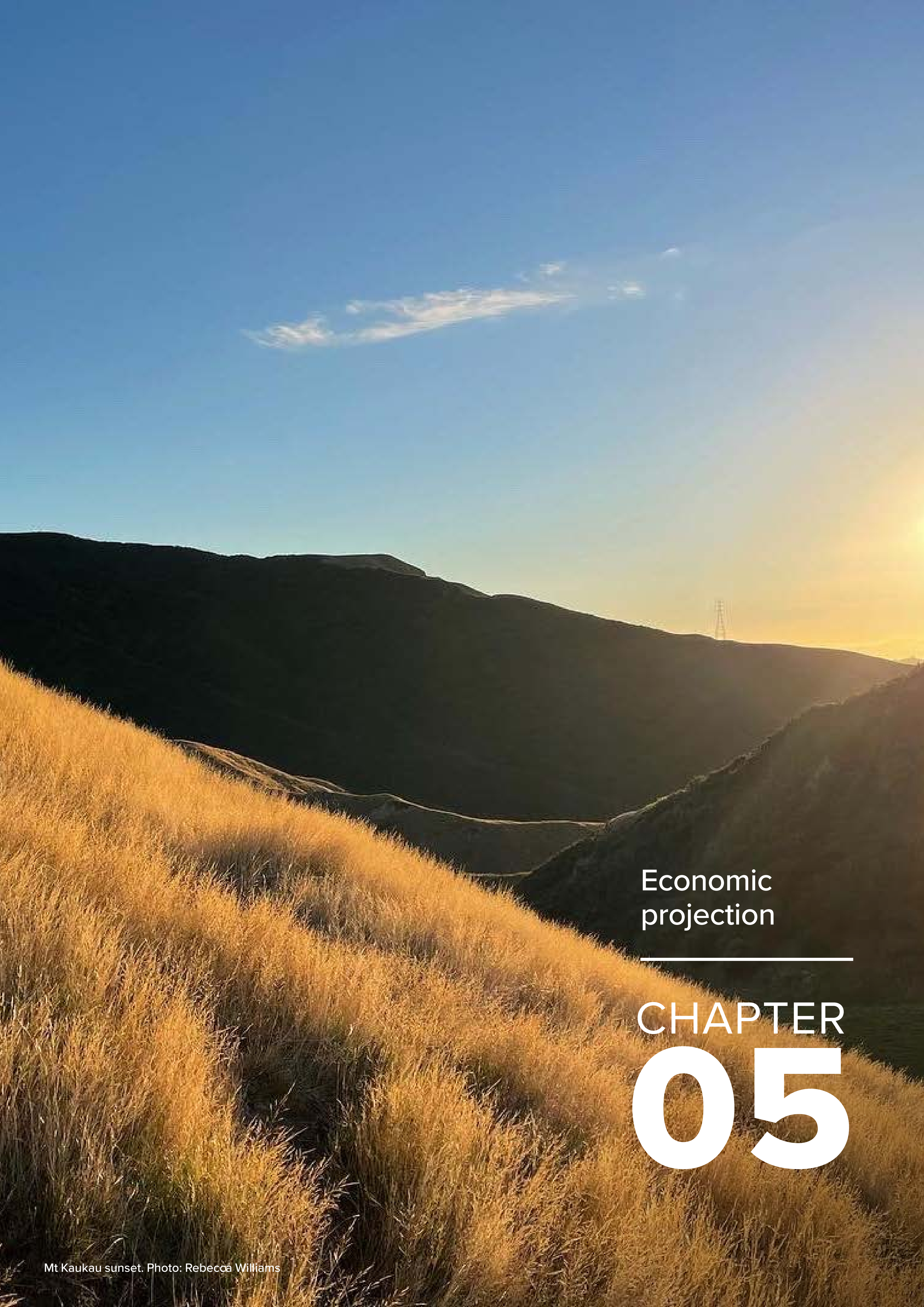
Note: This shows the monthly change in 3-month moving average deposit volumes for locally incorporated registered banks.

Figure 4.8
6-month term deposit to bank bill spread



Source: Bloomberg, interest.co.nz.

Note: This chart shows the difference between the 6-month term deposit and the 6-month bank bill benchmark rate (BKBM).



Economic projection

CHAPTER 05

Mt Kaukau sunset. Photo: Rebecca Williams

CHAPTER 5
Economic projection

This chapter summarises the economic projection that the MPC considered when making its policy assessment. The projection was finalised on 12 August 2022.

This projection relies on a set of key assumptions about the global and domestic economy. These include:

- the pricing impacts of labour shortages and supply-chain bottlenecks, and how and when these delays in the production and delivery of goods are likely to ease;
- how the behaviour of businesses, consumers, and workers might adapt to living with COVID-19 in the community;
- how businesses, consumers, and workers respond to rising costs and higher interest rates;
- the speed and strength of the recovery of international tourism in New Zealand;
- the pace and extent that central banks around the world are raising interest rates; and
- the outlook for global growth and inflation.

There is significant uncertainty about these assumptions, and outcomes could be different if they do not hold.

The projection takes into account recent data, which show rising inflation and a very tight labour market. The factors underpinning this starting point are discussed in chapter 2.

Inflation will remain elevated in the near term. Global inflationary pressures stemming from COVID-19 and the war in Ukraine continue to feed through to domestic inflation. Additionally, domestic demand remained robust over the first half of 2022. This has led to ongoing labour and materials shortages and put upwards pressure on prices.

Over the medium term, we assume that higher interest rates in New Zealand will reduce domestic demand growth. Supply constraints are also expected to ease due to gradual improvements in the availability of materials, population growth through natural increase and net immigration, and a fading impact of COVID-19 on staff absences. Oil prices are expected to fall, and the price increases of New Zealand's other imports are expected to moderate. As a result, CPI inflation is expected to return to its 2 percent target midpoint in 2025. A rising unemployment rate from exceptionally low levels will be required to achieve this target.

Table 5.1

Key projection assumptions

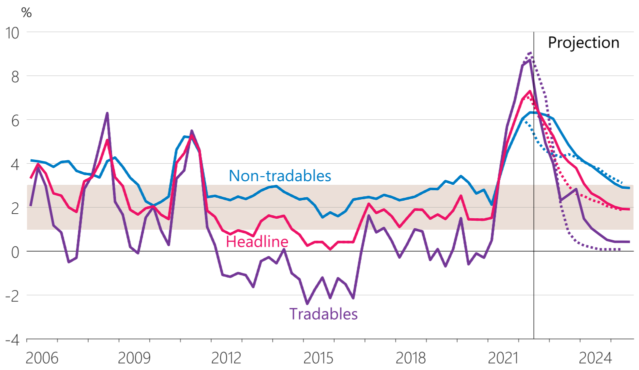
Key factors	
House prices	• House prices have fallen by 7.9 percent since their monthly peak in November 2021. House prices are projected to continue to decline throughout 2022 and much of 2023, consistent with lower sales volumes in recent months. House prices are assumed to decline by 16 percent in total from their monthly peak in November 2021. Annual house price inflation turns positive towards the end of the forecast horizon, as interest rates ease and the population continues to grow. • Higher interest rates are expected to reduce house price growth and the incentive for new home building over the projection horizon. Rising costs for building materials and labour also curb home building, although these pressures are assumed to ease gradually over the projection. • Recent house price falls are expected to slow household spending growth over the projection.
Global factors	• The global economic environment is highly inflationary, particularly in the near term. High global inflation and a low exchange rate are assumed to feed directly into high import prices for New Zealanders. • The global growth outlook is substantially weaker than at the time of the May *Statement*. Growth in China is projected to remain subdued, as COVID-19 and associated restrictions continue to weigh on activity. Growth in developed nations is also expected to slow in line with *Consensus* forecasts. • Prices for the commodities New Zealand exports have declined in recent months. Goods export prices are assumed to decline by 7 percent on a trade-weighted basis over the forecast horizon, in line with softening global demand and a gradual recovery in global food supply following the Russian invasion of Ukraine. • The New Zealand dollar trade-weighted index (TWI) is assumed to remain at 71.7 consistent with the current quarterly average. • Oil prices are expected to remain relatively high, even as global demand softens. Oil prices are expected to gradually return from about USD 100 towards USD 85 per barrel, in line with risk-adjusted futures market pricing.
COVID-19 and health restrictions	• The spread of the Omicron variant of COVID-19 in the community and associated restrictions on activity are estimated to have reduced potential output over the first half of 2022. • Daily COVID-19 cases rose in July, after several months of steady decline. We assume that daily COVID-19 cases resume a gradual decline over the forecast horizon. Over time, this is expected to reduce pressure in the labour market.

Economic growth	
Production	• Some factors continue to support activity in the near term. High export prices, household savings built up during lockdowns, and government spending are supporting economic growth in 2022. International visitor arrivals suggest that international tourism has picked up since the border reopened, providing an additional boost to near-term growth. • Although GDP declined slightly in the March 2022 quarter, most data sources suggest underlying resilience in economic activity over the first half of 2022. GDP is assumed to have rebounded in the June quarter of 2022. • Over the medium term, higher interest rates, lower consumer confidence, and recent falls in house prices will contribute to weaker economic growth over the forecast horizon. Annual average GDP growth of just 1.4 percent is expected by the end of 2023. • The average annual output gap in 2022 is estimated to be 2.1 percent of potential GDP, compared to 1.95 percent in 2021. This reflects both a tighter labour market and elevated capacity pressure in the goods market. • We expect the output gap to start closing quickly, as households and businesses respond to higher interest rates in the economy. • Over the medium term, the supply of goods and services is also expected to improve. We assume that supply-chain bottlenecks continue to ease and that labour supply is bolstered by the resumption of migration, resulting in a negative output gap in the latter part of the projection.
Consumption	• Consumption growth appears robust over the first half of 2022. We assume that consumption continues to be supported in the near term by the Government's Cost of Living Payment and extra savings built up during the pandemic. Incomes have also been buoyed by high export prices and government support for jobs and businesses, but these factors are projected to dissipate over the projection horizon. • High interest rates, lower house prices, and falling real (inflation-adjusted) incomes are expected to slow consumption growth over coming quarters. Consumption is expected to decline on a per-capita basis over 2023.
Investment	• We assume that the outlook for business investment remains weak, relative to its trend. Factors supporting business investment in recent quarters are expected to wane over the projection horizon. These factors include previous low interest rates, higher export prices, fiscal support, and capacity pressures. • We have revised our outlook for residential construction significantly lower than assumed in the May *Statement* as the effects of capacity pressures, higher interest rates, and tighter credit conditions on house prices and residential construction become more evident. Despite the softening housing market, building consent issuance has so far remained elevated. Due to capacity, cost, and financial pressures facing the construction sector, we expect some consented projects to be postponed or cancelled.
Government	• We assume that government consumption and investment evolve in line with the fiscal forecasts in the 2022 *Budget*. We assume a smoother profile for government consumption as measured in the System of National Accounts (SNA) relative to the May *Statement*.
Exports and imports	• International tourist arrivals and departures have increased considerably since border restrictions began easing earlier in the year. Both exports of services (international visitors to New Zealand) and imports of services (New Zealanders travelling overseas) are expected to increase considerably over 2022. However, the ongoing impacts of the pandemic, higher global inflation, and lower global growth are expected to dampen the rebound in tourism demand, particularly out of China. Exports of services are assumed to remain below pre-pandemic peaks. • Global food shortages, resilient demand, and a lower New Zealand dollar have boosted prices for our meat and dairy exports. However, severe capacity constraints and bad weather conditions led to a fall in seasonally-adjusted goods export volumes in the March 2022 quarter. While a small rebound is expected in the June 2022 quarter, export growth is expected to moderate over the medium term, reflecting declining global demand.

Labour market	
Employment and wages	• The New Zealand labour market remains robust. The unemployment rate increased slightly to 3.3 percent in the June 2022 quarter, from 3.2 percent in the previous quarter. Our suite of labour market indicators continue to suggest that the economy is well above Maximum Sustainable Employment. • Labour market pressures are projected to gradually ease in line with moderating demand and gradual growth in the labour force. Job numbers are expected to be flat in 2023, in order for employment to return to its maximum sustainable level over the medium term. Employment may need to fall below its maximum sustainable level for a short time to combat accumulated inflationary pressure. This is consistent with the unemployment rate rising to about 5 percent by the end of the projection as workforce supply growth outstrips additional labour demand. • Annual Labour Cost Index (LCI) private-sector wage inflation is expected to continue to increase, peaking at around 5.0 percent in 2023. This is due to ongoing labour shortages, expected further rises in the minimum wage, and workers seeking compensation for higher living costs.
Inflation	
Headline	• Annual CPI inflation is assumed to decline from 7.3 percent in the June 2022 quarter to 6.4 percent in the September 2022 quarter, partly due to the strong quarterly increase from September 2021 dropping out of the annual calculation. • Over 2023, annual headline inflation is projected to continue declining gradually, returning to the top of the 1 to 3 percent target band by early 2024. • Annual headline inflation is expected to continue to trend down in the latter half of the projection horizon, reaching the 2 percent midpoint of the target band at the end of the projection in 2025.
Tradables	• Annual tradables inflation is assumed to decline from its peak of 8.7 percent in the June quarter 2022 to 5 percent by the end of the year. This reflects slowing global demand and falling oil prices. • Supply-chain bottlenecks are expected to persist in the near term, contributing to imported inflation. • Over the medium term, weaker global demand and a gradual easing of international supply constraints are expected to see tradables inflation decline.
Non-tradables	• Annual non-tradables inflation remains high but declines over the projection, from 6.3 percent in the June 2022 quarter to just below 3 percent by the end of the projection horizon. • Materials and labour shortages in the construction industry continue to underpin housing-related cost increases. However, capacity pressures are assumed to ease as interest rates rise, house prices keep falling, and home building slows. Slower domestic activity growth and lower house prices over 2022 are expected to see annual non-tradables inflation steadily ease over coming years.

Charts

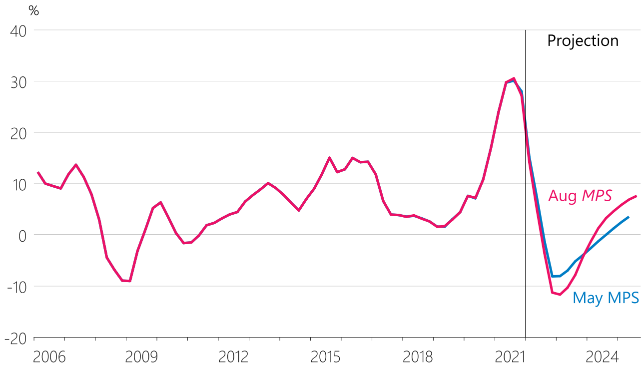
Figure 5.1
Inflation breakdown
(annual)



Source: Stats NZ, RBNZ estimates.

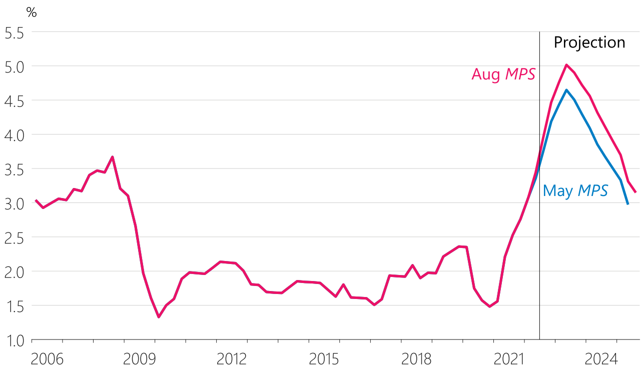
Note: Dotted lines show the projection from the May *Statement*.

Figure 5.4
Annual house price growth
(quarterly, nominal, seasonally adjusted)



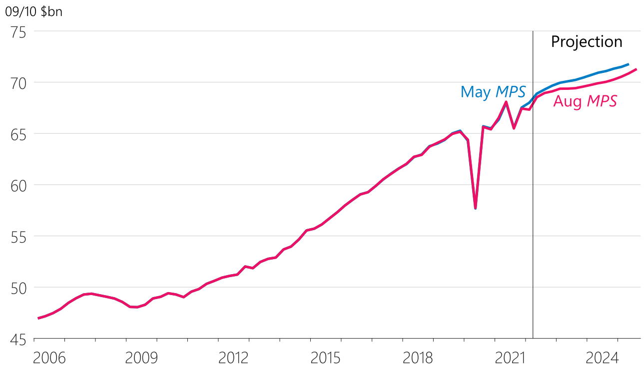
Source: CoreLogic, RBNZ estimates.

Figure 5.2
Private sector LCI wage inflation
(annual, nominal)



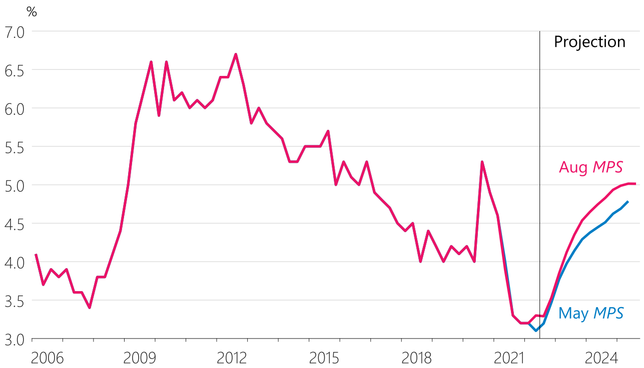
Source: Stats NZ, RBNZ estimates.

Figure 5.5
Quarterly production GDP
(real, seasonally adjusted)



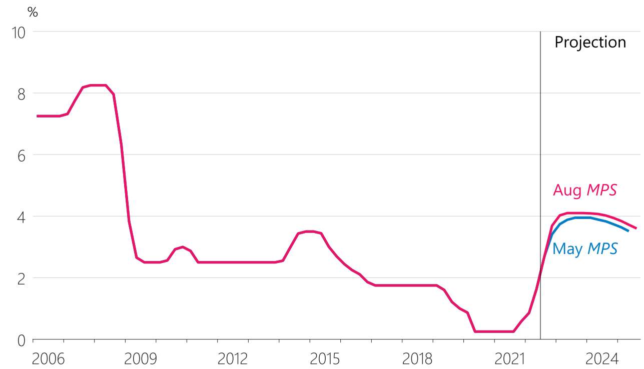
Source: Stats NZ, RBNZ estimates.

Figure 5.3
Unemployment rate
(share of labour force, seasonally adjusted)

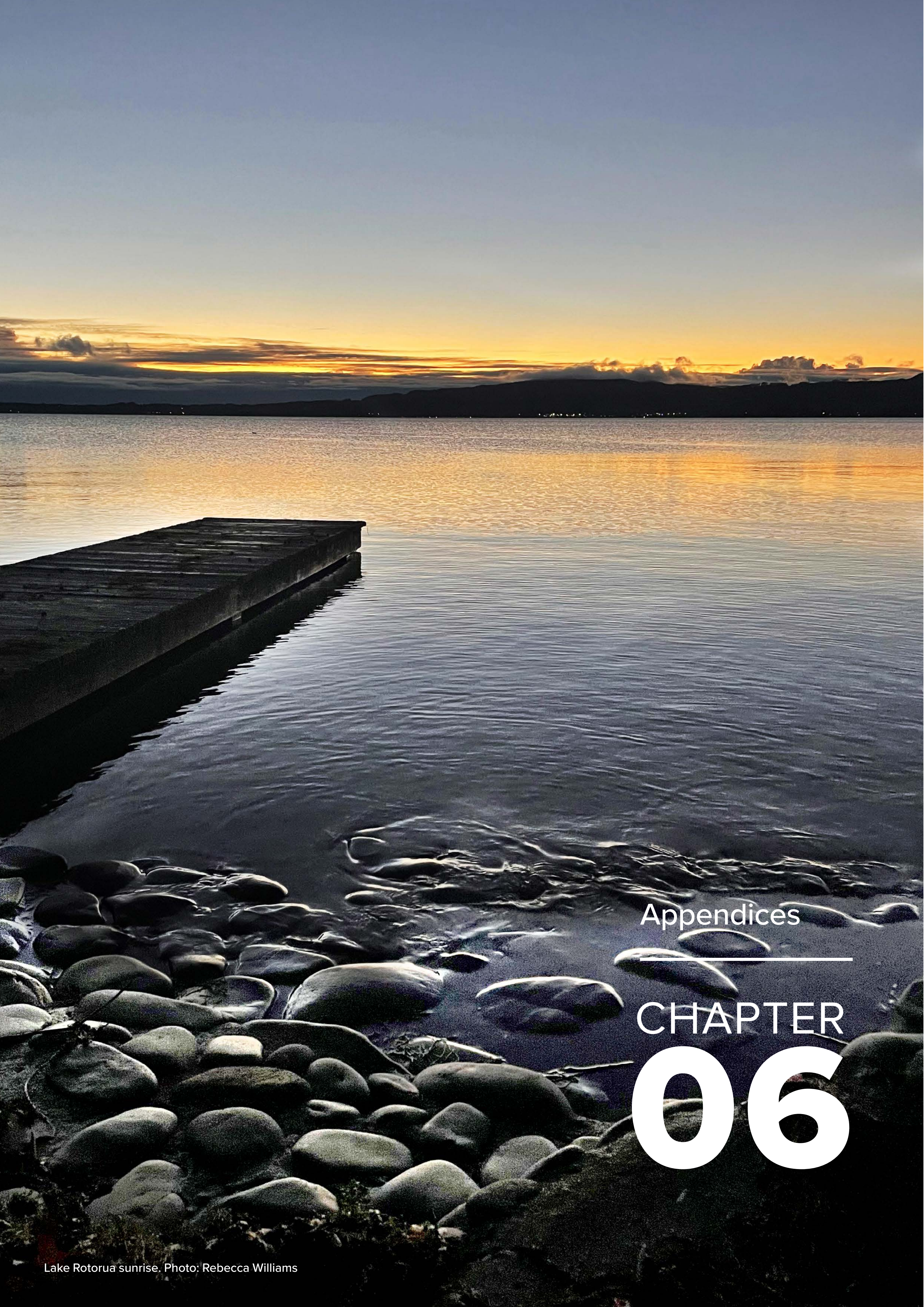


Source: Stats NZ, RBNZ estimates.

Figure 5.6
OCR
(quarterly average)



Source: RBNZ estimates.



Appendices

CHAPTER 06

Lake Rotorua sunrise. Photo: Rebecca Williams

CHAPTER 6
Appendices

Appendix 1: Statistical tables

Table 6.1
Key forecast variables

		GDP growth Quarterly	CPI inflation Quarterly	CPI inflation Annual	Unemployment rate	TWI	OCR
2020	Mar	-1.2	0.8	2.5	4.2	70.9	0.9
	Jun	-10.3	-0.5	1.5	4.0	69.7	0.3
	Sep	13.7	0.7	1.4	5.3	72.0	0.3
	Dec	-0.4	0.5	1.4	4.9	72.9	0.3
2021	Mar	1.7	0.8	1.5	4.6	74.9	0.3
	Jun	2.4	1.3	3.3	3.9	74.7	0.3
	Sep	-3.8	2.2	4.9	3.3	74.4	0.3
	Dec	3.0	1.4	5.9	3.2	74.3	0.6
2022	Mar	-0.2	1.8	6.9	3.2	72.6	0.9
	Jun	**1.8**	1.7	7.3	3.3	72.1	1.6
	Sep	**0.6**	**1.4**	**6.4**	**3.3**	**71.7**	**2.7**
	Dec	**0.2**	**0.8**	**5.8**	**3.5**	**71.7**	**3.7**
2023	Mar	**0.4**	**1.3**	**5.3**	**3.8**	**71.7**	**4.0**
	Jun	**0.0**	**0.9**	**4.5**	**4.1**	**71.7**	**4.1**
	Sep	**0.1**	**1.0**	**4.1**	**4.4**	**71.7**	**4.1**
	Dec	**0.2**	**0.6**	**3.8**	**4.5**	**71.7**	**4.1**
2024	Mar	**0.2**	**0.6**	**3.1**	**4.6**	**71.7**	**4.1**
	Jun	**0.2**	**0.5**	**2.6**	**4.7**	**71.7**	**4.1**
	Sep	**0.2**	**0.8**	**2.4**	**4.8**	**71.7**	**4.0**
	Dec	**0.3**	**0.3**	**2.2**	**4.9**	**71.7**	**3.9**
2025	Mar	**0.4**	**0.4**	**2.0**	**5.0**	**71.7**	**3.8**
	Jun	**0.5**	**0.4**	**1.9**	**5.0**	**71.7**	**3.7**
	Sep	**0.6**	**0.8**	**1.9**	**5.0**	**71.7**	**3.6**

Table 6.2

Measures of inflation, inflation expectations, and asset prices

	2020	2021				2022		
	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep
Inflation (annual rates)								
CPI	1.4	1.5	3.3	4.9	5.9	6.9	7.3	
CPI non-tradables	2.8	2.1	3.3	4.5	5.3	6.0	6.3	
CPI tradables	-0.3	0.5	3.4	5.7	6.9	8.5	8.7	
Sectoral factor model estimate of core inflation	2.3	2.5	3.1	3.7	4.2	4.6	4.8	
CPI trimmed mean (30 percent measure)	2.2	1.7	3.0	4.0	4.3	5.2	5.8	
CPI weighted median	2.7	2.3	3.0	3.3	3.8	3.9	4.8	
GDP deflator (expenditure)	0.7	0.4	2.4	3.8	5.0	6.1		
Inflation expectations								
ANZ Business Outlook – inflation one year ahead (quarterly average to date)	1.5	1.9	2.2	2.9	4.0	5.4	6.0	6.2
RBNZ Survey of Expectations – inflation 2 years ahead	1.6	1.9	2.0	2.3	3.0	3.3	3.3	3.1
RBNZ Survey of Expectations – inflation 5 years ahead	1.9	2.0	2.1	2.0	2.2	2.3	2.4	2.3
RBNZ Survey of Expectations – inflation 10 years ahead	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1
Long-run inflation expectations*	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.3
Asset prices (annual percent changes)								
Quarterly house price index (CoreLogic NZ)	16.9	24.0	29.8	30.6	27.2			
REINZ Farm Price Index (quarterly average)	-0.5	6.9	6.3	15.1	20.5	25.6	31.0	
NZX 50 (quarterly average)	13.4	14.5	16.7	10.3	3.0	-4.0	-9.3	-12.4

Source: ANZ, Consensus Economics, RBNZ estimates.

*Long-run expectations are extracted from a range of surveys using a Nelson-Siegel model.

Table 6.3

Measures of labour market conditions

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

	2020	2021				2022	
	Dec	Mar	Jun	Sep	Dec	Mar	Jun
Household Labour Force Survey							
Unemployment rate	4.9	4.6	3.9	3.3	3.2	3.2	3.3
Underutilisation rate	11.9	12.1	10.5	9.2	9.2	9.3	9.2
Labour force participation rate	70.2	70.4	70.5	71.2	71.0	70.9	70.8
Employment rate (percentage of working-age population)	66.8	67.1	67.7	68.8	68.8	68.6	68.5
Employment growth	0.6	0.1	1.5	4.0	3.4	2.7	1.6
Average weekly hours worked	34.9	33.9	34.0	31.2	33.5	33.4	33.7
Number unemployed (thousand people)	141.0	133.0	114.0	97.0	93.0	94.0	96.0
Number employed (million people)	2.7	2.7	2.8	2.8	2.8	2.8	2.8
Labour force (million people)	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Extended labour force (million people)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Working-age population (million people)	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Quarterly Employment Survey – QES							
Filled jobs growth	0.2	0.5	2.5	4.0	4.1	4.2	1.6
Average hourly earnings growth (private sector, ordinary time)	4.6	4.1	4.4	3.6	4.1	5.3	7.0
Other data sources							
Labour cost index growth, private sector	1.5	1.6	2.2	2.5	2.8	3.1	3.4
Labour cost index growth, private sector, unadjusted	2.4	2.8	3.7	4.1	4.5	5.0	5.2
Estimated net migration (published, thousands, quarterly)	-2.5	-3.5	-4.7	-4.0			
Change in All Vacancies Index	14.6	123.6	55.2	28.0	19.8	4.3	3.3

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. It is converted to quarterly and seasonally adjusted by the Reserve Bank. The unadjusted 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), *Introducing underutilisation in the labour market*. Estimated net migration (published) is the Stats NZ outcomes-based measure.

Table 6.4

Composition of real GDP growth

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

	Actuals								Projection		
March year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Final consumption expenditure											
Private	3.3	4.2	6.4	4.8	4.5	2.5	0.6	4.5	**2.7**	**-0.7**	**1.3**
Public authority	2.9	2.2	1.9	3.7	3.4	5.8	7.5	10.4	**5.3**	**-0.1**	**-0.9**
Total	**3.2**	**3.7**	**5.4**	**4.5**	**4.3**	**3.2**	**2.2**	**5.9**	**3.4**	**-0.6**	**0.7**
Gross fixed capital formation											
Residential	8.3	7.1	8.8	-1.8	-0.1	2.8	1.8	7.1	**-0.5**	**-3.1**	**0.1**
Other	8.0	2.5	-0.1	10.3	7.0	2.4	-6.8	10.0	**5.2**	**0.8**	**-1.8**
Total	**8.1**	**3.6**	**2.2**	**7.0**	**5.2**	**2.5**	**-4.7**	**9.2**	**3.8**	**-0.1**	**-1.3**
Final domestic expenditure	4.3	3.7	4.6	5.1	4.5	3.1	0.6	6.6	**3.5**	**-0.5**	**0.3**
Stockbuilding*	0.5	-0.3	0.1	0.2	-0.2	-0.2	-0.2	0.8	**-0.7**	**0.2**	**0.0**
Gross national expenditure	**4.6**	**3.2**	**4.8**	**5.6**	**4.3**	**2.8**	**-0.6**	**8.1**	**2.7**	**-0.1**	**0.3**
Exports of goods and services	4.7	6.8	2.1	3.8	3.4	0.3	-17.6	2.0	**7.8**	**8.4**	**4.6**
Imports of goods and services	7.7	2.6	5.6	7.8	4.3	1.0	-15.9	17.1	**7.1**	**3.5**	**1.8**
Expenditure on GDP	**3.6**	**4.4**	**3.7**	**4.3**	**4.0**	**2.7**	**-0.2**	**4.1**	**2.5**	**0.8**	**0.9**
GDP (production)	3.8	3.8	3.8	3.6	3.4	2.2	-1.4	5.1	**2.8**	**0.8**	**1.0**
GDP (production, March qtr to March qtr)	3.8	4.1	3.3	3.6	3.3	0.5	3.3	1.2	**3.0**	**0.5**	**1.2**

*Percentage point contribution to the growth rate of GDP.

Table 6.5

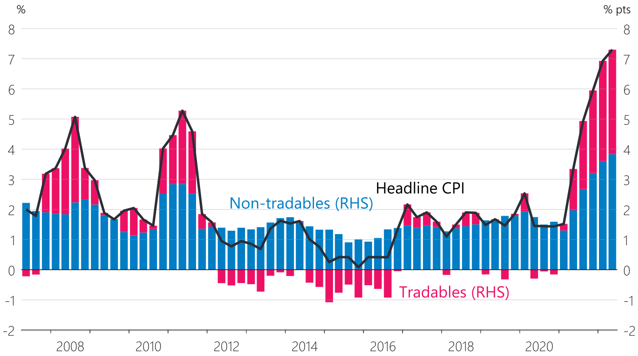
Summary of economic projection

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

	Actuals								Projection		
March year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Price measures											
CPI	0.3	0.4	2.2	1.1	1.5	2.5	1.5	6.9	**5.3**	**3.1**	**2.0**
Labour costs	1.8	1.8	1.5	1.9	2.0	2.4	1.6	3.1	**4.8**	**4.6**	**3.7**
Export prices (in New Zealand dollars)	-8.0	0.7	4.2	3.3	1.2	6.8	-6.2	21.3	**1.9**	**-3.2**	**0.3**
Import prices (in New Zealand dollars)	-3.4	1.2	0.6	1.8	4.3	2.5	-2.5	19.1	**4.7**	**-3.0**	**-1.0**
Monetary conditions											
OCR (year average)	3.4	2.9	2.0	1.8	1.8	1.2	0.3	0.5	**3.0**	**4.1**	**4.0**
TWI (year average)	79.3	72.6	76.5	75.6	73.4	71.7	72.4	74.0	**71.8**	**71.7**	**71.7**
Output											
GDP (production, annual average % change)	3.8	3.8	3.8	3.6	3.4	2.2	-1.4	5.1	**2.8**	**0.8**	**1.0**
Potential output (annual average % change)	3.0	3.2	3.3	3.3	3.2	2.8	-1.2	2.9	**3.0**	**2.6**	**2.1**
Output gap (% of potential GDP, year average)	-0.7	-0.1	0.4	0.7	0.9	0.3	-0.1	2.1	**2.0**	**0.1**	**-0.9**
Labour market											
Total employment (seasonally adjusted)	3.6	2.2	5.9	2.9	1.5	2.5	0.1	2.7	**-0.1**	**0.1**	**0.7**
Unemployment rate (March qtr, seasonally adjusted)	5.5	5.3	4.9	4.4	4.2	4.2	4.6	3.2	**3.8**	**4.6**	**5.0**
Trend labour productivity	0.7	0.6	0.5	0.5	0.6	0.7	0.9	1.0	**0.9**	**0.9**	**0.8**
Key balances											
Government operating balance (% of GDP, year to June)	0.2	0.7	1.5	1.9	2.4	-7.2	-1.4	**-4.9**	**-2.5**	**-1.9**	**-0.8**
Current account balance (% of GDP)	-3.5	-2.4	-2.6	-3.0	-3.7	-2.3	-2.4	-6.4	**-7.9**	**-7.9**	**-7.3**
Terms of trade (SNA measure, annual average % change)	0.1	-3.1	2.5	4.5	-2.5	1.9	-1.0	0.4	**-1.7**	**-1.6**	**0.7**
Household saving rate (% of disposable income)	-0.8	-0.5	0.0	-0.2	0.7	2.9	5.8	2.8	**1.2**	**1.1**	**0.9**
World economy											
Trading-partner GDP (annual average % change)	3.7	3.4	3.5	3.9	3.5	1.7	-0.7	5.7	**3.2**	**3.1**	**3.2**
Trading-partner CPI (TWI weighted)	1.0	1.2	1.9	1.8	1.4	2.4	0.8	4.0	**4.4**	**2.3**	**2.2**

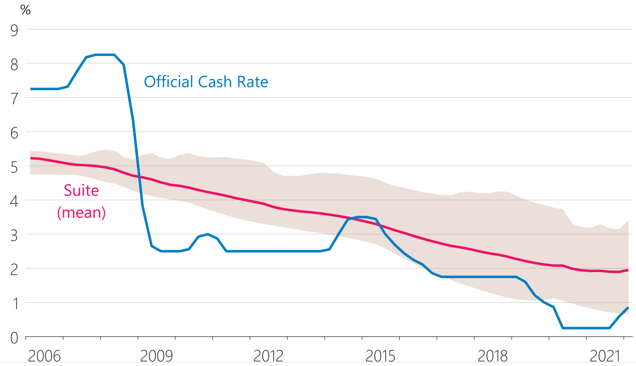
Appendix 2: Chart pack

Figure 6.1
Composition of CPI inflation
(annual)



Source: Stats NZ.

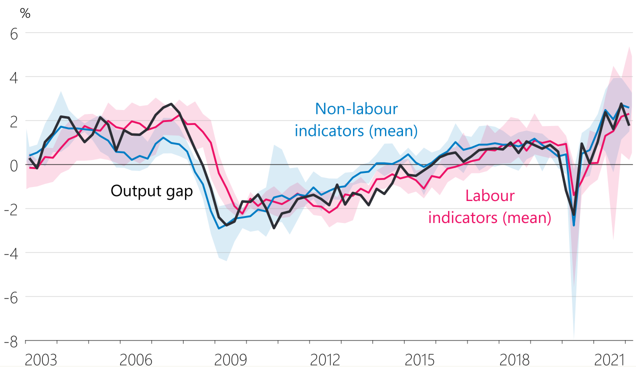
Figure 6.4
OCR and neutral OCR indicator suite
(quarterly average)



Source: RBNZ estimates.

Note: The shaded area indicates the range between the maximum and minimum values from a suite of neutral OCR indicators.

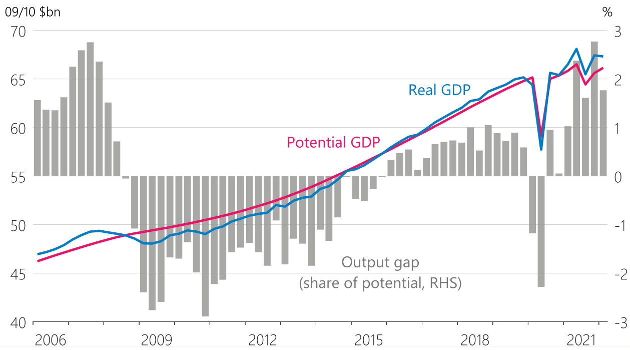
Figure 6.2
Output gap and output gap indicators
(share of potential)



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

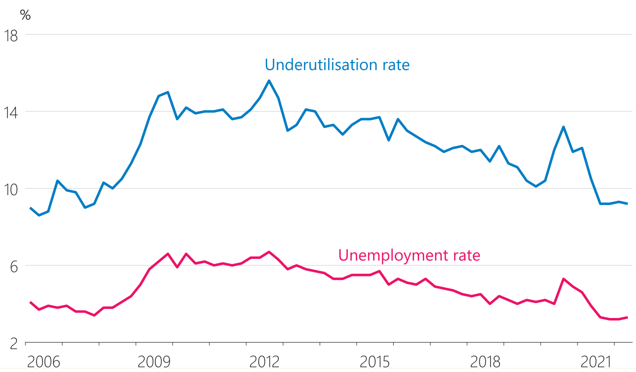
Note: The output gap indicators based on information about the labour market are shown separately from the other indicators. For each group of indicators, the shaded area shows the range of values and the line shows the mean value.

Figure 6.5
GDP and potential GDP
(seasonally adjusted)



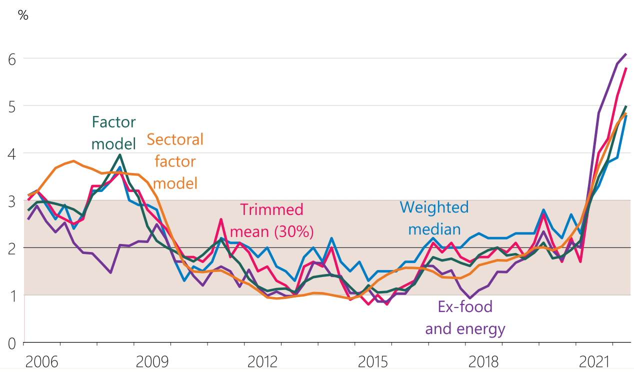
Source: Stats NZ, RBNZ estimates.

Figure 6.3
Unemployment and underutilisation rates
(seasonally adjusted)



Source: Stats NZ.

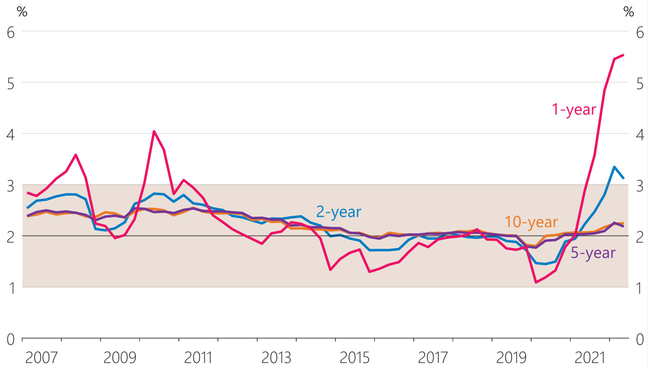
Figure 6.6
Measures of core inflation
(annual)



Source: Stats NZ, RBNZ estimates.

Note: Core inflation measures exclude the GST increase in 2010.

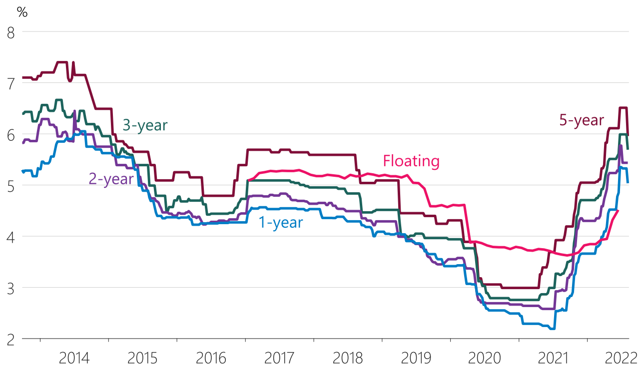
Figure 6.7
Inflation expectations
(annual)



Source: RBNZ estimates.

Note: Inflation expectations are estimates from the RBNZ inflation expectations curve, based on surveys of businesses and professional forecasters.

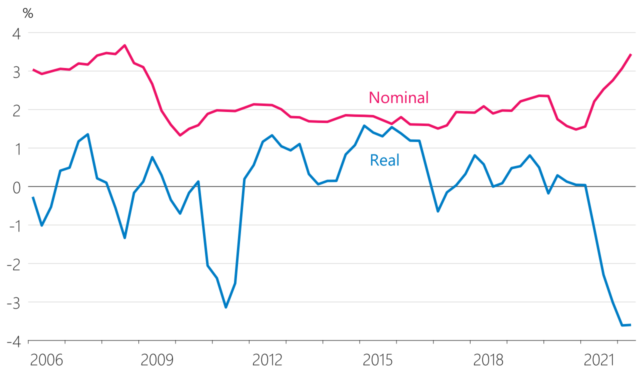
Figure 6.10
Mortgage rates



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*.

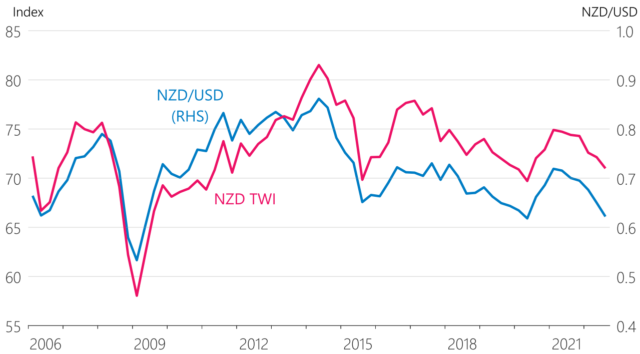
Figure 6.8
Private sector wage growth
(annual)



Source: Stats NZ, RBNZ estimates.

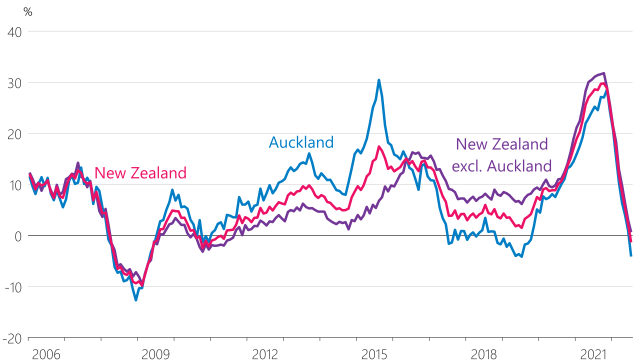
Note: Private sector wage growth is measured by the labour cost index, all salary and wage rates, private sector. Real labour cost index is deflated with headline CPI inflation.

Figure 6.11
New Zealand dollar exchange rates
(quarterly average)



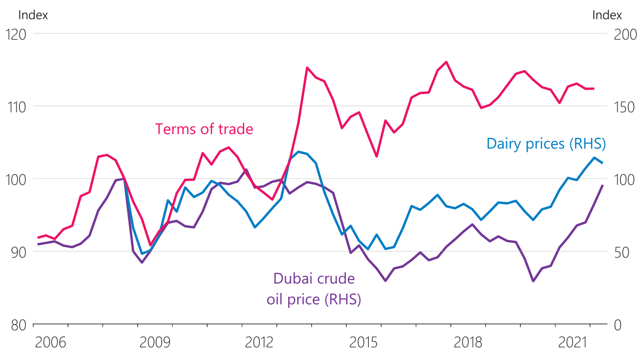
Source: Reuters, RBNZ.

Figure 6.9
House price inflation
(annual, nominal)



Source: REINZ.

Figure 6.12
Terms of trade, dairy and oil price indices



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