Monetary Policy Statement
November 2020
Statement of the MPC’s monetary policy strategy

The Monetary Policy Committee’s (MPC) monetary policy strategy is its overarching plan for how it will formulate monetary policy under different circumstances to achieve its objectives. 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. 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 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.

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.
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.

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.

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 to the 2 percent target mid-point, regardless of whether inflation is currently below or above target. 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.

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. Monetary policy and prudential policy are coordinated to ensure that changes in one policy are taken into account when setting the other.

Implementation of strategy

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

1. Firstly, it considers the outlook for the economy and its policy objectives. It then discusses risks to achieving its policy objectives.

2. Next, it deliberates about 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.
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November 2020

Scenarios and data finalised on 5 November 2020.
Policy assessment and summary record of meeting finalised on 11 November 2020.

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Tēnā koutou katoa, welcome all.

The Monetary Policy Committee agreed to provide additional monetary stimulus to the economy in order to meet its consumer price inflation and employment remit. The Committee agreed that the additional stimulus would be provided through a Funding for Lending Programme (FLP), commencing in December. The FLP will reduce banks’ funding costs and lower interest rates.

The Committee will also continue with the Large Scale Asset Purchase (LSAP) Programme up to $100 billion, and retain the Official Cash Rate (OCR) at 0.25 percent in accordance with the guidance issued on 16 March.

Progress has been made on the Bank’s operational ability to deploy an FLP and a negative OCR. The Committee agreed that these instruments can be mutually supportive in bolstering economic activity if necessary.

Economic activity since the August Monetary Policy Statement, both international and domestic, has proved more resilient than earlier assumed. In New Zealand this trend was evident across a range of indicators, including employment, household spending, GDP, and asset prices. These outcomes reflect the effectiveness of the health and economic policy responses to the initial shock.

However, the COVID-19 shock to the economy is very large and persistent, and inflation and employment will remain below the remit targets for a prolonged period. These outcomes are despite the current significant fiscal and monetary stimulus.

The outlook for global economic activity remains dependent on the containment of the virus. While recent news on vaccine developments is positive, there remains a long and uncertain lag before any widespread vaccine deployment may be achieved. Meanwhile international border restrictions will continue to curtail international trade and migration, with variable impacts across industries and regions. International prices for New Zealand’s exports have remained resilient, although export returns continue to be partly offset by the New Zealand dollar exchange rate.
Domestically, fiscal stimulus remains significant even with the Wage Subsidy scheme having now run its course. Government spending on business assistance and household income support continues, and government investment will rise.

However, we expect an ongoing increase in unemployment as the economy adjusts. Consumer price inflation is also projected to remain at the lower-end of the remit target range for a period, and inflation expectations remain subdued.

The Committee agreed that monetary policy will need to remain stimulatory for a long time to meet the consumer price inflation and employment remit, and that it must remain prepared to provide additional support if necessary.

Meitaki, thanks.

Adrian Orr
Governor
Summary record of meeting

The Monetary Policy Committee discussed international economic and financial market developments. The Committee noted that following a severe contraction, economic activity has subsequently improved. However, these outcomes diverged across countries, depending largely on the degree of social restrictions imposed as a COVID-19 containment measure.

Members noted that economic activity had been surprisingly resilient in some economies, including China. They also noted that the impact on New Zealand of the global economic weakness had been more muted than expected, with commodity and asset prices remaining firm. However, members remained concerned about the downside risks from the persistent spread of the virus in Europe and the United States in particular, which would constrain demand for global exports.

Members discussed domestic economic developments since the August Statement. Overall, economic outcomes had been more resilient than earlier assumed. This trend was evident across a range of information, including the labour market, household spending, GDP, asset prices, and goods trade. These outcomes partly reflected the effectiveness of policy responses to the shock.

However, members noted that the severe economic effects of the pandemic were persisting and have significant implications for the Committee in meeting its remit. Both headline and underlying inflation were below 2 percent, inflation expectations were subdued, and employment was assessed to be below its maximum sustainable level.

The Committee discussed the implications of the pandemic and associated steps to contain it for the New Zealand economy. The implications of closed international borders meant service export industries, such as tourism, would operate well below capacity for a prolonged period. Meanwhile, economic activity in other sectors appeared resilient, with labour shortages re-emerging in some cases.

The Committee agreed that the assessed maximum sustainable level of employment may continue to be lower than otherwise while the economy adjusted to the virus shock. Some members noted that resources could take a considerable period to be redeployed, which could result in isolated cost pressures. Others emphasised that underutilised labour from some sectors would put downward pressure on wages and inflation.

Members agreed that there was substantial uncertainty around how the economy would adjust. The Committee agreed that it remained appropriate for fiscal policy to play the primary role in bolstering economic outcomes, given the nature of the economic shock, with monetary policy in an important support role.

Members discussed the outlook for inflation and employment. Staff presented a baseline scenario, conditioned on a number of assumptions, including that there were no further substantial community outbreaks of COVID-19 in New Zealand, and that the international border would be fully open by 2022.

In this scenario, the labour market was projected to weaken further in the near term. It was projected to recover over subsequent years, in particular after the border was assumed to be fully reopened. Inflation was projected to fluctuate around the bottom of the Committee’s 1 to 3 percent target range until late in the projection period.
Most Committee members agreed that risks to the baseline scenario were less skewed to the downside than they had appeared earlier in the year. Economic outcomes could be stronger than assumed if household or business spending accelerated, for instance due to an earlier partial border reopening, or a higher propensity to consume out of household wealth. The latter could be supported by higher housing and financial asset prices, or improving sentiment about the global health outlook and its management. Members agreed that recent news around vaccine development was promising, but that there were still challenges to overcome before widespread availability could be achieved.

Members agreed, however, that it was still the case that unpredictable events could push inflation and employment significantly lower than in the baseline scenario. They discussed events such as ongoing virus outbreaks, delays in borders reopening, and continued reluctance to invest by businesses due to general uncertainty.

The Committee discussed the effects of its recent monetary policy actions. Members noted that wholesale interest rates had eased following the August Statement. This reflected the expansion and front-loading of the Large Scale Asset Purchase (LSAP) programme, and expectations from market participants that the OCR could be reduced below zero next year. Bank term deposit rates had also fallen substantially in recent months. In particular, these falls had followed the Committee’s guidance to Bank staff issued in September to prepare a Funding for Lending Programme (FLP) to be ready to deploy before the end of the year.

However, members noted that bank lending rates were largely unchanged since August despite the reduction in funding costs. They discussed the importance of banks passing on funding cost reductions to their lending rates in order for monetary policy to transmit effectively. Members noted that the Reserve Bank had announced a further 12-month delay to the start date of increased capital requirements for banks following the capital review, to July 2022, which would assist them in maintaining lending growth.

The Committee agreed that a prolonged economic downturn would make it difficult to achieve its inflation and employment objectives. Some members noted that while the decline in inflation expectations this year was not surprising given the scale of the shock, it would be concerning if expectations fell further or remained low for a prolonged period. The Committee agreed that it was important to anchor inflation expectations around the mid-point of the target range over the medium term.

Members agreed that, under current circumstances, the appropriate stance to achieve its remit objectives would be to provide further monetary stimulus. They also agreed that providing sufficient monetary stimulus would also promote financial stability, through improved employment and household income prospects. The Committee agreed that, given the current inflation and employment conditions, and the ongoing significant uncertainty with regard to the outlook, there was less regret associated with the risk of temporarily overshooting their policy remit.

The Committee noted that other prudential policy settings could be adjusted to reduce risks to the financial system if required. Members noted that the Reserve Bank will consult on the possible reintroduction of limits on high loan-to-value ratio lending, in order to slow the build-up of riskier lending on bank balance sheets.

The Committee reaffirmed that an FLP, a lower or negative OCR, purchases of foreign assets, and interest rate swaps remain under consideration. The Committee noted that staff were prepared to implement an FLP from early December. The FLP was expected to work primarily by lowering system-wide funding costs, benefiting all financial institutions, not just those that drew on FLP funds. Lower funding costs would enable financial institutions to lower borrowing costs for firms and households.
Members noted that the effectiveness of an FLP would depend on financial institutions passing on declines in their funding costs to borrowers, and agreed to monitor pass-through to lending rates closely. Members agreed with the staff assessment that an FLP would be an effective way to provide additional monetary stimulus, and that it was the best tool to deploy at this time given the Committee’s principles for alternative monetary policy instruments. They also noted that evaluations of similar programmes deployed overseas had shown that they were effective.

Members discussed the design of the FLP. They endorsed staff advice that the programme should be of sufficient size to allow financial institutions to reduce interest rates with confidence that a low cost, stable funding source was available.

Members noted that the FLP was likely to be drawn down gradually given banks’ current funding needs, and that the success of the programme would be measured by the fall in household and business borrowing rates, rather than the level of drawdown.

The Committee agreed that including an incentive to expand lending would help to ensure adequate supply of credit to support the economic recovery, but that targeting the incentives to specific sectors would reduce the programme’s effectiveness. The Committee noted that overseas initiatives to target sectors of the economy had been designed to overcome specific issues in those countries. The Committee agreed targeting credit to specific sectors was the role of the banking sector or government initiatives.

Members noted that the banking system is on track to be operationally ready for negative interest rates by year end. The Committee agreed that it was prepared to lower the OCR to provide additional stimulus if required.

The Committee noted staff advice that bond purchases under the LSAP programme had been effective at keeping yields low, and endorsed their recommendation to continue adjusting purchases as market conditions dictate. On Wednesday 11 November, the Committee reached a consensus to:

- hold the OCR at 0.25 percent, in accordance with the guidance issued on 16 March;
- maintain the existing LSAP programme of a maximum of $100b by June 2022; and
- direct the Bank to implement an FLP in early December 2020.

**Attendees**

**Reserve Bank members of MPC:** Adrian Orr, Geoff Bascand, Christian Hawkesby, Yuong Ha  
**External MPC members:** Bob Buckle, Peter Harris, Caroline Saunders  
**Treasury Observer:** Tim Ng  
**MPC Secretary:** Ross Kendall
Chapter 2
Key policy judgements

• Economic activity in New Zealand and abroad has been curtailed by the outbreak of COVID-19 and the measures taken to contain it. While the initial impacts on activity in the June quarter 2020 were less severe than expected, the fall in output was the largest on record.

• A rebound in economic activity is under way, as social restrictions in New Zealand have eased. Household spending has returned to around the level it was at last year, although spending in some sectors remains soft. Government support and fewer New Zealanders travelling abroad through winter have helped lift domestic spending. Business sentiment has improved with the increase in demand.

• However, the virus continues to spread globally and the economic impacts will be ongoing. Global economic conditions are softer and supply disruptions are continuing. Elevated uncertainty continues to affect business investment, and job losses are likely to dampen household spending. Meanwhile, the Wage Subsidy has more or less ended.

• The outlook depends on the progression of the pandemic. Our baseline scenario for the economy is subdued, with inflation and employment remaining low for some time. Significant monetary stimulus remains necessary to deliver our inflation and employment objectives over the medium term.

Economic activity has been curtailed by COVID-19

The outbreak of COVID-19 and related containment measures caused an unprecedented fall in GDP globally in the June quarter 2020. GDP fell by 12 percent in New Zealand, the largest fall on record. Our key trading partners also experienced significant falls in GDP (figure 2.1). The impacts in China were earlier than in other countries, with growth recovering in the June quarter.

In New Zealand, the decline in GDP was broad-based across sectors of the economy, and revenue for many businesses fell sharply. Nevertheless, the fall in economic activity was not as severe as expected in our previous scenarios. The containment of COVID-19 in the community allowed restrictions to be eased sooner than we initially anticipated. Firms also adapted better than expected, with more people working from home and firms doing more business online.
Even though economic activity has increased since the initial higher alert level restrictions, the Auckland outbreak during August demonstrated that the virus is an ongoing risk to people’s health and to the economy. Our discussions with businesses highlighted that the effects of these latest restrictions were again severe in some sectors, while other sectors coped better (see box A). Having gained experience from the initial lockdown, many firms were quick to adapt to the restrictions in August. Also, because the restrictions were localised and for a shorter period, the overall economic impacts were smaller.

**Further spread of the virus is hindering recovery in some of our trading partners**

Although economic activity in our trading partners has bounced back since the initial lockdowns, the rate of recovery is slowing. Further spread of the virus has seen distancing restrictions reinstated in some of our trading partners. These recent flare-ups highlight the challenge of containing the virus while accommodating economic activity.

Divergences in the pace of economic recovery across our trading partners have emerged. In China, where new virus cases remain low, the recovery in activity is gaining momentum and broadening across sectors. In contrast, the recovery in Europe has slowed as restrictions on mobility are disrupting economic activity, particularly in the services sector.

Demand for our goods exports has been resilient. Demand for food products, such as dairy, has been less affected by the COVID-19 restrictions. However, ongoing global weakness could still affect prices for some exports and reduce investment in New Zealand as firms reassess future demand for their products.

Global financial markets have been less volatile since April. Stimulatory monetary policy has contributed to low real long-term interest rates. This has flowed through to higher equity prices and lower yields on corporate bonds, despite the severe economic hit from the pandemic. Some sectors, such as technology, have seen large increases in equity prices, while prices remain lower for firms in sectors most affected by the pandemic. Lower financing costs for businesses and households are supporting economic activity.
Border restrictions suppress demand in our tourism and education sectors

The spread of COVID-19 globally means border restrictions remain in place. Demand for New Zealand’s education and tourism services is being significantly suppressed by fewer international arrivals (figure 2.2). Prior to the COVID-19 outbreak, international tourism and education accounted for around 6 percent of nominal GDP. Exports of services fell 40 percent in the June quarter 2020, contributing to the fall in GDP.

The international tourism and education sectors will remain weak for at least as long as border restrictions are in place. The extent of the recovery when restrictions are eased will depend on global confidence and willingness to travel internationally. Softness in these sectors will likely affect incomes and spending in the wider economy for several years to come.

Job losses have been significant in some sectors

With many firms facing significantly lower revenue, cost reductions have been necessary to help them remain viable. As a result, there have been many job losses this year, albeit fewer than assumed in our previous scenarios. Industries affected by the border closure and other restrictions, particularly services, have reduced employment the most (figure 2.3). Conversely, the construction, utilities, and government industries have continued to employ more people. The Wage Subsidy and other government initiatives have helped limit the number of job losses. In addition, some firms may have held on to staff because of previous difficulty finding workers.

![Figure 2.2 International arrivals (7-day rolling average)](image)

Source: New Zealand Customs Service.

![Figure 2.3 Employment by industry (change since March quarter 2020, s.a.)](image)

Source: Stats NZ, RBNZ estimates.

Note: Other services include information, media and telecommunications; financial and insurance; rental, hiring, and real estate; arts, recreation, and other; and professional, scientific, tech., admin and support.
Job losses have led to an increase in the number of income support recipients. The number of recipients increased rapidly from April to July, but this has slowed recently (figure 2.4). The concentration of job losses in service industries, like retail trade and hospitality, has particularly affected younger and female workers (see chapter 4).

Utilisation of the labour force has declined. However, many firms are still struggling to find skilled labour. Redeploying labour into less affected sectors takes time because skills are not always transferable and further training may be required. Labour force participation may be lower as some people who have lost their job retrain for roles in other sectors.

The measures taken by firms to reduce their labour costs have affected household income growth. Labour earnings growth fell to around zero in the June quarter, similar to the rate recorded for most of 2009, before picking up in the September quarter (figure 2.5). Household income could have fallen a lot more. The Wage Subsidy enabled businesses facing much less revenue to continue to pay their employees. As this support diminishes, subdued household income growth may affect spending capacity and reduce demand in a range of sectors.

A rebound in economic activity is under way

Despite the impacts of COVID-19 and restrictions on businesses and households, aggregate spending rebounded more than expected after the initial lockdown (figure 2.6).
The recovery was pronounced in some sectors, while spending in other sectors remained weak. For example, spending recovered for food and beverage services, as well as clothing, footwear, and department stores. Conversely, spending remained soft for accommodation and travel-related services.

The Auckland outbreak in August caused a second decline in spending. Aggregate spending has mostly recovered again, although several sectors have remained soft since the second round of restrictions.

With reduced spending during the higher alert levels, people saved more than normal. These savings enabled people to spend more when restrictions eased. Spending on durable goods, domestic travel, and housing have been particularly strong. Residential construction has also been buoyant, including spending on renovations.

Increasing asset prices is also supporting household spending. Household wealth has historically been a driver of household spending. House prices increased 7 percent in the four months to September (see chapter 4), and house sales have increased to their highest levels since 2016. Equity prices have also increased over recent months and are above their levels at the start of the year.

More Kiwis stayed in New Zealand through winter

Another reason for the rebound in spending has been that more people have been in the country than usual. During winter, New Zealanders tend to travel abroad and there are typically fewer tourists than in summer. This year fewer New Zealanders have left and some have returned, so the number of people in the country held up through winter (figure 2.7). Going into summer, the usual influx of international tourists will be missed. Spending relative to a year earlier may be softer over the coming months as a result.
Business sentiment has improved but remains low

Business sentiment has improved with the rebound in spending. Our discussions with businesses have highlighted this, with many firms reporting that demand has been surprisingly resilient since around June (see box A). There remains a high degree of uncertainty about whether this resilience will persist. Investment and employment intentions have recovered since April, but remain below average (figure 2.8). Businesses report that substantial further lay-offs are unlikely if current conditions persist.

The Wage Subsidy has more or less ended

Earlier this year the Government announced a $62.1 billion package to support the economy through COVID-19. Much of the spending was frontloaded in the form of the Wage Subsidy and other transfers to households and businesses. Many of the initiatives have helped businesses keep people in their jobs despite lower revenue (figure 2.9), limiting the ongoing economic impacts of the decline in output.
However, the Wage Subsidy has largely come to an end, with only a few hundred jobs still supported at the end of October. The impact of this support ending is unclear at this stage. Some further job losses seem likely, but the number of people receiving unemployment support has been stable despite many people coming off the Wage Subsidy.

Support from the Government is continuing in other forms. The Pre-election Economic and Fiscal Update from the Treasury provides an update of the likely fiscal spending over the next few years. Several initiatives will continue to financially support households and businesses. Direct government spending will also increase, including spending on infrastructure.

**Significant monetary stimulus has complemented fiscal support**

In March, at the outset of COVID-19, the MPC reduced the OCR and implemented a Large Scale Asset Purchase (LSAP) programme to support the economy. The Committee began the LSAP programme when it became clear that achieving its mandate would require more stimulus than could be provided by the OCR alone. In the August Statement, the Committee announced an expansion of the LSAP programme up to $100 billion of New Zealand government bonds and Local Government Funding Agency bonds.

These actions to date have provided support to the economy by lowering interest rates and putting downward pressure on the New Zealand dollar exchange rate. The LSAP programme has worked primarily by reducing government bond yields, which are key benchmark interest rates that influence many other interest rates. Yields on government bonds are at historically low levels, despite increased issuance to finance the Government’s spending in response to COVID-19.

Monetary policy stimulus is helping to make credit cheaper and more accessible for households and businesses (see chapter 4). While credit conditions have tightened for those hardest hit by the COVID-19 outbreak, the overall price of credit has fallen. Mortgage rates and business lending rates reduced by around 75 basis points over the first half of this year (figure 2.10).

Since the August Statement, bank funding costs have continued to fall, driven by further reductions in term deposit rates. However, this has not yet fully translated to lending rates. We expect recent reductions in bank funding costs to pass through to lower lending rates in the near future.
The cost of raising new funding directly from financial markets has decreased for large businesses. The spreads between corporate bond yields and New Zealand government bond yields have narrowed. Also, the volume of corporate debt and equity issuance has been elevated (figure 2.11).

The New Zealand dollar exchange rate is broadly unchanged since August, and is only slightly below where it started this year. Lower interest rates mean the returns available in New Zealand dollars have declined and this has put downward pressure on the exchange rate. However, central banks in our trading-partner economies have also reduced interest rates to support their economies, countering the impact of lower domestic interest rates on the exchange rate. The exchange rate has also been supported by the resilience of our export commodity prices.

**Continuing policy support is needed**

The rise in unemployment this year is notable as it suggests employment has fallen below its maximum sustainable level. The unemployment rate increased to 5.3 percent in the September quarter 2020, and the number of underutilised workers increased. Previous experience suggests that it can take several years for spare capacity in the labour market to be absorbed again.

More spare capacity will likely see inflationary pressure ease. Annual CPI inflation eased to 1.4 percent in the September quarter 2020, partly affected by some one-off price declines. Looking ahead, analysts and businesses expect inflation will be below 2 percent over the next few years (see chapter 4). This is much lower than their expectations at the start of this year (figure 2.12). It is also despite the considerable monetary stimulus implemented and signalled already.
While the economic outlook is uncertain, it is clear that continued policy support is needed. The size and nature of the economic impacts of COVID-19 require support from both fiscal and monetary policy.

Monetary policy provides broad-based support to the economy. At the request of the MPC, Reserve Bank staff have been preparing a Funding for Lending Programme (FLP) to provide further stimulus if needed (see chapter 3). This programme provides funding to banks at the prevailing OCR, further reducing their funding costs. It has a direct impact as a source of low-cost funding and indirectly lowers funding costs by reducing the demand for other funding sources, such as retail deposits.

Support from fiscal policy has been important for limiting the economic impacts of the pandemic in New Zealand this year. Fiscal policy remains best placed to address sectoral challenges, such as those from the effects of COVID-19.

**Baseline scenario**

The outlook for New Zealand’s economy is uncertain and depends on a wide range of developments. The extent of the spread of COVID-19 and restrictions to contain it, and when a vaccine becomes widely available, would materially affect the economy. We have produced a baseline scenario to illustrate one possible path for the economy (figures 2.13–2.16). Chapter 5 discusses the key assumptions underlying this scenario.

Under the baseline scenario:

- New Zealand avoids a widespread outbreak of COVID-19 and is at Alert Level 1 or lower from September 2020;
- stringent border restrictions remain in place until the end of 2021;
- New Zealand’s economy recovers to pre-COVID-19 levels of activity by early 2022. Demand from our trading-partner economies gradually recovers; and
- inflation and employment are low over most of the projection period.

Significant monetary stimulus remains necessary to support employment and inflation over the medium term. In the scenario, the unconstrained OCR falls further over the coming year (figure 2.16). However, with domestic demand assumed to be more resilient, the unconstrained OCR falls by less than our baseline scenario from the August Statement.
Figure 2.14
Unemployment rate
(s.a.)

Figure 2.16
Unconstrained OCR
(quarterly average)

Sources: Stats NZ, RBNZ estimates.

Figure 2.15
CPI inflation
(annual)

Source: RBNZ estimates.

Sources: Stats NZ, RBNZ estimates.
Box A

**Summary of recent business visits**

The Reserve Bank regularly engages with a range of businesses to improve our industry knowledge and understanding of developments affecting businesses. This is particularly important as businesses navigate through the current economic downturn, and plan for the future. In our latest round of discussions, we spoke with businesses to find out more about activity, investment intentions, labour market conditions, and supply disruptions.

Firms have been surprised by the rebound in activity since the alert level restrictions eased in May and June. Demand bounced back for many sectors and in some cases has persisted. However, firms expressed a great deal of uncertainty about demand going into 2021 should border restrictions remain and the economic impacts of the Wage Subsidy diminish. This is causing firms to take a 'wait and see' approach which is influencing their employment and investment plans.

**Activity**

Business activity has been significantly affected by COVID-19. However, firms in some sectors and regions have been affected more than others. Firms reliant on face-to-face interaction and international visitors, such as retail and tourism firms, have faced considerable challenges as a result of border restrictions and higher alert levels. On the other hand, revenues for goods exporters have been more resilient, particularly those in primary industries.

Since the first relaxation of the alert level restrictions, firms have noted a significant rebound in activity. Some saw this rebound gradually dissipate as the demand that had pent up during Alert Level 4 diminished. For some businesses, mainly retailers, the robust demand has persisted. Many firms noted that demand was being underpinned by significant fiscal support, particularly from the Wage Subsidy. Most firms expected this support to be temporary.

The higher alert level restrictions in August affected business and consumer confidence. For some businesses it highlighted that alert level restrictions could change with little warning, interrupting planned activity and day-to-day trading.

Starting in early 2021, many firms are expecting overall activity to weaken, following some government support schemes rolling off and potentially higher unemployment. This is contributing to the considerable uncertainty that firms are facing going into 2021.
**Investment**

Firms noted that uncertainty about future demand is a key factor limiting their investment plans. While financing costs have fallen, some firms noted that this is not currently a large factor in their investment decisions. A range of firms reported that they were continuing to progress projects that had started prior to COVID-19. Several firms also reported that they are focussing on investments geared towards increasing resilience and efficiency rather than expansion.

**Labour**

Firms reiterated that the support they received from the Wage Subsidy was significant and helped them to keep employees. However, few firms are looking to increase staff, and those more impacted by the alert level restrictions have laid off staff. Businesses are uncertain about the future and are holding off further changes until there is more certainty about future demand.

Many businesses expressed concern about finding required staff. Some firms noted that re-deploying staff from one industry to another can be difficult, particularly for skilled jobs. Many firms rely on hiring skilled workers from abroad, which they have been unable to do because of the border closure.

**Supply chains**

Businesses faced disruptions to their supply chains earlier this year. More recently, exporters have stopped reporting significant logistical issues. However, importers are still reporting issues sourcing stock and inputs to production, and long lead times for orders. In some cases this is due to the high domestic demand and low inventories adding pressure to order quantities. In other cases, the disruptions are due to global manufacturing slowing or logistical difficulties. The supply chain disruptions may reduce price discounting at the margin.
Chapter 3
Alternative monetary policy instruments

• The Funding for Lending Programme (FLP) aims to lower the cost of borrowing for businesses and households, thereby supporting economic activity and employment, and helping keep prices stable.

• Through the FLP, the cost of borrowing for New Zealanders will be lowered via three channels: directly through cheaper FLP funding to finance lending by eligible participants; indirectly through a reduction in interest rates on other forms of funding; and by supporting the supply of credit to the economy.

• The FLP has been designed with respect to the MPC’s principles for alternative monetary policy. These are effectiveness, efficiency, financial system soundness, public balance sheet risk, and operational readiness.

How will the Funding for Lending Programme help the MPC meet its economic objectives?

While the New Zealand economy has fared better than expected through the COVID-19 downturn, continued monetary stimulus is needed to support the recovery and achieve the MPC’s policy objectives (see chapter 2). The Reserve Bank has been exploring a range of alternative monetary policy tools to help deliver additional stimulus – including a negative OCR, further large-scale asset purchases (LSAPs), purchases of foreign assets, and a funding for lending programme (FLP). After assessing the tools against our principles for alternative monetary policy, the MPC judged that the FLP would be the most effective additional tool to provide stimulus in the current environment.

The FLP involves the Reserve Bank providing eligible financial sector entities with long-term funding at a low cost, secured against high-quality collateral. The programme aims to promote lending to businesses and households at lower interest rates, increasing investment and consumption. This will help the MPC achieve its inflation and employment objectives. The public balance sheet risks from the programme are low, given the high quality of the collateral used, and the fact that funds will be offered at a floating interest rate.
The FLP will lower interest rates and support credit supply in three ways:

1. The average cost of participants’ funding is lowered directly, as market sources of funding are substituted by cheaper FLP funding (direct channel).

2. The availability of FLP funds should decrease demand for other sources of funding (e.g. retail deposits and wholesale funds). This should lower the average interest rate on these sources of funding – lowering average funding costs for a broad range of financial sector institutions (indirect channel).

3. A portion of the FLP funding available to participants is linked to their growth in lending. This should help support the supply of new credit to the economy (credit channel).

Lower interest rates will provide a boost to the broader economy – by improving cash flow, and encouraging spending and investment, which will increase economic activity and boost employment (figure 3.1). Similar programmes overseas have been effective in supporting the provision of low-cost funding and boosting economic activity.

While some financial sector institutions will not meet the criteria to be eligible to borrow funds under the FLP, the reduction in funding costs for eligible participants will bring down interest rates across the wider financial system. As such, this will lower the average funding costs for a broader range of financial institutions.

Figure 3.1. Transmission channels of the FLP

The FLP reduces participants’ and general funding costs,...

...easing credit conditions,...

...Increasing economic activity.

Inflation and employment ↑

Consumption and investment ↑

Borrowing and lending ↑

Price (↓) and quantity (↑) of credit

Wholesale funding costs

Retail funding costs

FLP funding
What would we expect to see if the FLP is effective?

The key success metric of the FLP will be whether it results in declines in funding costs, and encourages recent declines in these costs to be passed through to lower household and business borrowing costs. We could see a scenario where FLP funds are only drawn down in small amounts, but its availability encourages a broad decline in interest rates. We would consider this scenario successful, even though actual use of the FLP would seem minimal.

How will we implement the FLP?

We plan to implement the FLP in early December. Details of operations, including terms and conditions, will be made available in coming weeks.

The key design features we have considered are:

- Cost of funds;
- Size of programme;
- Term of lending;
- Length of operational window (i.e. how long the programme is available for);
- Eligible collateral; and
- Design of additional incentive mechanisms.

We have chosen a set of design features that most closely aligns with our principles for alternative monetary policy. These principles are effectiveness, efficiency, financial system soundness, public balance sheet risk, and operational readiness. Table 3.1 outlines our choices for these features. At a high level, the design of the FLP is similar to schemes implemented in a range of other countries. This includes schemes in Australia, the UK, and the euro area.

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### TABLE 3.1

<table>
<thead>
<tr>
<th>FLP feature</th>
<th>Design choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of funds</td>
<td>Prevailing OCR (at any point in time).</td>
</tr>
<tr>
<td>Size of programme</td>
<td>Initial allocation of 4% of each eligible participant’s total loans and advances to New Zealand households, private non-financial businesses, and non-profit institutions serving households (‘eligible loans’). A conditional additional allocation of 2% of eligible loans will then be made available, for a total size of 6% of eligible loans.</td>
</tr>
<tr>
<td>Term of lending</td>
<td>3 years, with a floating interest rate.</td>
</tr>
<tr>
<td>Eligible collateral</td>
<td>High-quality collateral – e.g. New Zealand government bonds, Kauri bonds, and Internal Residential Mortgage-Backed Securities (I-RMBS).</td>
</tr>
<tr>
<td>Incentive mechanism</td>
<td>The additional allocation discussed above can only be accessed when participants increase their provision of credit to the economy. The FLP provides 50 cents of funding for every $1 increase in their stock of eligible loans. The additional allocation is capped at a limit of 2% of the participant’s eligible loans at launch of the FLP.</td>
</tr>
<tr>
<td>Length of operational window</td>
<td>18 months for the initial allocation and a further 6 months for the additional allocation.</td>
</tr>
</tbody>
</table>
Prior to each Statement, the MPC is provided with analysis of some topical issues that may influence its policy assessment.

Topics for the November Statement included:

1. Monetary policy and business financing conditions;
2. The uneven employment impacts of COVID-19;
3. Inflation expectations since the COVID-19 outbreak; and
4. Drivers of house prices in New Zealand.

1. Monetary policy and business financing conditions

A key channel of monetary policy stimulus is through supporting higher business investment. In part, this happens through making credit cheaper and more accessible.

Businesses typically have different forms of finance available to them. Many firms, particularly smaller ones, borrow from banks. The cost of bank lending to businesses has reduced by around 75 basis points on average since the start of the year, reflecting the Reserve Bank’s stimulatory monetary policy settings. Business lending rates should decline further after the launch of the Funding for Lending Programme (FLP), which is designed to enable banks to provide low-cost lending to firms and households (see chapter 3).
Surveys and discussions with banks indicate that there has been some tightening of bank credit availability, particularly to those sectors hardest hit by the downturn, such as tourism operators. However, in general, the tightening of credit conditions has been modest compared to during the GFC.

Nevertheless, the total volume of bank lending to businesses has contracted. This appears to be driven by firms’ demand for new loans. Loan demand for capital investment has been weak, reflecting that firms have been more cautious to invest given the highly uncertain economic outlook (see box A).

Business borrowers have also made repayments on revolving credit facilities (figure 4.1). Fiscal support schemes such as the Wage Subsidy and the Small Business Cash-Flow Loan scheme have helped to meet firms’ working capital needs in the short term. Many firms have also taken advantage of relief options offered by banks such as switching from principal-and-interest to interest-only repayments.

Larger firms can access funding from debt and equity markets. These markets are also influenced by monetary policy. The Large Scale Asset Purchase (LSAP) programme has helped to lower the yields on government bonds, incentivising investors to take more risk by investing in corporate debt or equities. This raises the price of those securities. As the price of debt and equity securities increases, this lowers the cost to firms of raising new debt or equity. Consistent with this process, yields on corporate bonds have declined to historically low levels (figure 4.2).

![Figure 4.1 Bank lending to businesses by type](image1)

**Figure 4.1** Bank lending to businesses by type
*(change from February to August 2020)*

![Figure 4.2 Bond yields](image2)

**Figure 4.2** Bond yields

Source: RBNZ Bank Balance Sheet Survey.
Note: Excludes commercial property, investment property, and agriculture credit. August data have been used, to remove the impact of the sale of UDC Finance.
Firms that have recently issued debt securities have achieved historically favourable pricing outcomes and strong interest from investors. Meanwhile, equity markets have seen a larger level of issuance in 2020 than in each of the prior two years, driven by several firms raising equity during April and May (see figure 2.11).

Some firms have reported that, in the current uncertain environment, lower financing costs are not a major factor in their investment decisions (see box A). However, monetary policy is still supporting investment by boosting the economy through other channels and thus giving firms more confidence to invest. As the economic recovery continues and confidence grows, cheaper financing will help to support higher levels of business investment.

2. The uneven employment impacts of COVID-19

Supporting maximum sustainable employment is a primary objective of monetary policy in New Zealand. Therefore, understanding developments in employment is important for the MPC’s policy assessment. The unemployment rate increased to 5.3 percent in the September 2020 quarter, reflecting significant job losses as a result of COVID-19. The impacts on employment have been felt unevenly across New Zealand’s labour force.

COVID-19 has affected employment in some industries more than others. Industries that are exposed to international tourism have seen significant job losses. By contrast, the healthcare and construction industries have seen employment increase (figure 4.3). In addition, because these industries are not spread evenly across New Zealand, some regions have seen more job losses than others.

Social support data indicate that young, Māori, and Pasifika people have been particularly hard-hit by the economic disruptions. In part this reflects that these demographic groups tend to experience worse labour market outcomes during recessions. The uneven economic impact of COVID-19 across industries is also disproportionately affecting employment for younger people and women (figures 4.4 and 4.5).

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1 See Markham, Özbilgin, and Robinson (forthcoming Analytical Note).
Even though a significant number of people are currently looking for work, many firms are reporting that it is difficult to find labour, particularly for positions that require specialist skills (see box A). In part this reflects border restrictions, which have limited firms’ access to global labour markets.

Labour market mobility challenges are making it more difficult for the economy to adapt in response to the effects of COVID-19. For example, if a worker loses their job in one region, there may be a high hurdle for them to move elsewhere for work, particularly if they have family or other strong ties where they currently live. Workers may be even less likely to move if the work is only short-term.

It is also difficult for workers to move between jobs and industries if they do not have the required skills or experience, as retraining for a different job can be costly and time-consuming. Given the expected temporary nature of the economic impacts of the border closure, workers and firms may choose to wait it out, instead of investing in retraining.

3. Inflation expectations since the COVID-19 outbreak

Inflation expectations dropped in the first half of 2020 as the severe economic impacts of COVID-19 began to materialise. Expectations across all time horizons fell to their lowest level since the early 2000s.
To summarise the various measures of inflation expectations, we use the ‘inflation expectations curve’ (figure 4.6). The inflation expectations curve compiles measures of expectations from a range of surveys and time horizons, averaging through variations in the individual surveys. The curve takes into account survey measures of professional forecasters’ and businesses’ inflation expectations. Measures of households’ expectations are excluded from the curve, as these have historically contained significant upward bias.

In many countries financial market prices can also provide an indication of inflation expectations. In particular, the spreads between yields on nominal and inflation-indexed bonds partly reflect financial market participants’ expectations for future inflation. However, these measures can be unreliable, as they are also affected by other factors, such as risk premia and low market liquidity for inflation-indexed bonds. The small size of New Zealand’s inflation-indexed bond market means these challenges are particularly significant here. Therefore, we exclude market-based measures from the inflation expectations curve, and instead use them as a cross-check.

Short- and long-run expectations have different implications for monetary policy. Shorter-run expectations tend to reflect near-term economic conditions, and can influence firms’ price-setting decisions. Shorter-run inflation expectations dropped sharply in the first half of 2020 as the impact of COVID-19 was expected to significantly reduce inflationary pressures in the near term (figure 4.7).

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2 For a more in-depth discussion of the inflation expectations curve, see M. Lewis (2016). *Inflation expectations curve: a tool for monitoring inflation expectations*, Reserve Bank of New Zealand, Analytical Note, AN2016/01.
Long-run expectations indicate whether people think the Reserve Bank will meet its inflation objective in the long run. If monetary policy is credible, it can respond to and offset the inflation impacts of developments in the economy, albeit with a lag. Long-run expectations are at the Reserve Bank’s target mid-point.

Both short- and long-run inflation expectations have recovered somewhat over the second half of 2020. Economic data for New Zealand has been more positive than many forecasters initially expected. In addition, the monetary and fiscal policy responses to COVID-19 have been significant. These factors have provided more confidence that inflationary pressures will hold up.

Short-run inflation expectations remain low by historical standards. This suggests that people expect stimulatory policy settings to take time to return inflation close to the target mid-point. This ‘time to target’ is slightly longer than it has been historically, which is consistent with the size and persistence of the COVID-19 shock to domestic and global economic growth.

4. Drivers of house prices in New Zealand

In New Zealand, house prices have risen significantly over the past two decades. Rising house prices have been a feature of many advanced economies, including Australia and Canada (figure 4.8).

Figure 4.8
Real house price indices for selected countries
\(^{(2007\text{Q1}=100)}\)

Source: Bank for International Settlements, RBNZ estimates.
High house prices in New Zealand largely reflect structural and regulatory issues in New Zealand’s housing market. In particular, land use restrictions, such as urban planning rules, limit the land available for housing and how intensively it can be used. These land use restrictions impede the ability of the market to increase the supply of houses when demand for houses increases. As a result, house prices tend to increase more than otherwise in response to higher housing demand. Other supply-side issues include infrastructure planning, the building consent process, and the cost of building.

In the context of these supply-side issues, significant population growth, mainly through immigration, has contributed to rising house prices in recent years. Migration is likely to be a factor in the recent acceleration of house prices. This reflects that some New Zealanders who were living overseas returned home in the early stages of the COVID-19 pandemic, and fewer New Zealanders have left. More recently, net immigration has been low relative to pre-COVID-19 levels.

Lower interest rates have also contributed to rising house prices. A general decline in the level of interest rates since the early 1990s has been matched by an increase in prices of assets that provide future income or other benefits, including houses. Low interest rates are a global phenomenon (figure 4.9), and reflect the fact that the level of interest rates needed to match savings and investment in the economy has declined over time. These developments have been largely outside the control of central banks.

On top of these general trends, the Monetary Policy Committee (MPC) has acted to lower interest rates to support New Zealand’s economy during the COVID-19 pandemic. The MPC’s actions reflect its statutory objectives to support stable consumer goods and services prices and maximum sustainable employment, as specified in the Remit. These actions are helping to keep more New Zealanders employed and are supporting incomes for households.

Figure 4.9
Global 10-year government bond yields

Source: Haver Analytics.

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These issues were explored in a Productivity Commission report in 2012 (see summary). While there have been some modest improvements in supply since the report was released, many of the same broad challenges remain.
The declines in interest rates through 2020 are likely to have contributed to recent increases in house prices, in part by making mortgages more affordable to service. However, the magnitude of the impact on house prices reflects the underlying supply issues in the market: in a more flexible market, higher housing demand would stimulate a larger and faster response in home-building, dampening the impact on prices.

When setting monetary policy, the MPC has regard to the financial stability implications of rising house prices. Strong growth in house prices is often associated with increases in risky bank lending to households. However, in the current environment, higher interest rates are not the best policy instrument to mitigate these risks. Higher interest rates now would make loans less affordable and reduce economic activity. This would add to uncertainty for households and firms. We would likely see higher unemployment, as well as higher credit impairments in the financial system.

The upcoming November Financial Stability Report will contain a more in-depth discussion of the financial stability considerations related to household debt.

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4 Lower interest rates also reduce the returns on interest-bearing financial assets, making housing more attractive as an investment.
Chapter 5
Baseline scenario

This chapter summarises the baseline economic scenario that the MPC considered in making its policy assessment. The baseline scenario was finalised on 5 November 2020.

The baseline scenario illustrates one of many possible paths for the economy. It relies on a set of key assumptions about how the pandemic will unfold, future public health restrictions, and any fiscal response. Even under this set of assumptions, there is a wide range of possible outcomes for the economy, reflecting uncertainty about how people would behave in the scenario.

In the scenario, economic activity recovers in the September quarter, but declines slightly after that as the impact of fiscal support moderates and border restrictions continue to suppress demand. The outlook for economic activity remains weak relative to pre-COVID-19 levels. The number of job losses has not been as large as previously expected. However, there is considerable uncertainty around the outlook for employment heading into 2021. In the baseline scenario, further job losses suppress household spending. In addition, high uncertainty continues to weigh on business investment.

A continuation of significant monetary stimulus remains necessary to ensure that inflation and employment return to target in the medium term.

Economic impacts of COVID-19 are significant, but the economy has been resilient

- The containment measures put in place to restrict the spread of COVID-19 domestically have significantly affected economic activity in New Zealand. In the scenario, economic activity remains below pre-COVID-19 levels until 2022 (figure 5.1).

Figure 5.1
GDP
(2019Q4=100, s.a.)

Source: Stats NZ, RBNZ estimates.
• Significant monetary and fiscal support, combined with demand pent up through the first and second rounds of restrictions, have helped consumer spending bounce back. Households’ financial wealth has been supported by rising asset prices, which have encouraged households to consume more (figure 5.2).

• Employment and labour incomes have held up better than expected despite the decline in economic activity in the June quarter. In the baseline scenario, unemployment rises as the economic impacts of earlier fiscal stimulus moderate. Wage growth also remains modest. This weighs on household incomes and spending. Consumer spending holds below its pre-COVID-19 level until 2022.

• Lower interest rates and strong housing demand are supporting the outlook for residential investment.

• Fiscal spending also continues to support activity. In the latest PREFU, Treasury projected that $58 billion of the Government’s $62 billion COVID-19 response package would be spent. This is slightly lower than previously projected.

• Business confidence measures have recovered somewhat, which suggests business investment may hold up better than previously expected. However, many businesses are adopting a ‘wait and see’ approach for significant new investments, which continues to suppress the investment outlook (see box A).

• Overall, annual GDP is assumed to drop by 4.0 percent in the 2020 calendar year, a smaller decline than in the August Statement.

The global economic downturn and border restrictions suppress economic activity

• Annual trading partner GDP is assumed to decline by 3.2 percent over 2020. This decline in global production, combined with increasing global COVID-19 cases and restrictions, will weigh on demand for our exports. However, resilient demand from China and robust global demand for food products support our goods exports in the near term. This supports export prices.

• The global economic outlook is highly uncertain and will be dependent on global health outcomes.

• Service exports have declined substantially despite some international visitors remaining in the country (figure 5.3). In the baseline scenario, exports of services continue to fall gradually as the number of international visitors still in the country declines. Border restrictions are assumed to remain in place until the start of 2022. Exports of services recover thereafter as people gradually return to international travel. A travel bubble could lift exports of services in the next year more than assumed.
Resilient goods export revenues, reduced domestic demand for imported goods, and difficulty sourcing some consumer products have led to a positive trade balance. In the baseline scenario, a recovery in domestic demand in the medium term and easing supply chain constraints support import volumes and reduce net exports.

Net immigration is assumed to remain around zero until the border reopens. This weighs on housing demand and limits labour supply growth. Immigration gradually recovers thereafter but remains below pre-COVID-19 levels.

Employment to remain below its maximum sustainable level for some time

- Several labour market indicators suggest employment has fallen below its maximum sustainable level.
- Employment has held up better than expected. However, we expect unemployment to continue to rise as aggregate demand remains below pre-COVID-19 levels, and the economic impact of the Wage Subsidy fades.
- In the baseline scenario, rigidities in the labour market keep unemployment higher than otherwise for some time (see chapter 4).
- The unemployment rate peaks at 6.4 percent in the June quarter 2021. Thereafter, it declines slowly to around 5.2 percent by the end of the scenario period (figure 5.4).
Inflation declines as spare capacity dampens inflationary pressure

- Annual CPI inflation eased to 1.4 percent in the September quarter as non-tradables inflation stepped down (figure 5.5). Annual growth in central and local government charges slowed. Growth in housing-related prices, such as rents and construction costs, was modest despite strong housing market activity in the September quarter. Annual tradables inflation remained subdued, at -0.1 percent, with oil prices posting a smaller-than-expected rebound following earlier sharp declines.

- Low tradables inflation is expected to continue to weigh on overall CPI inflation, as imported inflation remains low.

- The TWI is assumed to stay around 72 over the scenario period. Oil prices are assumed to remain relatively flat as global growth uncertainties linger. Trading-partner inflation is assumed to remain weak for an extended period of time.

- With significant spare capacity remaining in the economy, particularly in some sectors, non-tradables inflation is assumed to remain below 2 percent through 2021. Non-tradables inflation recovers to around pre-COVID-19 levels near the end of the scenario horizon as economic activity recovers and spare capacity is absorbed.

- Overall, headline inflation is assumed to fall below the target band in 2021. It recovers to the 2 percent target mid-point towards the end of the scenario horizon.

Monetary conditions need to remain highly stimulatory

- The level of monetary stimulus required in the baseline scenario is less than that published in the August Statement, reflecting the largely positive domestic economic developments since August (see figure 2.16). However, monetary conditions need to remain highly stimulatory in order to lift employment and inflation towards their targets.
### TABLE 5.1

**Key assumptions for the baseline scenario**

<table>
<thead>
<tr>
<th>Narrative</th>
<th>Key judgements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Global demand recovers gradually</strong></td>
<td>Annual GDP growth in our key trading partners is -3.2% in 2020 and recovers gradually thereafter. Globally, large fiscal packages and significant monetary stimulus are an important support for the economic recovery. The New Zealand dollar Trade Weighted Index (TWI) is assumed to stay around 72 on improved global risk sentiment and robust prices for New Zealand’s goods exports.</td>
</tr>
<tr>
<td><strong>Global inflation is subdued</strong></td>
<td>Annual inflation in our major trading partners falls to 0.6% by the beginning of 2021 but recovers to around 2% during the year. Annual ex-oil import price inflation in foreign currency terms is higher in the near term but falls over the baseline scenario period. Dubai oil prices gradually increase to around USD 45 over the baseline scenario period. Whole Milk Powder prices are around USD 3000 per metric tonne over the baseline scenario period.</td>
</tr>
<tr>
<td><strong>New Zealand GDP drops in 2020, but recovers over the medium term</strong></td>
<td>Annual GDP drops by 4.0% in 2020. GDP levels recover to pre-COVID-19 territory at the start of 2022. New Zealand stays at Alert Level 1 and border restrictions remain in place until the end of 2021. $58bn of the $62bn total fiscal envelope in response to COVID-19 is assumed to be spent. Exports of services contract significantly to low levels while border restrictions remain, and recover gradually when the border reopens. Potential output recovers in the September quarter following a temporary fall in the June 2020 quarter due to containment measures constraining available capacity. Annual potential GDP growth recovers to 1.5% by the end of the scenario horizon. Lower population growth and labour force participation restrain labour supply. Reduced investment limits capital growth.</td>
</tr>
<tr>
<td><strong>Employment falls further below its maximum sustainable level</strong></td>
<td>Employment falls further below its maximum sustainable level as labour demand declines. Unemployment peaks at 6.4% in 2021 as spare capacity emerges across a variety of sectors and industries. Unemployment declines from mid-2021 to 5.2% by the end of the scenario horizon. Annual net immigration of working-age people falls to around zero while border restrictions are in place, then rises to around 24,000 per annum by the end of the scenario horizon. The labour force participation rate falls to 69.8% by mid-2022, before gradually recovering over the remainder of the scenario period.</td>
</tr>
<tr>
<td><strong>Inflation temporarily falls below the target band</strong></td>
<td>With significant spare capacity and a relatively high New Zealand dollar TWI, headline inflation remains around the bottom, or slightly below, the 1–3% medium-term target range until mid-2022. Headline inflation rises back to the target mid-point in 2023. Annual non-tradables inflation falls to 1.1% and annual wage inflation falls to 1.0% in 2021 as spare capacity emerges. Annual tradables inflation averages -0.2% over the forecast horizon as import price inflation remains subdued.</td>
</tr>
</tbody>
</table>
Chapter 6
Appendices

Appendix 1: Our recent research

This appendix summarises various streams of monetary policy-related research produced by Reserve Bank staff over the past six months.

Research shapes our understanding of the New Zealand economy, and ultimately influences policy decisions. Our monetary policy framework is informed by new developments in economic thought and best-practice modelling techniques. Economic analysis by our staff is disseminated through Analytical Notes, Bulletin articles, Discussion Papers, and academic journal publications as well as speeches made by the Reserve Bank’s senior leaders at various forums. Recently, we have also initiated a series of videos where our staff present their published research.

Analytical Notes

The Remit requires us to maintain price stability and support maximum sustainable employment. In order to deepen our understanding of the labour market, our research programme continues to explore different facets of New Zealand’s labour market and their implications for the economy. Many of the Analytical Notes that we have published recently focus on issues related to the labour market.

National and regional unemployment

In the Note, Vacancies, unemployment and labour market slack in New Zealand, Finn Robinson outlines two tools – the Beveridge curve and the matching function – that will further refine the Reserve Bank’s labour market analysis. The Beveridge curve demonstrates that the number...
of unemployed people declines with an increase in the number of job vacancies, while the matching function tells us to what extent job creation is driven by unemployment and job vacancies. Between the Global Financial Crisis (GFC) in 2008 and the start of the COVID-19 recession in 2020, movements in the Beveridge curve indicate that the labour market may have become less efficient at matching unemployed people with vacant jobs. Job creation slowed throughout 2019, which in part reflected low levels of unemployment – not enough workers to fill the vacant jobs. These two frameworks help to explain why unemployment trended down after the GFC but did not return to pre-GFC levels.

Two other Notes shift focus from the national labour market, to the regional level. In the Note, Regional unemployment and monetary policy, Shaun Markham analyses the effects of monetary policy across regions. It is well understood that lowering interest rates through expansionary monetary policy would bring down the national unemployment rate. Markham emphasises that results obtained using national-level data may mask significant differences among New Zealand’s regions and across other groups in society. He finds that, after controlling for several macroeconomic factors such as regional spill-overs, monetary policy affects some regions more than others.

In the Note, Regional labour market spill-overs, Cameron Haworth examines how unemployment in one region may spill over to other regions. He finds that rises in unemployment in Auckland and Waikato have the largest impacts on unemployment in other regions. The upper South Island, Taranaki, and Southland have the least impact on other regions. In addition, the results indicate that using data from the regions that generate the largest spill-overs can be used to improve the accuracy of forecasting national unemployment.

**Economic downturns**

COVID-19 has triggered a global economic downturn of unprecedented proportions. In the Note, Economic impacts of COVID-19 containment measures, Chris McDonald, Tom Stannard, and Gregorius Steven present an assessment of the impact the different COVID-19 alert levels had on economic activity in New Zealand. The impact ranges from a 4 percent reduction in GDP under Alert Level 1 to a 37 percent reduction in GDP under Alert Level 4. They also find that the impact differs across sectors, with sectors that rely on face-to-face contact and international arrivals, such as tourism, experiencing a larger impact than other sectors.

The pandemic has also seen decisive policy responses by central banks, and interest rates have declined to historically low levels. In the Note, Has the Reserve Bank responded differently to upturns and downturns in inflation and economic activity?, Severin Bernhard, Jamie Culling, and Punnoose Jacob examine the Reserve Bank’s policy responses to economic upturns and downturns prior to the pandemic. They find that the Reserve Bank has eased interest rates strongly during economic downturns such as the Asian Financial Crisis and the GFC, in order to support the economy. In contrast, the Reserve Bank’s responses during economic booms have been much milder.

**External publications**

Our staff regularly publish their work in peer-reviewed journals, conference volumes, and external working paper series at universities and other central banks. The quality control by the wider community of technical experts ensures that the analytical frameworks that underpin our policy formulation remain rigorous, and are updated with the latest advances in economic theory and statistical methodologies.
Low wage growth and job-to-job transitions: Evidence from administrative data in New Zealand
*CAMA working paper series*
Chris Ball, Nicholas Groshenny, Özer Karagedikli, Murat Özbilgin, and Finn Robinson

Gains from reducing the implementation delays in public investment
*IMF Economic Review*
Murat Özbilgin

**Speeches on monetary policy**

Insights from our staff’s research also inform the speeches made by the Reserve Bank’s senior leaders at domestic and international forums. This section lists recent Reserve Bank speeches on monetary policy that have been made available on the Reserve Bank website.

**Working together to be ‘on the money’**
*Speech – 19 October*
Assistant Governor Christian Hawkesby discusses the history and the future of cash in New Zealand. The use of cash is declining, but still plays an important role in society as it serves as legal money tender and supports social and financial inclusion. Given the many benefits that cash still brings to society, the Reserve Bank continues to work with the banking and services industries to ensure that the cash system remains fit for purpose. However, the Reserve Bank remains open to and aware of how the technology of money and payments is evolving.

**Monetary policy: Same objectives, different challenges**
*Speech – 2 September*
Governor Adrian Orr describes the Reserve Bank’s response to the COVID-19 disruptions and outlines the strategies that the Reserve Bank is using to support the economy. This includes the implementation of alternative monetary policy tools, such as Large Scale Asset Purchases (LSAPs), in order to lower interest rates further.

**COVID-19 and the Reserve Bank’s balance sheet**
*Speech – 20 August*
Assistant Governor Christian Hawkesby explains how the Reserve Bank is using the flexibility of its balance sheet to support the economy and financial system through the COVID-19 crisis. Financial markets were dysfunctional in the early days of the crisis, which threatened to amplify the impact of the crisis on the wider economy. The Reserve Bank has rapidly expanded its balance sheet, through the use of LSAPs and purchases of other assets, in order to provide liquidity to the financial markets and support the wider economy.
### Appendix 2: Statistical tables

**TABLE 6.1**

*Key baseline scenario variables*

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>GDP growth Quarterly</th>
<th>CPI inflation Quarterly</th>
<th>CPI inflation Annual</th>
<th>TWI</th>
<th>OCR</th>
</tr>
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<td>Jun</td>
<td>1.0</td>
<td>0.4</td>
<td>1.5</td>
<td>73.7</td>
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<td></td>
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<td></td>
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<td>2019</td>
<td>Mar</td>
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### TABLE 6.2

**Measures of inflation, inflation expectations, and asset prices**

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*Long-run expectations are extracted from a range of surveys using a Nelson-Siegel model. Source: ANZ Bank, Aon-Hewitt Consulting, Consensus Economics, RBNZ estimates.
### TABLE 6.3

**Measures of labour market conditions**

*(seasonally adjusted, changes expressed in annual percent terms)*

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<td>Household Labour Force Survey</td>
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<td>Unemployment rate</td>
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<td>Underutilisation rate</td>
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<td>Labour force participation rate</td>
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<td>Employment rate (percentage of working-age population)</td>
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<td>Employment growth</td>
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<td>Average weekly hours worked</td>
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<td>Number unemployed (thousand people)</td>
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<td>Number employed (million people)</td>
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<td>Labour force (million people)</td>
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<td>Working-age population (million people)</td>
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<td>Quarterly Employment Survey</td>
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<td>Filled jobs growth</td>
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<td>Average hourly earnings growth (private sector, ordinary time)</td>
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<td>Change in All Vacancies Index</td>
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Note: The All Vacancies Index is produced by MBIE as part of the Jobs Online report, which shows changes in job vacancies advertised by businesses on three internet job boards. The unadjusted labour cost index (LCI) is an analytical index which 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)*

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*Percentage point contribution to the growth rate of GDP.*
## Summary of baseline scenario
(annual percent change for March years unless specified otherwise)

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<td>71.5</td>
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<td><strong>Output</strong></td>
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<tr>
<td>GDP (production, annual average % change)</td>
<td>2.2</td>
<td>2.6</td>
<td>3.6</td>
<td>3.6</td>
<td>3.7</td>
<td>3.1</td>
<td>3.1</td>
<td>1.5</td>
<td>-4.2</td>
<td>4.3</td>
<td>3.7</td>
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<td>Potential output (annual average % change)</td>
<td>2.1</td>
<td>2.6</td>
<td>3.0</td>
<td>3.1</td>
<td>3.1</td>
<td>3.0</td>
<td>2.6</td>
<td>2.0</td>
<td>-1.7</td>
<td>4.2</td>
<td>1.4</td>
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<tr>
<td>Output gap (% of potential GDP, year average)</td>
<td>-1.5</td>
<td>-1.4</td>
<td>-0.8</td>
<td>-0.4</td>
<td>0.2</td>
<td>0.3</td>
<td>0.8</td>
<td>0.3</td>
<td>-2.2</td>
<td>-2.1</td>
<td>0.1</td>
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<td><strong>Labour market</strong></td>
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<tr>
<td>Total employment (seasonally adjusted)</td>
<td>0.1</td>
<td>4.0</td>
<td>3.6</td>
<td>2.3</td>
<td>5.9</td>
<td>3.0</td>
<td>1.5</td>
<td>2.4</td>
<td>-1.8</td>
<td>0.4</td>
<td>2.0</td>
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<td>Unemployment rate (March qtr, seasonally adjusted)</td>
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<td>5.6</td>
<td>5.5</td>
<td>5.3</td>
<td>4.9</td>
<td>4.4</td>
<td>4.2</td>
<td>4.2</td>
<td>6.2</td>
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<td>5.4</td>
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<td>Trend labour productivity</td>
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<td>0.7</td>
<td>0.5</td>
<td>0.4</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.3</td>
<td>0.6</td>
<td>0.9</td>
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### Key balances

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<td>Government operating balance (% of GDP, year to June)</td>
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<td>-1.2</td>
<td>0.2</td>
<td>0.7</td>
<td>1.5</td>
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<td>-3.5</td>
<td>-2.5</td>
<td>-2.7</td>
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<td>Terms of trade (SNA measure, annual average % change)</td>
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<td>Household saving rate (% of disposable income)</td>
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<td>0.4</td>
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<td>-0.6</td>
<td>-0.1</td>
<td>-0.2</td>
<td>-0.3</td>
<td>0.9</td>
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### World economy

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<tbody>
<tr>
<td>Trading-partner GDP (annual average % change)</td>
<td>3.3</td>
<td>3.5</td>
<td>3.7</td>
<td>3.4</td>
<td>3.5</td>
<td>3.9</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td>-1.6</td>
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<td>Trading-partner CPI (TWI weighted)</td>
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<td>2.3</td>
<td>1.0</td>
<td>1.2</td>
<td>1.9</td>
<td>1.9</td>
<td>1.4</td>
<td>1.4</td>
<td>2.4</td>
<td>0.6</td>
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Appendix 2: Chart pack

Figure 6.1
Composition of CPI inflation
(annual)

Figure 6.2
Output gap
(share of potential)

Figure 6.3
Unemployment and underutilisation rates
(s.a.)

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

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

Note: Shaded area indicates the range between the maximum and minimum values from a suite of neutral OCR indicators.
Figure 6.5
GDP and potential GDP

Source: RBNZ estimates.

Figure 6.6
Headline inflation and 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 6.8
Private sector wage growth
(annual)

Source: Stats NZ, RBNZ estimates.
Note: Real QES average hourly earnings is deflated with headline CPI inflation.
Figure 6.9
House price inflation
(annual)

New Zealand
Auckland
New Zealand excl. Auckland

Source: REINZ.

Figure 6.10
Mortgage rates

5-year
Floating
2-year
3-year
1-year

Source: interest.co.nz, RBNZ estimates.
Note: The rates shown for each term are the average of the latest rates on offer from ANZ, ASB, BNZ, and Westpac.

Figure 6.11
New Zealand dollar exchange rates

NZD/USD (RHS)
New Zealand dollar TWI

Source: Reuters, RBNZ estimates.

Figure 6.12
Terms of trade, dairy and oil price indices

Terms of trade
Dairy prices (RHS)
Dubai crude oil (RHS)

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