



TE TAI ŌHANGA
THE TREASURY

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Te Ara Mokopuna 2025

Consultation on the draft content of the Treasury's Long-term Insights Briefing

**Sustainable and resilient fiscal policy
through economic shocks and cycles**

APRIL 2025

Te Kāwanatanga o Aotearoa
New Zealand Government



Te Ara Mokopuna is a vision for a future where the choices we make today lift the living standards of everyone. It's about building a resilient, sustainable economy that ensures a better life for all generations to come, creating pathways of prosperity that honour our descendants and the world we leave behind. It's a promise to nurture, strengthen, and pave the way for a brighter tomorrow.

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A summary of feedback we received on the scope can be found on the Treasury website: <https://www.treasury.govt.nz/news-and-events/reviews-consultation/long-term-insights-briefing>

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Secretary's foreword

Kia ora koutou

New Zealanders know to expect change and are familiar with the risks facing us. We have always lived with earthquakes and weather events. More recently, we have also navigated economic shocks, invasive species and diseases affecting our lives and livelihoods. Individuals, families, community groups, iwi, businesses and public institutions have all played a role in getting New Zealand through such times.

Change brings opportunities as well as challenges. As a country, we are good at making the best of the situations we face.

Withstanding shocks of great magnitude and greater frequency requires us to be attentive to both our strengths and our vulnerabilities. To keep growing the New Zealand economy, we need to keep building on our strengths, including capable institutions, systems and processes that provide resilience when events interrupt our charted course.

When economic disruptions happen, the public finance system responds. It is a system New Zealanders rely on throughout their lives because it funds services that support living standards – from birthing suites that welcome the next generation, through schooling, to work, accidents, income support and pensions, transport and healthcare. Increasingly, governments have also responded during shocks to ease hardship on those most affected by them. This increasing use of fiscal support has contributed to public debt ratcheting up over time. If nothing changes, this leaves future generations with less financial capacity to respond to shocks.

The Treasury is steward of New Zealand's public finance system. In this second Long-term Insights Briefing, we bring together insights from economic cycles and shocks that our country has navigated over recent decades. It highlights some options for how fiscal policy can support resilience in the economy and the associated trade-offs.

What matters is what we now do with that insight.

Resilience in our public finance system is about the society we want to be – today and what we pass on that our children will inherit. We hope this Briefing will encourage New Zealanders to talk about whether we are leaving enough in the public purse for future New Zealanders to tackle what life will bring.

Ngā mihi

A handwritten signature in blue ink that reads "Iain Rennie". The signature is written in a cursive, flowing style.

Iain Rennie
Secretary and Chief Executive to the Treasury

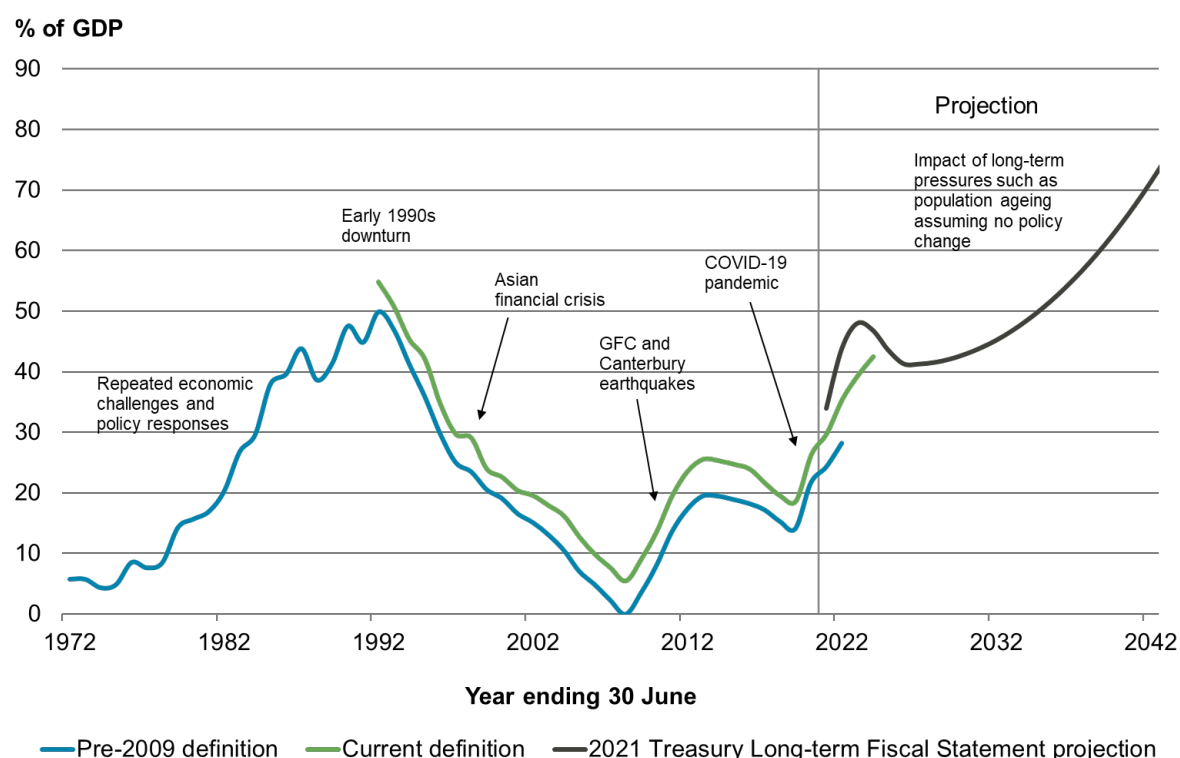
Executive summary

The focus of this Long-term Insights Briefing (the Briefing) is the role of fiscal policy through shocks and business cycles. Fiscal policy – the level and mix of government revenue and spending – has significant impacts on the living standards of all New Zealanders. It drives the level of tax that New Zealanders pay and the services they get from government. The level of debt, and other assets and liabilities on the government’s balance sheet, determine what we bequeath to future generations.

This Briefing explores if, when and how fiscal policy can be used to buffer society from shocks and cycles and how to do so in a sustainable way. Governments can use fiscal policy to reduce the volatility in economic activity by increasing spending or reducing taxes when the economy is weak (fiscal loosening) and vice versa when the economy is strong (fiscal tightening). Governments can also choose to provide support to people that are directly impacted by shocks such as earthquakes. However, experience across many countries shows that **fiscal policy is easy to loosen in a downturn or shock but difficult to tighten in an upturn. This can lead to debt ratcheting upwards over time.**

New Zealand has seen debt rising in recent decades, partly because responses to adverse shocks have not been matched by savings between shocks (see Figure ES.1). Major events have included the COVID-19 pandemic, the 2023 North Island weather events, the Canterbury and Kaikōura earthquakes and the global financial crisis (GFC). Since the late 1980s, the cost of government responses to economic shocks has averaged about 10% of GDP per decade.

Figure ES.1: Net core Crown debt



Source: *The Treasury*

New Zealand is likely to experience further shocks in the future, and we now have less capacity to respond because debt is higher. New Zealand faces ongoing risks from natural hazards and biosecurity risks like foot and mouth disease. Weather-related risks are rising due to climate change, and geopolitical tensions are growing. We are also facing increasing pressures on government finances from a range of factors, including higher starting debt levels, less favourable interest rate and growth trends and long-term fiscal pressures such as population ageing and climate change costs. These trends will be discussed in further detail in the Treasury's Long-term Fiscal Statement, which will be published later this year.

Governments should seek to keep debt within prudent levels to provide flexibility to respond to future shocks. This will require successive governments to set sustainable medium-term fiscal intentions and deliver operating surpluses on average over time – a task that would be made easier if we could also lift New Zealand's economic growth. In 2022, the Treasury assessed that the maximum 'prudent' level of debt in normal times was around 50% of GDP.

An important element of ensuring fiscal policy is used in a sustainable way to smooth shocks and cycles is to use it only when it is the right tool for the job. This Briefing highlights several lessons around when fiscal policy should be used:

- **Cyclical management should mostly be left to monetary policy run by an independent central bank.** The international experience supports using monetary policy to moderate swings in economic activity in most circumstances. Monetary policy changes can be reversed more readily and can often be implemented faster. The government's spending and taxation decisions should generally seek to optimise long-run value for money rather than moderating economic cycles.
- **However, there is a case for using fiscal policy if monetary policy is constrained or at extremes.** For example, fiscal stimulus can support the economy if there is limited scope for interest rates to fall further, or fiscal restraint could be used to help moderate booms that would otherwise result in interest rates or the exchange rate becoming extremely high.
- **Fiscal policy should ensure that important government functions and services are maintained following shocks** such as by ensuring the continued provision of essential public services and restoring essential infrastructure when damaged.
- **There may be a role for fiscal policy in responding to the distributional impacts of shocks.** While monetary policy is effective at mitigating economy-wide impacts, fiscal policy provides governments with more control around how the costs of a shock are shared and when the costs are paid.

Building the resilience of the private sector to deal with shocks and cycles may lessen the need for, or the cost of, any fiscal response. **Features of New Zealand's economy that keep it flexible and adaptable to change should be maintained.** These include a floating exchange rate, operationally independent monetary policy and flexible labour, goods and insurance markets. Government can also directly support the resilience of households, businesses and regions through high-quality investments in resilience infrastructure, through regulation such as earthquake codes and through facilitating the existence of private insurance markets to cover key risks.

The expectation that governments will provide support to soften the direct impacts of shocks can reduce the incentives for firms, households and communities to manage their own risks. This could reduce society's overall resilience to adverse events and could increase the cost of shocks to governments. One mechanism for combating this is to **set out clearly when fiscal policy will be used ahead of time, including pre-defining responses**, ideally with cross-party agreement. Examples could range from defining principles or plans to guide responses, through to establishing systems to pre-define and pre-fund the government's response to particular events, as the Natural Hazards Commission or forthcoming Depositor Compensation Scheme do.

Given that every shock and cycle is different, using fiscal policy will always involve discretionary choices for the government of the day. Ensuring that these choices are sustainable over time can be aided by maintaining and enhancing New Zealand's strong fiscal institutions.

New Zealand's focus on transparency and medium-term fiscal sustainability targets should be maintained. New Zealand's fiscal institutions are well regarded internationally. They emphasise transparency by requiring governments to publish and be accountable for achieving fiscal sustainability targets. It is important that the targets set are credible and that governments' fiscal strategies have an eye to longer-term fiscal sustainability. The Treasury continues to support this transparency-based approach over legislating specific fiscal rules.

New Zealand could consider establishing an independent fiscal institution to scrutinise and report on the sustainability of fiscal policy, as many other countries have done. The aim would be to strengthen our institutional arrangements by supporting the public and Parliament to hold the government to account for its fiscal strategy. An independent fiscal institution would need to be designed to suit New Zealand's circumstances. The benefits of an independent fiscal institution producing economic and fiscal forecasts or undertaking long-term fiscal sustainability analysis may be more limited in New Zealand than in some other countries, given that the Treasury already produces and publishes such forecasts independently of the government. However, there may be merit in establishing an independent fiscal institution tasked with providing greater public scrutiny of the government's fiscal policy than the Treasury is currently charged with.

Following the range of shocks and cycles that have struck New Zealand in recent decades, many lessons have been learned about which fiscal policy tools can provide effective assistance and which tools are most likely to be conducive to fiscal policy remaining sustainable over time.

The tools for fiscal responses should be prepared ahead of time – for example, by ensuring that the right processes and systems are in place. Being prepared would allow faster responses and improved targeting and could ensure better value for money. A shared understanding of which tools might be used and their impact on the economy would help set expectations and could help the central bank make its monetary policy decisions.

The tools chosen should be designed to be timely, temporary and targeted, with clear exit strategies. The Briefing outlines a range of tools that could be considered in response to events and assesses each tool's ability to be timely, temporary and targeted.

- Lump-sum payments can be quick to implement, are inherently temporary and can be tightly targeted.
- Varying government benefits, subsidies and fees can often be timely and targeted, although this depends on the tool. However, these changes can be difficult to reverse.
- Changes in taxes such as personal income taxes or GST are usually not timely and can be difficult to target, and tax reductions are hard to reverse.
- Liquidity support or credit guarantee schemes can provide timely and temporary support to businesses during a downturn. However, these tools can reduce economic efficiency over time by impeding the redeployment of resources away from non-viable firms.
- Temporary changes to business tax settings can be used to boost business investment. However, this can lead to market distortions, and the resulting investment activity may not be timely.
- Wage subsidies can be timely and temporary so long as there is a clear exit strategy, but it is difficult to target them at specific sectors, regions or demographics.
- Varying public consumption may not be timely enough to counter shocks and cycles, and increases in public consumption can be difficult to reverse.
- Varying the rate of government investment in new infrastructure projects is a less effective counter-cyclical strategy since there are long lags between investment decisions and construction activity. Adjusting the scale of maintenance and repairs could be a more timely option.

The Treasury welcomes feedback on the ideas in this Briefing. We also encourage readers to look out for our Long-term Fiscal Statement and Investment Statement, which will be published later this year. These three reports all explore long-term fiscal issues that are important for high living standards for all New Zealanders.

Whakarāpopototanga matua

Ko te arotahi o tēnei Puka Whakamārama i te Pae Tawhiti (te Puka Whakamārama) ko te tū o te kaupapahere moni tūmatanui i waenga i ngā tumeke me ngā hurihanga pakihi. Ko te kaupapahere moni tūmatanui – arā te taumata me te toha o ngā moniwhiwhi me ngā whakapaunga – ka puta ai he pānga kaha ki ngā paerewa oranga o ngā tāngata katoa o Aotearoa. Ka hautū i te nui o te tāke e utua e ngā tāngata o Aotearoa, me ngā ratonga e whiwhi ai rātou mai i te kāwanatanga. Mā te taumata o noho nama, mā ngā rawa me ngā taumahatanga kei te ripanga kaute o te kāwanatanga e tautohu ngā mea ka tukuna iho e tātou ki ngā whakatupuranga kei te heke mai.

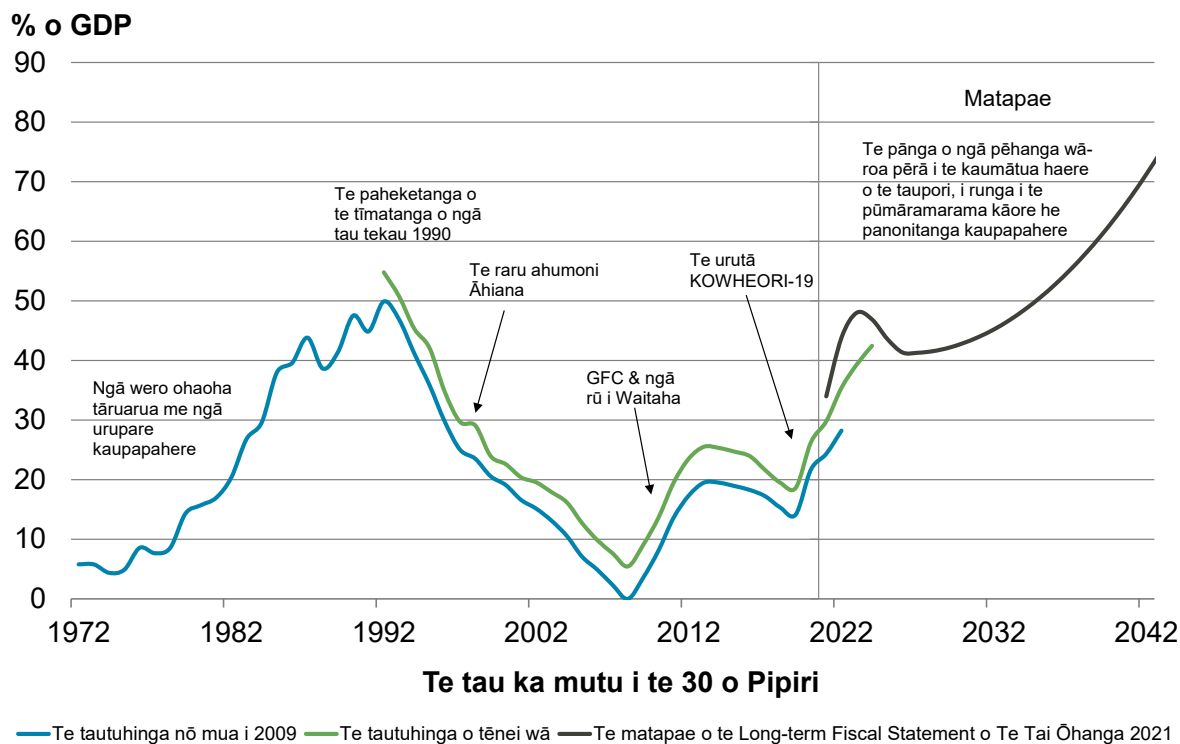
Ka tūhura tēnei Puka Whakamārama, āhea, me pēhea hoki te whakamahi i te kaupapahere moni tūmatanui hei tauārai mō te porihanga i ngā tumeke, hurihanga hoki, ā, me pēhea e whakaū ai ka toitū ngā whakamahinga. Mā te kaupapahere moni tūmatanui, ka whakaheke ngā kāwanatanga i ngā piki me ngā heke o te mahi ōhanga, mā te whakapiki whakapaunga, mā te whakaheke tāke rānei i ngā wā ka ngoikore te ōhanga (te tangatanga i te moni tūmatanui), ā, ko te kōaro i ngā wā ka kaha te ōhanga (te whakawhena i te moni tūmatanui). E āhei ana hoki ngā kāwanatanga te whiriwhiri ki te tautāwhi i ngā tāngata e pākia tōtikangia ana e ngā tumeke pērā i ngā rū whenua. Heoi anō, ko te wheako o ngā whenua maha, he ngāwari te whakatangatanga i te kaupapahere moni tūmatanui i ngā wā o te hekenga, o te tumeke rānei, engari he uaua te whakawhena i ngā wā o te pikinga. Mā tēnei āhukatanga ka piki haere te noho nama i te rerenga i te wā.

Kua kite te piki haere o te noho nama o Aotearoa i ngā tau tekau tata nei, ko tētahi wāhanga o tēnei take, kāore e hāngai ana te kaha o ngā urupare ki ngā tumeke ki te kaha penapena moni i waenga i aua ohomauri (tirohia Hoahoa ES.1). Tae ana ngā raru nui ki te urutā KOWHEORI-19, ngā pāpono huarere o te Ika-a-Māui o 2023, ngā rū whenua i Ōtautahi me Kaikōura, te tairaru ohaoha huriao/Global Financial Crisis (GFC) hoki. Mai i te wāhanga mutunga o ngā tau tekau 1980, kua noho te toharite o ngā utu o ngā urupare a te kāwanatanga ki ngā tumeke ōhanga kei te rohe o te 10% o te GDP o ia tekau tau.

Ā muri, e tinga ana ka pā mai he tumeke anō ki Aotearoa āmuri atu, ā, kua heke tō tātou āheinga urupare ināiane nā te mea kua piki te noho nama. He tūraru kei mua mō Aotearoa, i ngā mōrearea taiao, me ngā tūraru haumarua koiara pērā i te matenga kōmaoa waha. Nā te hurihanga āhuarangi, kei te piki ngā tūraru ā-huarere, ā, kei te piki hoki ngā whakatete tōrangapū ā-whenua. Kei te kite hoki tātou i te pikinga o ngā pēhanga ki te pūtea o te kāwanatanga, kua ara mai i te maha o ngā take, tae ana ki ngā taumata noho nama tīmatanga, ngā ia reiti huamoni, tipu ohaoha hoki kāore i te tino pai, me ngā pēhanga moni tūmatanui wā-roa pērā i te kaumātua haere o te taupori me ngā utu hurihanga āhuarangi. Ka matapakina ēnei āhukatanga me ngā āmiki kei te Long-term Fiscal Statement a Te Tai Ōhanga ka whakaputaina hei te hikunga o tēnei tau.

Ko te tikanga kia ū ngā kāwanatanga¹ ki te whakatina i te noho nama ki ngā taumata matawhāiti kia pīngore tonu ai mō ngā tumeke kei te haere mai nei. Nā reira, me ū ngā kāwanatanga hou, ki te whakatū i ngā whakamaunga atu moni tūmatanui wā-waenga, ki te rato hoki i ngā hemihemi whakahaere toharite mō aua wā – he mahi tērā pea ka ngāwari ake ina piki ake te tipu ohaoha o Aotearoa. I te tau 2022, ko te whakataua a Te Tai Ōhanga, ko te mōrahi 'matawhāiti' mō te taumata noho nama, i ngā wā o ia rā, ko te 50% o te tapeke wāriu hokonga (arā, te GDP).

Hoahoa ES.1: Te tōpūtanga nama iho-Karauna



Nā: Te Tai Ōhanga

Ko tētahi wāhanga waiwai o te whakaū kia whakamahia te kaupapahere moni tūmatanui kia toitū ai te whakamauru i ngā tumeke me ngā hurihanga ōhanga, ko te whakamahia i ngā wā anake e tika ana tēnei utauta hei whakamahia. Kei tēnei Puka Whakamārama, ka miramira ētahi o ngā akoranga e pā ana ki ngā wā e tika ana kia whakamahia ai te kaupapahere moni tūmatanui:

- **I te nuinga o ngā wā, e tika ana kia waiho mā te kaupapahere ahumoni o tētahi pēke ā-motu motuhake te whakahaere ā-hurihanga e arataki.** Kua taunaki ngā wheako o tāwāhi i te whakamahinga o te kaupapahere ahumoni ki te tāmi i ngā whakapiu ohaoha i te nuinga o ngā wā. Ka ngāwari ake pea te hurikōaro i ngā panonitanga mō ngā kaupapahere moni tūmatanui, ā, ka tere ake pea te whakatinana hoki. E tika ana kia aro atu ngā whakataunga a te kāwanatanga mō te whakapau moni me ngā tāke, ki ngā ara hei whakapiki i te whaihua, kua ko te whakamauru i ngā hurihanga ohaoha.
- **Ahakoā tērā, kei reira tonu he taunakitanga kia whakamahia te kaupapahere moni tūmatanui, ina kua herea te kaupapahere ahumoni, kua taumaha hārukiruki rānei.** Hei tauira, ka toko te whakaara moni tūmatanui i te ōhanga mehemea kāore he wāhi mō te heke tonu o ngā reiti huamoni, ka taea rānei te whakamahi i te herenga moni tūmatanui ki te āwhina ki te whakangāwari i ngā whakangako ka hua mai he pikinga teitei o ngā reiti huamoni, o te pāpātanga whakawhiti tāwāhi rānei.
- **Me whakaū te kaupapahere moni tūmatanui ka pūmautia ngā kawenga me ngā ratonga o te kāwanatanga āmuri i ngā tumeke,** hei tauira, mā te whakaū ka rato tonu i ngā ratonga tūmatanui waiwai, ka whakaora anō hoki i ngā tūāhanga ina whakamōtītia.
- **Tērā pea ka whai wāhi te kaupapahere moni tūmatanui ki te urupare ki ngā pānga o ngā tumeke ki te pūnaha tuari.** Ahakoā te whaihua o te kaupapahere ahumoni ki te whakamauru i ngā pānga ōhanga-katoa, kei te kaupapahere moni tūmatanui te āheinga mō ngā kāwanatanga ki te whakahaere i te tuaritanga o ngā nama tumeke, te wā ka utua hoki.

Mā te whakawhanake i te manawaroa o te rāngai tūmataiti ki te eke i ngā tumeke me ngā hurihanga ka whakaheke pea te matea, te utu rānei o te urupare moni tūmatanui. **Me whakatūturu tonu ngā āhuatanga o te ōhanga o Aotearoa e whakaū i te pīngore tonu, i te āheinga urutau hoki.** Tae ana ēnei ki ngā pāpātanga whakawhiti pūrewa, ngā kaupapahere ahumoni he motuhake te whakahaere, me ngā māketete pīngore mō te whiwhi mahi, mō ngā rawa me te inihua hoki. Ka taea hoki e te kāwanatanga te tautoko i te manawaroa o ngā kāinga, ngā pakihī me ngā rohe mā ngā haumitanga kounga ki te tūāhanga manawaroa, mā ngā waeture pērā i ngā waeture rū, ā, mā te huawaere i te whaitua mō ngā māketete inihua tūmataiti hei uhi i ngā tūraru matua.

Nā te kawatau mā te kāwanatanga te tautoko e rato hei whakangāwari i ngā pānga tōtika o ngā tumeke, ka heke te whakapoapoa mō ngā pakihī, ngā kāinga me ngā haporī ki te whakahaere i ō rātou ake tūraru. Mā tēnei pea e whakaheke te manawaroa whānui o te porihanga ki ngā pāpono pākino, ā, ka whakapiki i te utu o ngā tumeke ki ngā kāwanatanga. Ko tētahi tukanga hei ātete i tēnei, ko te **āta whakatakoto i mua i te whakamahinga, āhea e whakamahia ai te kaupapahere moni tūmatanui, tae ana ki ngā urupare kua maheretia kētia**, ko te tūmanako i runga i te whakaae e whakawhiti ana i ngā rōpū tōrangapū. Hei tauira, ko te tautohu i ngā mātāpono, mahere rānei hei ārahi i ngā urupare, tae ana ki te whakatū pūnaha ki mua e tautohu ana, e whakarite pūtea ana mō te urupare o te kāwanatanga ki ngā pāpono, pērā i te mahi o te Natural Hazards Commission Toka Tū Ake o nāianeī, i ngā mahi ka marohitia mō te Deposit Compensation Scheme rānei.

I runga i te mōhio, ka rerekē ia tumeke, ia hurihanga hoki, ki te whakamahia te kaupapahere moni tūmatanui, ka riro mā te kāwanatanga o taua wā ngā kōwhiringa motuhake e whakatau. Ko te whakaū ka toitū ēnei kōwhiringa i te wā roa ka āwhinatia e te whakapūmau me te whakakaha i ngā umanga moni tūmatanui kaha nei o Aotearoa.

Kia ū te arotahi o Aotearoa ki te mahea me ngā aronga moni tūmatanui toitū wā waenga. E monoatia ana ngā umanga moni tūmatanui o Aotearoa e ngā umanga o te ao. E whakaū ana rātou i te mahea mā te herenga mō ngā kāwanatanga ki te whakaputa, ki te noho haepapa hoki mō te tutukitanga o ngā whāinga moni tūmatanui. He mea waiwai te whakatū i ngā whāinga horopū, me aro hoki ngā rautaki moni tūmatanui o ngā kāwanatanga ki te toitū wā-roa o ngā moni tūmatanui. Kei te tautoko tonu Te Tai Ōhanga i tēnei aronga ki te mahea, kua ko te whakawaeture i ngā ture motuhake mō ngā moni tūmatanui.

Tērā pea me whaiwhakaaro a Aotearoa ki te whakatū i tētahi umanga moni tūmatanui motuhake ko tōna mahi ko te tiroiro me te pūrongo atu mō te toitū o ngā kaupapahere moni tūmatanui, kia pērā i te maha o ngā whenua o tāwāhi. Ko te aronga, ko te whakakaha i ngā whakaritenga ā-umanga mā te tautoko i te iwi whānui me te Pāremata ki te whakaū i te noho haepapa o te kāwanatanga mō āna rautaki moni tūmatanui. Me whakahāngai te hoahoa o te umanga motuhake mō te moni tūmatanui ki ngā tū āhuatanga o Aotearoa. Ko ngā painga o tētahi umanga moni tūmatanui motuhake, ko tāna mahi he whakaputa i ngā matapae ōhanga, moni tūmatanui hoki, he whakahaere i ngā tātaritanga wā-roa o te toitū moni tūmatanui hoki, tērā pea kāore i te tino whaitake ki Aotearoa, nā te mea, ka rerekē ki ō tāwāhi. Kei Aotearoa nei, e mahi motuhake ana a Te Tai Ōhanga ki te whakaputa i ērā momo matapae ināianeī kei waho o te kāwanatanga. Heoi anō he painga pea o te whakatū i tētahi umanga motuhake mō te moni tūmatanui ko tāna mahi he titiro whakatātare ki te kaupapahere moni tūmatanui o te kāwanatanga, ā, kia kaha atu te whakatātare tēra i ō te Tai Ōhanga i tēnei wā.

I muri mai i te whānuitanga o ngā tumeke me ngā hurihanga kua pā mai ki Aotearoa i ngā tau tekau tata nei, kua ākona te maha o ngā akoranga e pā ana ki ngā utauta kaupapahere moni tūmatanui ka taea te rato i ngā āwhina whaitake, ā, ko ēhea ngā utauta e tinga ana ka āwhina i te toitū o te kaupapahere moni tūmatanui i te wā roa.

E tika ana, kia whakaritea ngā utauta hei urupare moni tūmatanui i mua i te wā, – hei tauira, mā te whakaū kua whakatūria kētia ngā tukanganga me ngā pūnaha e tika ana. Mā te takatū, e āhei ana he urupare wawe, ka pai ake te hāngai ki ngā whāinga, ā, tērā pea ka pai ake te whaihua whakapaunga moni. Mā te māramatanga whakakotahi mō ngā utauta e taea ai te whakamahi, me ngā pānga ki te ōhanga e āwhina te whakatau i ngā kawatau, ā, ka āwhina hoki i te pēke ā-motu ki te whakatau i āna kaupapahere ahumoni.

He mea nui kia hoahoatia ngā utauta kia wawe, kia taupua, kia hāngai hoki ki te whāinga, ā, kia mārama hoki te rautaki whakaputa. Kei tēnei Puka Whakamārama ka whakarāpopotohia te whānuitanga o ngā utauta ka whakamahia pea hei urupare ki ngā pāpono, ā, ka arotake i te āheinga o ia utauta kia wawe, kia taupua, kia hāngai hoki ki te whāinga.

- Ko ngā tukunga pūtea kotahihe tere ki te whakaputa, he taupua te hanga, ā, ka taea te whakahāngai rawa ki te whāinga.
- Ko ngā momo takuhe, pūtea āwhina, utu hoki a te kāwanatanga, ka wawe pea, ka taea hoki te whakahāngai ki te whāinga, engari he rerekē mō ia utauta. Engari, ka uaua pea ki te whakakore i ēnei panonitanga.
- Ko ngā panonitanga ki ngā tāke, hei tauira, te tāke moniwhiwhi whaiaro, te GST rānei, ehara i te wawe, he uaua ki te whakahāngai ki te whāinga, ā, ka uaua hoki ki te whakakore i ngā hekenga tāke.
- Mā te tautoko māngohe, mā ngā kaupapa whakataurangi moni taurewa rānei e whakarato te tautoko wawe, taupua hoki ki ngā pakihī i ngā wā o ngā hekenga ohaoha. Heoi, ka whakaheke hoki ēnei momo utauta i te whaihua ohaoha i te wā roa, nā te mea ka aukati pea i te whakawhiti i ngā rawa atu i ngā hinonga kāore i te whaihua.
- Ka taea ai te whakamahi i ngā panonitanga taupua ki ngā whakaritenga tāke mō ngā pakihī ki te whakapiki i te haumitanga pakihī. Engari, ka hua mai pea he whakakōtiti māketē, ka kore pea hoki e wawe te haumitanga.
- Ka wawe, ka taupua hoki pea ngā pūtea tāpiri utu mahi ina ka mārama te rautaki whakaputa, engari he uaua ki te whakahāngai ki tētahi rāngai motuhake, rohe motuhake, hangapori motuhake rānei.
- Kāore pea ngā hurihanga whakapeto tūmatanui e tae wawe ai kia whakakorengia ngā tumeke me ngā hurihanga, ā, he uaua te whakakore i ngā pikinga whakapeto hoki.
- Kāore i te tino whaihua te panoni i te pāpātanga o te haumitanga ki ngā kaupapa tūāhanga a te kāwanatanga hei rautaki whakakore hurihanga ōhanga, nā te roa o te wā mai i te whakataunga haumitanga ki te tīmatanga o ngā mahi hanga. Te panoni i te rahi o ngā kaupapa whakatika, whakapakari hoki tētahi kōwhiringa ka wawe ake pea.

E hiahia ana Te Tai Ōhanga ki ngā urupare mō ngā whakaaro o roto i tēnei Puka Whakamārama. Ka whakahau hoki mātou i te hunga pānui, kia mataara ki tō mātou Long-Term Fiscal Statement me te Investment Statement ka whakaputaina hei te hikunga o tēnei tau. Kei ēnei pūrongo e toru, kua tūhuratia ngā take moni tūmatanui wā-roa e hira ana kia eke ai ngā paerewa oranga teitei mō ngā tāngata katoa o Aotearoa.

Chapter 1: Introduction

This chapter explains what a Long-term Insights Briefing is, the motivation for our topic, some of the analytical frameworks applied and how to provide feedback on this draft.

- The Treasury’s draft Te Ara Mokopuna 2025 Long-term Insights Briefing (the Briefing) examines how we can ensure sustainable and resilient fiscal policy through economic shocks and cycles. Our aim is that this Briefing informs and supports public debate about how New Zealand can maintain sustainable and resilient fiscal policy in the future.
- We chose this topic because sustainable and resilient fiscal policy matters for New Zealanders’ living standards. It matters to future generations. Will they be able to afford the same level and quality of public services we enjoy today? Will they be well placed to weather future disruptions?
- This is a good time to consider the way fiscal policy is used to manage the impacts of cycles and shocks. The fiscal cost of responding to shocks has contributed to New Zealand’s government debt ratcheting upwards over the past 20 years. Our ability to pay for responses to future economic disruptions is declining, as debt is now higher and long-term fiscal pressures such as population ageing and climate change are emerging.

The Treasury is the Government’s lead economic and financial adviser and steward of the public sector financial management systems. This stewardship responsibility requires the Treasury to advise present and future governments and the public on issues that will likely matter to New Zealanders in the future.

This Briefing sits alongside three other stewardship reports that the Treasury is required to publish – the Long-term Fiscal Statement, the Investment Statement and the Wellbeing Report. Box A provides more information on the purpose of Long-term Insights Briefings.

We consulted a range of stakeholders and the public on the proposed topic of this Briefing, which led to some changes in overall scope. A summary of this feedback and the changes made is available on [the Treasury website](#).¹

This Briefing is a draft, released publicly so feedback on changes and improvements can be considered and incorporated. The final Briefing is scheduled for release at the end of June 2025.

¹ The Treasury, 2024a.

Box A: What is a Long-term Insights Briefing?

Under the Public Service Act 2020, the chief executive of a government department is required to publish a Long-term Insights Briefing every three years.

Long-term Insights Briefings should provide information to the public about:

- medium and long-term trends, risks and opportunities that affect, or may affect, New Zealand society
- information and impartial analysis of the trends, risks and opportunities that have been identified, including policy options for responding to them.

While Briefings may consider the strengths and weaknesses of different policy options, they are not intended to advocate for any particular policy change.

Why this topic?

This Briefing explores sustainable and resilient fiscal policy through economic shocks and cycles, which is important to support continued public service provision, intergenerational equity and macroeconomic stability.

We seek to inform policy thinking and future advice to governments on the appropriate way that fiscal policy could be used in response to future disruptive events to the New Zealand economy and society.

Fiscal policy refers to how governments manage their revenue, expenses, assets and liabilities. Fiscal policy is a key tool governments use to provide public services and benefits that contribute to New Zealanders' living standards. Governments can also use fiscal policy in response to economic cycles and shocks, particularly severe shocks such as the global financial crisis (GFC), the Canterbury earthquakes and the COVID-19 pandemic.

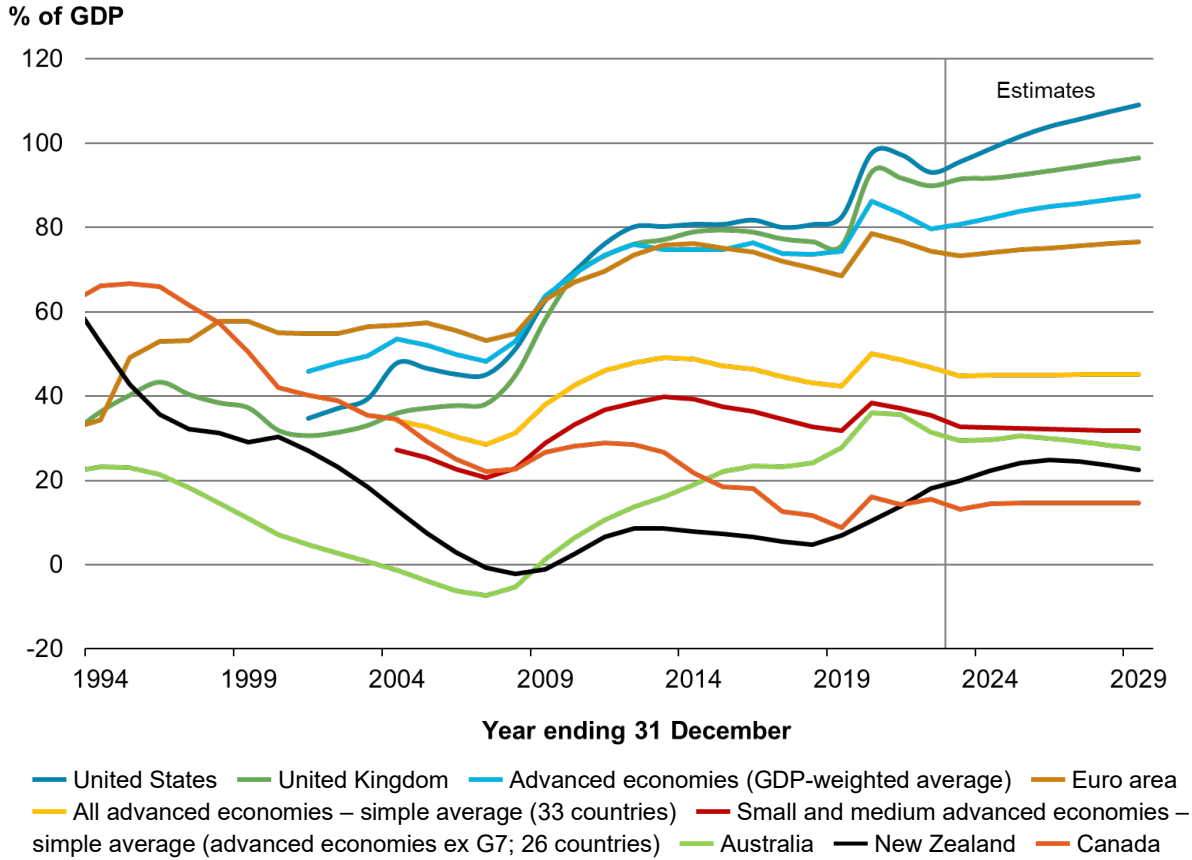
One possible role for fiscal policy is to help smooth the economic cycle. Governments can increase expenditure or reduce taxes (loosen fiscal policy) to assist the economy during a downturn, and they can decrease spending or increase taxes (tighten fiscal policy) to help prevent an economy overheating during a boom. Another possible role for fiscal policy is to alleviate the economic and social impacts of shocks such as natural disasters on households and businesses. This often involves substantial, unanticipated government expenditure or revenue changes.

Smoothing the economic cycle has long been considered the domain of monetary policy, operated by an independent central bank. Monetary policy seeks to moderate economic cycles by influencing interest and exchange rates.

Following the 2008-2009 GFC, however, concern emerged about limits to how much monetary policy can help with the deepest downturns, because interest rates cannot go much below zero. Furthermore, many countries found that fiscal policy was very effective at providing timely and targeted economic support during the COVID-19 pandemic. This has prompted international debate about whether a more active role for fiscal policy might be appropriate.

International experience over many decades has, however, shown that governments find it easier to loosen discretionary fiscal policy during economic shocks and downturns than to tighten fiscal policy when the economy is performing well. This can lead to government debt ratcheting up over time. New Zealand has been no exception. In recent decades, New Zealand’s debt has ratcheted up as the cost of responding to shocks has not been offset when the economy has performed well. This has contributed to New Zealand government debt rising as a percentage of GDP from internationally low levels in 2008 to figures nearing the average of small and medium-sized advanced economies today (see Figure 1.1). New Zealand has some vulnerabilities that make it riskier for us to take on high debt than some other countries. These vulnerabilities include high natural hazard risk, small size, reliance on commodity exports, and high borrowings from overseas.

Figure 1.1: General government net debt across countries



Source: International Monetary Fund, World Economic Outlook, October 2024

This Briefing assesses the circumstances in which fiscal policy should and should not play a role in alleviating economic shocks and cycles in New Zealand. It goes on to suggest approaches that would support governments to apply fiscal policy sustainably through shocks and cycles so that debt does not ratchet up over time.

Why now?

The topic of resilient and sustainable fiscal policy is particularly pertinent to New Zealand's current context.

First, there will be a range of other pressures on the sustainability of fiscal policy in coming decades. The ageing population will increase the cost of providing New Zealand Superannuation and healthcare.² Climate change and the global geopolitical environment are likely to put pressure on government spending, and although interest rates are still much lower than they were in the 1990s, the rise in interest rates since their low point around 2020, if sustained, will increase debt servicing costs. In the context of these fiscal pressures, ensuring that government responses to shocks and cycles are sustainable will be particularly important. These longer-run pressures will be explored in the Treasury's Long-term Fiscal Statement, to be released later this year.

Second, there are several reasons to think there could be further disruptive events impacting the New Zealand economy and society in the future. Risks arising from geopolitical uncertainties and climate change are increasing, there are ongoing seismic natural hazard and biosecurity risks and fluctuations in global economic conditions seem likely to continue. This Briefing considers these risks and the implications for fiscal policy.

Box B: The Living Standards Framework and He Ara Waiora in this Long-term Insights Briefing

Fiscal policy has significant impacts on the living standards of all New Zealanders. This report uses the four analytical prompts of the Treasury's [Living Standards Framework](#)³ as lenses to analyse the stabilisation role of fiscal policy.

Distribution: Appropriately designed fiscal policy interventions have the potential to be more suited than monetary policy to respond to types of events that have more concentrated, direct impacts on different groups and regions. The choice and design of instruments can have significant impacts on New Zealanders, particularly those that are directly impacted by shocks. This Briefing includes an analysis of potential distributional impacts of government responses.

Sustainability: A core question and concern of this Briefing is how we can ensure that the fiscal response to shocks is sustainable over time. This is about how well we are safeguarding the wealth of future generations and whether we will be able to afford to manage and mitigate the impacts of future cycles and shocks. Sustainability is important to enable continued provision of public services and public infrastructure such as healthcare, education and transport.

² The Treasury, 2021a.

³ The Treasury, 2021b.

Productivity: The productivity of the New Zealand economy is an important driver of the extent to which government, as well as households and businesses, can afford to mitigate the impact of cycles and shocks. It is a two-way relationship. Fiscal policy, including responses to cycles and shocks, can impact productivity, for example by influencing incentives to save and invest. Governments can use spending and revenue to reduce the volatility in the economy from cycles and shocks, which provides more stability for businesses and households.

Resilience: We explore the ability of our fiscal institutions to adapt to or absorb stresses and shocks in response to different fiscal scenarios as well as options to strengthen our institutions. It is also important for New Zealand to maintain larger fiscal buffers as we are a small open economy that is exposed to more risks than some larger economies.

The 'means' of He Ara Waiora

In carrying out the Long-term Insights Briefing work programme, we have aimed to adhere to the 'means' of [He Ara Waiora](#),⁴ a framework that helps the Treasury to understand waiora – a concept that relates to Māori perspectives on wellbeing and living standards. The 'means' are the tikanga values or principles that should guide the policy development process.

Manaakitanga – uplifting wellbeing through good process: We have prioritised time for feedback so consultation responses can be genuinely influential in forming the scope and content of this Briefing and focused on drafting a Briefing that is succinct and summarised in plain language in English and te reo Māori. We aim to deliver a final Briefing that is responsive to a broad range of New Zealanders' needs and interests, to promote substantive and wide-reaching public debate on the future challenges and opportunities for fiscal sustainability.

Kotahitanga – fostering unity: The Briefing, alongside other upcoming stewardship reports (the Long-term Fiscal Statement and Investment Statement), is intended to be exploratory and to foster debate to help build consensus.

Whanaungatanga – building valuable relationships: In our scope and first draft feedback processes, we have focused on proactively reaching out to a diverse and broad range of stakeholders within New Zealand communities and internationally.

Tiakitanga – stewarding intergenerational wellbeing: This Briefing is a stewardship report focused on the next 40 years and future generations' fiscal sustainability and optionality. Considering intergenerational equity of costs and benefits between the past, present and future is a key question of this and other Briefings.

⁴ The Treasury, 2024b.

The Treasury’s long-term stewardship reports

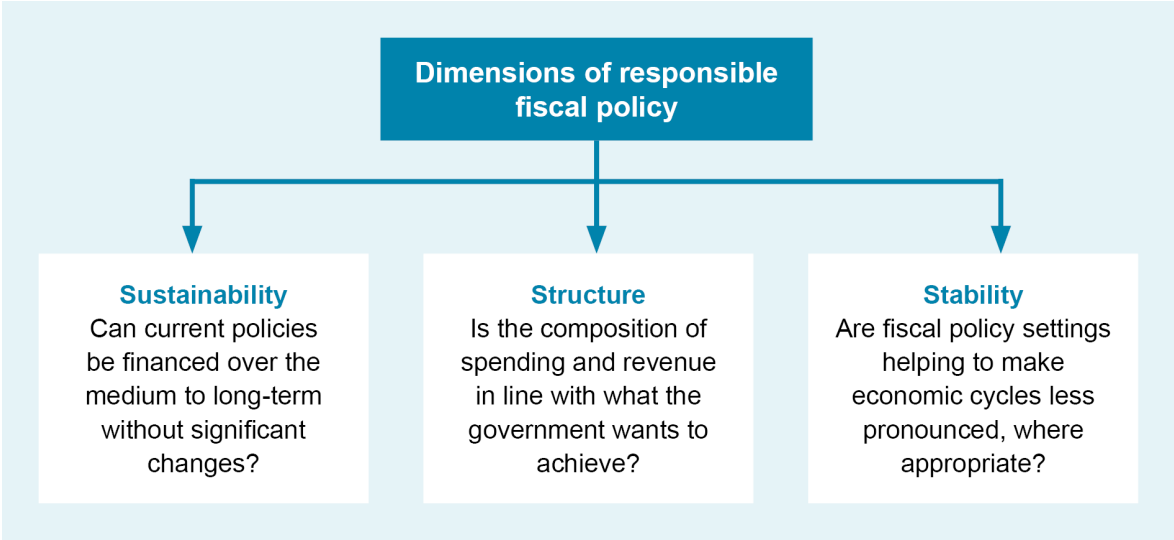
This Briefing is one of three stewardship reports that the Treasury will publish in 2025, with the Long-term Fiscal Statement and the Investment Statement to be published later this year.

The Treasury's 2025 suite of stewardship reports are intended to support a sustained public and political discussion on long-term fiscal objectives to support higher living standards for all New Zealanders. Our suite of stewardship reports will cover the three objectives for fiscal policy, also known as the “three Ss”⁵ (see Figure 1.2):

- **Stabilising:** How government levers can and do stabilise the economy in response to cycles and shocks.
- **Sustainable:** How to sustain a balance between revenue and expenditure over time, especially as the costs of an ageing population and from climate change steadily expand.
- **Well structured:** How to ensure government revenue is collected, and expenditure is disbursed, in an efficient and equitable manner.

These three objectives are inter-related and can be in tension. Using fiscal policy to boost the economy in a downturn may not be sustainable over time or may shift the structure of expenditure towards initiatives that are lower value for money.

Figure 1.2: Dimensions of responsible fiscal policy



Each of the three stewardship reports will take a different angle, reflecting their distinct legislative objectives. This Briefing is focused on whether fiscal policy should be used to buffer the economy from shocks and cycles and how to do so in a sustainable way. The 2025 Long-term Fiscal Statement will explore the implications of the longer-term trend of ageing for New Zealand’s fiscal sustainability and the choices available to successive governments to return to a fiscally sustainable path. The Investment Statement will explore issues around the prudent investment and management of our balance sheet to continue to lift living standards across generations.

⁵ Barker et al., 2008.

The draft Briefing covers the following topics:

Chapter 2: Analysis of economic shocks and cycles in New Zealand, including the economic and fiscal costs.

Chapter 3: Discussion of the role of fiscal policy in responding to shocks and business cycles, including the relationship with monetary policy.

Chapter 4: Considerations for implementing effective fiscal policy responses, including policy-making under uncertainty and options for different fiscal tools.

Chapter 5: An analysis of fiscal pressures that impact the fiscal position and the need to maintain sustainable fiscal capacity.

Chapter 6: Discussion of New Zealand's current institutional settings to support sustainable and resilient fiscal policy and options to strengthen these.

Chapter 7: Conclusion and next steps.

Annexes: Extension material on additional monetary policy and large weather events modelling.

Box C: What do you think?

Our goal is that this Long-term Insights Briefing will inform and promote public debate on the importance and challenges of maintaining sustainable and resilient fiscal policy through future economic shocks and cycles and the range of policy options available to support sustainable and resilient fiscal policy. We are seeking feedback on how the draft of our 2025 Briefing supports this goal of informing and promoting discussion and suggestions for how the Briefing could be amended to better support this aim.

While we are reaching out to a range of stakeholders, we welcome submissions from all of New Zealand. We have scheduled a small window of time following this public consultation to consider feedback and undertake high-priority further analysis and amendments, before finalising the Briefing by the end of June 2025.

These prompts may help guide your feedback:

- What do you think of the conclusions in this document about the challenge New Zealand faces and the policy options available regarding sustainable and resilient fiscal policy through economic shocks and cycles? Are there any key insights missing or that you think should be framed differently?
- What areas of further analysis on this topic do you think are the most important for the Treasury to prioritise, either in the final Briefing or in the Treasury's broader research and work programme?
- Are you aware of additional research that is relevant to the topics covered in this draft Long-term Insights Briefing?

Please indicate whether officials from the Treasury may contact you to discuss the points raised, if required.

The closing date for submissions on the first draft of our Long-term Insights Briefing is Thursday, 8 May 2025.

Submissions may be made:

- by email to: LTIB@treasury.govt.nz
- by post to: Long-term Insights Briefing team
The Treasury
PO Box 3724
Wellington 6140
NEW ZEALAND

Private information

The Privacy Act 2020 establishes certain principles with respect to the collection, use and disclosure of information about individuals by various agencies, including the Treasury. Any personal information you supply in the course of making a submission will only be used for the purpose of assisting in the development of, and policy advice in relation to, the Treasury's Briefing. Please clearly indicate in your submission if you do not wish your name, or any other personal information, to be included in the summary of submissions and consultations that the Treasury will publish.

Submissions and the Official Information Act

Submissions received are subject to the Official Information Act 1982 (OIA). Please set out clearly with your submission if you have any objection to any information in the submission being released under the OIA. In particular, clearly state which part(s) you consider should be withheld and the reason(s) for doing so.

The OIA sets out reasons for withholding information. Reasons could include that the information is commercially sensitive or that you wish the Treasury to withhold personal information such as names or contact details. An automatic confidentiality disclaimer from your IT system is not a reason to withhold information.

Your objections will be considered when responding to requests under the OIA but may not determine whether the Treasury is obliged to release your submission.

Chapter 2: Economic shocks and cycles – the New Zealand context

This chapter describes the shocks and cycles New Zealand has experienced in the past and future risks of shocks and cycles New Zealand faces.

- Over the decades, New Zealand has experienced both adverse and favourable economic shocks such as the COVID-19 pandemic, the Canterbury earthquakes, periods of improvement in international trading conditions and global economic downturns.
- Shocks directly impact sectors, industries or communities as well as the wider economy. Since the late 1980s, direct fiscal responses to adverse shocks have averaged around 10% of GDP per decade, with most of this related to the Canterbury earthquakes and the COVID-19 pandemic.
- Business cycles in New Zealand have been driven by a combination of shocks and shifts in confidence and risk appetite in the wider economy. Macroeconomic management aims to keep the economic cycle, and associated imbalances, within reasonable bounds.
- Looking ahead, New Zealand faces the likelihood of further shocks and business cycles. Risks arising from geopolitical uncertainties and climate change are increasing, and there are ongoing seismic, natural hazard and biosecurity risks.

An economy moves through periods of expansion and contraction of varying degrees. Fluctuations in the level of economic activity can come from many sources, including the impact of sudden shocks (exogenous events) and business cycles that build on their own momentum and feedback mechanisms (endogenous business cycles).

Shocks

Economic shocks are significant, disruptive and unexpected events. These include international economic and financial events and forces of nature. Some notable shocks that have impacted the New Zealand economy since the 1980s include:

- the Canterbury and Kaikōura earthquakes and the 2023 North Island weather events
- the COVID-19 pandemic
- the 1998 Asian financial crisis and the 2008-2009 global financial crisis (GFC).

Not all shocks are adverse. Shocks such as the large improvement in New Zealand’s terms of trade over the past 20 years, episodes of large-scale net migration, falling global interest rates and rising labour force participation have tended to boost economic activity.⁶

Figure 2.1: Total terms of trade



Figure 2.2: 10-year New Zealand government bond yield

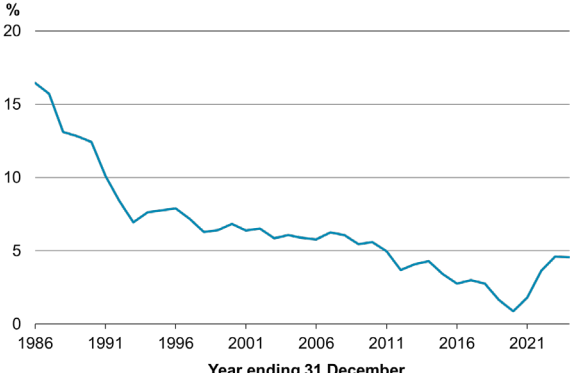


Figure 2.3: Annual net migration as a share of the population

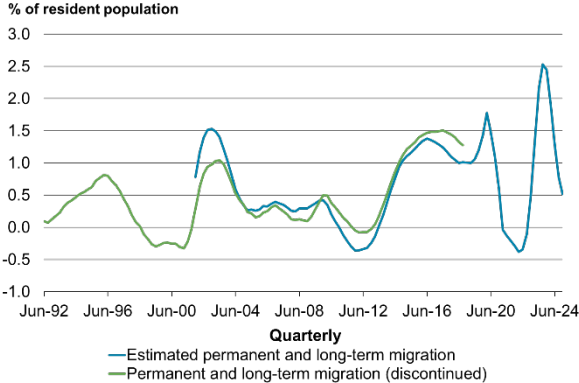
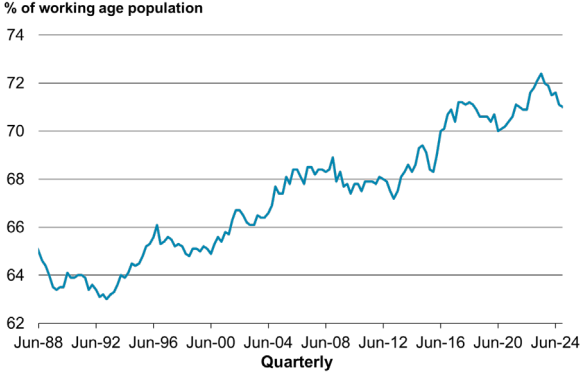


Figure 2.4: Labour force participation rate



Source: Stats NZ, Haver Analytics

Table 2.1 lists adverse shocks to the New Zealand economy since the late 1980s. It provides estimates of the costs of identifiable direct fiscal responses by the government along with estimates of the wider economic costs. The analysis confirms the finding from previous Treasury work that historical shocks in New Zealand have typically increased government debt by about 10% of GDP per decade.⁷ However, costs have varied significantly over time depending on what events occur (the responses to the Canterbury earthquakes and the COVID-19 pandemic alone accounted for more than 80% of the total cost over the entire period) and government choices about the scale and scope of the fiscal response. The private sector and international insurers have also incurred significant costs during shocks, which are not included in this estimate. As discussed below, there is significant uncertainty involved in projecting future costs based on this historical information.

⁶ Terms of trade is the ratio of import prices to export prices. If export prices increase more than import prices, a country has a positive terms of trade, as it can purchase more imports for the same amount of exports.

⁷ The Treasury, 2022b.

Table 2.1: Identifiable estimates of cost of shocks in New Zealand 1987-2023

Event	Cost of identifiable direct fiscal response (% of starting year's GDP)	Main fiscal responses	Estimated wider economic costs (to private sector or total economy)
North Island weather events (2023)	1.7%	Estimated \$6.65 billion allocated to fund operating and capital expenditure including Natural Hazards Commission costs and Crown reimbursement of local authority response and recovery costs.	Estimated physical asset damage to the total economy of (\$9-14.5 billion), equal to around 3% of GDP.
COVID-19 pandemic (2020-2022)	20.4%	Estimated \$66 billion of fiscal costs over the 2020-2026 fiscal years.	No comprehensive study yet available for New Zealand.
<i>Mycoplasma bovis</i> (2017-2024)	0.3%	\$0.7 billion costs to government, predominantly eradication costs and compensation payments.	\$0.2 billion eradication costs to industry.
Kaikōura earthquake	0.9%	\$2-3 billion total costs to the Crown including Earthquake Commission (EQC) costs.	Gross costs to private insurers estimated at \$2.3 billion.
2013 drought	<i>Not available</i>	-	Drought lowered 2013 GDP by 0.6%.
Canterbury earthquakes (2010-11)	11.3%	EQC costs gross of reinsurance (\$12 billion), other costs to the government (\$11 billion).	Gross costs to private insurers estimated at \$22.9 billion.
Finance company failures (2006-11)	0.4%	\$0.6 billion retail deposit scheme payouts, net of expected receivership proceeds and fees.	Estimated \$3.0 billion gross losses for deposit holders.
2008 drought	<i>Not available</i>	-	Drought lowered annual GDP by 0.5%.
1998 drought	<i>Not available</i>	-	Drought lowered annual GDP by 0.9%.
1992 drought	<i>Not available</i>	-	Drought contributed to 1991-92 downturn.
BNZ bank failure (1989-91)	1.0%	Gross cost of recapitalising BNZ.	
Edgecumbe earthquake (1987)	0.2%	Approximately \$120 million EQC payouts.	Total losses estimated at \$430 million.
Total losses from floods/storms aside from the North Island weather events (1987-2023)	<i>Not available</i>	-	Estimated total economy property damage averaging 0.03% of GDP per year.
Annual average 1987-2023	1.0%		

Notes and sources for Table 2.1:

The GDP denominator used is nominal GDP in the year in which the shock commenced (years ended March). Data on the wider economic costs of droughts is readily available but not the direct fiscal costs.

Sources for main fiscal responses are as follows:

- North Island Weather Events – Treasury calculations.
- COVID-19 – Binning et al., 2023 and Treasury calculations. The figure is based on funds actually spent in the first three years (\$51.8 billion) plus an approximate estimate of funds that will be spent in the later three years. The estimate of funds that will be spent in the later three years has been calculated from funds allocated (\$18.2 billion) and applying the ratio of funds spent to funds allocated from the first three years (78%) to account for possible underspends in the funding allocated. The estimate does not include the fiscal impact of the monetary policy response to COVID-19. As discussed in Annex 1, interest rate losses from the LSAPs undertaken during COVID-19 are estimated to be \$10.5 billion as of February 2025 although this figure does not account for the offsetting benefits of the effect of LSAPs on lowering government interest costs or raising tax revenue by supporting economic activity.
- Mycoplasma Bovis – Ministry of Primary Industries (costs of the Mycoplasma response are to June 2024).
- Kaikōura Earthquake – Finance & Expenditure Committee, 2022; Natural Hazards Commission, 2021; The Treasury, 2017a; The Treasury, 2017b.
- Canterbury earthquakes – Natural Hazards Commission, 2021. Reinsurance covered approximately \$5 billion of EQC's \$12 billion in costs. The gross figure is used here as being reflective of the total costs EQC had responsibility for covering.
- Finance company failures – Vergara, 2022.
- BNZ bank failure – Hunt, 2009.
- Edgecumbe earthquake – Officials' Committee for Domestic & External Security Coordination, 2007.

Sources for estimated wider economic costs (to private sector or total economy) are as follows:

- North Island Weather Events – The Treasury, 2023a. Gross costs to private insurers estimated at \$3.8 billion, see Insurance Council of New Zealand, 2025.
- Mycoplasma Bovis – Ministry of Primary Industries (costs of the Mycoplasma response are to June 2024).
- Kaikōura Earthquake – Insurance Council of New Zealand, 2025.
- 2013 drought – Kamber et al., 2013.
- Canterbury earthquakes – Insurance Council of New Zealand, 2025.
- Finance company failures – Commerce Select Committee, 2011.
- 2008 drought – The Treasury, 2008.
- 1998 drought – Salinger & Porteous, 2014.
- 1992 drought – Reddell & Sleeman, 2008.
- Edgecumbe earthquake – Shephard, 1997.
- Losses from floods/storms aside from NIWE – The International Disaster Database, 2025 and Treasury calculations.

Business cycles

Business cycles are broad-based swings in economy-wide activity. The state of the business cycle can be summarised by the output gap, which is an estimate of the difference between actual activity in the economy and the level of activity it can sustain over the longer term. When the output gap is positive, inflation tends to rise and unemployment will tend to fall (and vice versa).

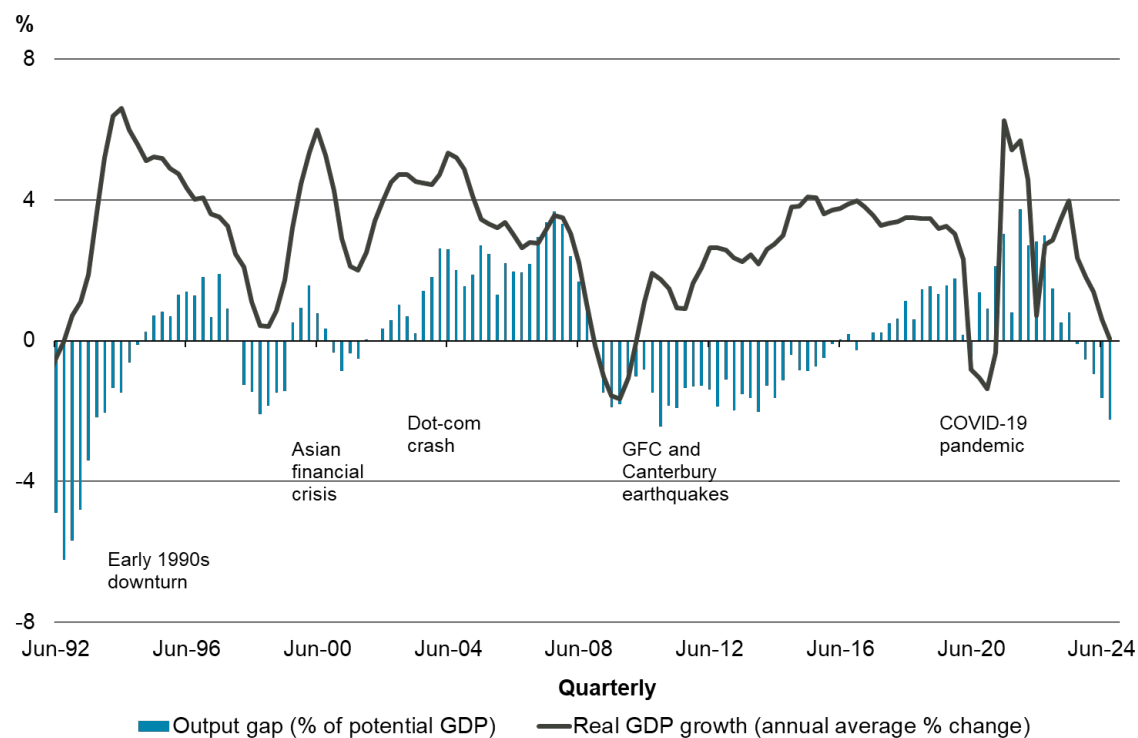
Business cycles are often the result of an economic shock, but other factors that influence economic sentiment can also be at play. Once a business cycle is under way, it can generate its own momentum and feedback mechanisms, and imbalances build up within the economy. For example, during an expansion, business and consumer confidence tends to build, leading to increased spending and investment, further fuelling the expansion. The reverse processes happen during a downturn, with lost consumer and business confidence exacerbating the downswing.

Excessive volatility in the business cycle can have substantial economic costs. A persistent business cycle expansion will tend to result in large and unexpected increases in consumer price inflation, causing uncertainty for businesses and households and potentially leading to poor decisions around investments and spending. Meanwhile, downturns, especially severe ones, can reduce current and future living standards through falling incomes, investment and employment. There can be long-term employment and wage impacts for some people. As discussed in Chapter 3, independent monetary policy aimed at securing low and stable inflation plays a critical role in reducing volatility in the business cycle.

The characteristics of an economy influence the main causes of business cycles. For New Zealand, shocks have been more prominent in economic developments because of its small size, exposure to trade and presence of natural hazard risk. In large economies like the US, most of the macroeconomic fluctuations arise from domestic business cycles rather than external shocks.⁸ New Zealand has experienced a mix of shocks and cycles over recent decades resulting in variable rates of GDP growth (see Figure 2.5).

⁸ Reddell & Sleeman, 2008; White, 2024.

Figure 2.5: GDP growth and the output gap



Source: Stats NZ, the Treasury

Looking ahead

New Zealand and other countries have experienced periodic business cycles for a long time.⁹ It is almost certain that there will be more business cycles, both downturns and upswings. Historical information offers some guidance to the future, but relying too heavily on it carries the risk of policy responses ‘fighting the last war’.

A recent International Monetary Fund commentary judged that the world has become more ‘shock-prone’, particularly to shocks that change the underlying capacity of the global and/or New Zealand economy to produce goods and services (supply shocks).¹⁰ Experience suggests that we cannot assume the next large shock will be similar to previous shocks.¹¹ Some shocks will be favourable, but the greater policy challenges are likely from adverse shocks. Recent domestic and global trends suggest some areas of risk, explored more fully in Box D, including:

- changing geopolitical and international trading relations
- changing climate and an increase in extreme weather events
- continuing exposure to biological pathogens that threaten human health (such as bird flu and coronavirus mutations) and the agriculture sector (such as foot and mouth disease)

⁹ Broadberry & Lennard, 2024; Hall & McDermott, 2015.

¹⁰ Georgieva, 2022.

¹¹ Easton, 2023; Reddell & Sleeman, 2008.

- accumulating public debt (including in the US, Europe, Japan, the UK and China), making debt sustainability more dependent on ongoing favourable financing conditions
- continuing exposure to seismic risks such as earthquakes, volcanic activity and tsunamis.

New Zealand has some distinctive, enduring vulnerabilities that influence its susceptibility to shocks and cycles. International organisations such as credit rating agencies have highlighted some of these vulnerabilities in their assessments of New Zealand:

- High exposure to natural disasters – New Zealand has more risks from natural disasters than most high-income countries.
- Small size – smaller countries tend to be more vulnerable to idiosyncratic shocks such as natural hazard events or a shock to a key industry.
- Commodity dependence – countries reliant on commodity exports are vulnerable to shocks to the terms of trade.
- High external debts and current account deficits – New Zealand has sizeable overseas borrowings, with a net international investment position of around -50% of GDP (accounting for both public and private sector assets and liabilities). This increases New Zealand's vulnerability to shocks in global markets, although the fact that much of this debt is either denominated in New Zealand dollars or is hedged helps keep this risk in check.

Box D: Risks of adverse shocks in the future

This box sets out some key areas of risk of adverse shocks for New Zealand.

- **Geopolitical risk** is the potential for adverse events from international tension – for example, tariffs and conflicts that disrupt or limit trade.¹² Geopolitical shocks can have lasting impacts on growth through global trade and interest rates.¹³ Past trade shocks to the New Zealand economy and public finances have included the oil shocks of the 1970s.¹⁴ In more recent times New Zealand’s foreign and trade policy interests have been relatively stable and secure, but international shifts are affecting the global context.¹⁵ For example, international rules are more contested and relative power between states is having a greater role in shaping international affairs. There is also a greater focus on economic security and resilience.
- The risks of shocks generated by **instability in the financial system** appears relatively well contained and may be smaller now than in the past. For example, the Reserve Bank of New Zealand, International Monetary Fund and rating agencies consider the banking system to be sound.¹⁶ In part, this reflects policy efforts to strengthen the resilience of the financial sector since the GFC – for example, through increased bank capital requirements and prudential supervision. Financial stability is important as financial crises can result in significant fiscal costs and have long-lasting macroeconomic impacts.¹⁷
- **Human and livestock diseases** are significant and potentially growing risks. On average, two new viruses are appearing in humans per year and are more often turning into larger outbreaks.¹⁸ Recent examples of livestock and plant disease disrupting New Zealand’s agricultural sector include the *M. bovis* outbreak (2017-2024) and the infection of kiwifruit with the *Pseudomonas syringae* pv. *actinidiae* (Psa) vine canker (since 2010). An outbreak of foot and mouth disease, which has so far been avoided, is a significant risk to future activity. An outbreak could result in the cessation of at-risk livestock product exports and could also impact New Zealand’s trend economic growth if it led to permanent changes to New Zealand’s industry structure or export patterns. Modelling indicates that an outbreak could temporarily reduce nominal GDP by at least 5% while trade activity is paused, with the impacts being more severe if the disease is not able to eradicated.¹⁹

¹² Georgieva, 2022; Blackmore et al., 2022; Adams-Kane, 2024; Ministry of Foreign Affairs and Trade, 2023.

¹³ Blackmore et al., 2022.

¹⁴ Easton, 2023.

¹⁵ Ministry of Foreign Affairs and Trade, 2023.

¹⁶ Reserve Bank of New Zealand, 2024b; International Monetary Fund, 2024a; The Treasury, 2024c.

¹⁷ Fuentes & Moder, 2020; Dell’Ariccia et al., 2022.

¹⁸ Department of the Prime Minister and Cabinet, 2024.

¹⁹ NZIER, 2024.

- **Natural hazards** are an ongoing and potentially increasing risk. The OECD estimates that, from 1995 to 2015, New Zealand’s annual average loss from natural hazards has been the largest of any member country at 0.9% of GDP per year.²⁰ Lloyds (2018) estimates New Zealand’s losses over a longer historical period at 0.66% of GDP per year, the second highest (after Bangladesh) of 43 countries.²¹ The loss rates are significantly driven by the large costs of the Canterbury earthquakes over 2010 and 2011. Most losses from natural hazards occur from large, infrequent events. Over the past 15 years, there has been reappraisal upwards of New Zealand’s seismic risk, with insurance pricing having increased significantly.²²
- **Extreme weather** (storms and droughts) has also been a source of risk. Annual average economy-wide property losses from floods and storms have been around 0.1% of GDP between 2000 and 2023 – a material cost, though significantly smaller than economy-wide costs from earthquakes.²³ The North Island weather events of early 2023 account for two-thirds of all losses over the period. New Zealand also experiences periodic droughts. Since 1987, four droughts in 1992, 1998, 2008 and 2012/13 have been identified as having major macroeconomic impacts. Estimated economy-wide losses from each drought due to forgone production are estimated to range from 0.5% to 0.9% of GDP.²⁴
- New Zealand is already experiencing the effects of climate change, including more severe and frequent droughts and extreme storms.²⁵ A Treasury-commissioned study from 2018 estimated climate change caused at least \$120 million of privately insured damage from floods and \$720 million in economic losses from droughts in the decade between 2007 and 2017.²⁶ These costs are in addition to standard costs from flood and droughts, based on historical data. One study suggested that for flood-related losses over the period 2007 to 2017, the fraction of risk that, was attributable to climate change ranged from 10% to 40% across the events examined.²⁷
- Due to climate change, we expect the trend will be for increasingly frequent and severe weather events, although the magnitude and timing of impacts is hard to forecast with any certainty. Economic losses and fiscal costs from storms, floods and droughts will depend on multiple factors, including adaptation choices made by public and private actors, policy choices governments make in response to events and global action to reduce emissions. Historical costs of extreme weather events have also been relatively modest compared to the costs of earthquakes and the COVID-19 pandemic. Nevertheless, the ongoing impacts of climate change suggest that future costs are likely to increase.

²⁰ OECD, 2018.

²¹ Lloyds, 2018.

²² Reserve Bank of New Zealand, 2024b.

²³ EM-DAT: The International Disaster Database, 2025; Treasury calculations.

²⁴ Kamber et al., 2013; The Treasury, 2008; Salinger & Porteous, 2014; Riordan, 2001.

²⁵ For more detail about the economic and fiscal impacts of climate change for New Zealand, see the Treasury & Ministry for the Environment, 2023.

²⁶ Frame et al., 2018.

²⁷ Frame et al., 2020.

Chapter 3: The role of fiscal policy in responding to shocks and cycles

This chapter considers whether fiscal policy should play a role in responding to shocks and cycles and, if so, what that should be.

- Monetary policy operated by an independent central bank is generally best for managing business cycles. Experience shows that monetary policy can be more quickly tightened and loosened in response to economic developments, whereas many elements of fiscal policy operate with significant lags – for example, due to longer policy design and legislative processes.
- However, there is a case for using fiscal policy if monetary policy is constrained or at extremes. For example, fiscal stimulus can support the economy if there is limited scope for interest rates to fall further, or fiscal restraint could be used to help moderate booms that would otherwise result in interest rates or the exchange rate becoming extremely high.
- New Zealand’s resilience to shocks and cycles depends on firms, households and communities mitigating and insuring against risks and adapting to events when they occur. Government policy can enhance private sector resilience.
- Fiscal policy can be suitable for responding to the direct impacts of shocks, particularly maintaining or restoring essential public services and alleviating hardship. While monetary policy is effective at mitigating economy-wide impacts, fiscal policy provides governments with more control around how the costs of a shock are shared and when the costs are paid.
- Some aspects of direct fiscal responses to shocks will be automatic and leave little room for discretion such as the provision of welfare and honouring insurance commitments. In other aspects, there will be a degree of discretion. Governments need to carefully balance the benefits of discretionary fiscal responses with their fiscal costs and impacts on incentives.
- The nature of the fiscal policy response impacts who bears the costs of shocks and cycles. Responses funded by government debt shift costs to future taxpayers. Levy-funded systems such as the Natural Hazards Commission can allocate the costs in a more targeted way. Governments can also fund responses out of current revenues and expenses, thereby having the current population share the cost.

As explored in Chapter 2, shocks and cycles are inter-related, with cycles often resulting from an economic shock. While our focus in this Briefing is on the role of fiscal policy in response to shocks and cycles, fiscal policy does not operate in a vacuum. Both monetary and fiscal policy may have roles, ideally playing to their comparative advantages and recognising their respective shortcomings. The nature and type of event, as well as the broader economic and fiscal context, will typically determine the appropriate response.

This chapter begins with a discussion of the prevailing approach to monetary and fiscal policy in New Zealand and most advanced economies, known as the consensus assignment. The chapter then discusses the role of fiscal policy in response to cycles and then shocks, before discussing cost sharing and incentives for households, firms and communities.

Monetary policy, fiscal policy and the consensus assignment

Monetary policy – core concepts

The Reserve Bank of New Zealand is responsible for achieving price stability and, in doing so, seeks to avoid instability in output, employment, interest rates and the exchange rate, while having regard to financial stability.

The main tool for implementing monetary policy is the Official Cash Rate (OCR), a short-term interest rate. When economic activity is weak and inflationary pressures are low – for example, the Reserve Bank would generally lower the OCR, supporting economic activity, thereby stabilising inflation. As the economy adjusts and recovers, the OCR rises to avoid unnecessary inflationary pressures.

Monetary policy influences the overall level of economic activity over time but has little scope to target responses to a region, sector or groups of people.

Fiscal policy – core concepts

Fiscal policy works through government spending and revenue. Expansionary fiscal policy (spending more and/or taxing less) will usually boost GDP in the short run. Contractionary fiscal policy can cool overheating economies by spending less and/or taxing more. Boosting GDP during times of recession also boosts inflation, and cooling GDP during times of overheating also lowers inflation. In this sense, fiscal policy can support monetary policy in reducing volatility in inflation and economic activity.

In broad terms, fiscal policy includes automatic and discretionary components:

- Automatic fiscal stabilisers can help stabilise the economy by automatically increasing some elements of government spending and slowing tax revenue growth during economic downturns and vice versa during upswings. These include institutionalised welfare programmes and progressive income tax rates. By their design, they will respond to people's individual circumstances, while the sum of their impacts across the economy supports macroeconomic stabilisation.²⁸

²⁸ For example, benefit payments tend to rise and fall more than proportionately with fluctuations in the economy, and progressive tax rates similarly tend to result in tax revenues rising and falling a little faster or slower than growth on the economy overall, as taxpayers fall into and out of higher tax brackets.

- Publicly provided insurance arrangements are public schemes that protect households against known adverse events that may occur in the future. Like automatic stabilisers, they come into effect when pre-defined conditions are met. These include the Natural Hazards Commission scheme and the upcoming Depositor Compensation Scheme.²⁹
- Discretionary fiscal policies are non-automatic changes in taxation or expenditure and require intervention from policy-makers. They encompass deliberate changes to government spending and/or revenue to provide targeted support and help stabilise the economy, often in response to shocks.

Overall, fiscal policy is more granular than monetary policy and can be targeted across many dimensions such as a region, sector, time horizon or group of people. This means fiscal policy is better at targeting support to people or places that are most impacted by shocks.

The consensus assignment

Under current institutional arrangements in New Zealand, monetary policy (alongside a floating exchange rate) takes on the primary macroeconomic stabilisation role. In contrast, fiscal policy is primarily focused on medium-term goals – mainly debt sustainability and delivering public services effectively.

This delineation of roles between monetary and fiscal policy is known as the consensus assignment.³⁰ New Zealand’s macroeconomic frameworks have operated broadly in line with the consensus assignment since the late 1980s. The consensus assignment drew support for several reasons:

- **Institutional and political economy arguments:** It was argued that monetary policy could be adjusted more quickly and frequently than fiscal policy. A central bank with operational independence and clear inflation targets could be insulated from political processes, removing the temptation for elected officials to stimulate the economy with expansionary monetary policy in the short term, even if it means higher inflation later on (an example of what economists call time inconsistency). Conversely, there was a concern that political pressures and too much focus on short-term priorities could lead to fiscal policy being applied asymmetrically, with a greater tendency to loosen than tighten, leading to debt ratcheting up over time.
- **Many elements of fiscal policy operate with significant and variable lags:** Given generally longer policy design and legislative processes needed to make changes in revenue and expenditure plans, it was thought to not be timely enough to use for macroeconomic stabilisation purposes.

²⁹ Other pre-existing arrangements for managing shocks include the Civil Defence framework, which provides institutional capability to manage specified events. Government retains ultimate discretion in how it will respond but there is a strong expectation that a local council will repair or replace essential infrastructure that it owns if damaged in natural hazard events, reinforced with an in-principle commitment by government to fund 60% of eligible costs.

³⁰ Bernstein et al., 2024.

- **More active fiscal stabilisation comes with opportunity costs and likely efficiency and effectiveness costs:** Spending more on activities to provide stimulus can result in reduced scope for spending on other government priorities – if not right away, at least when fiscal constraints hit (debt limits). Also, shifting spending programmes forwards and backwards for macroeconomic stabilisation purposes can be less cost-effective than delivering programmes steadily over time. Similarly, frequent tax changes were thought to be a potential source of costly economic uncertainty.

As the name implies, the consensus assignment enjoys broad support among macroeconomists and policy-makers in most circumstances, with the above reasons remaining relevant today.³¹ However, for a period after the global financial crisis (GFC), persistent weak demand despite low interest rates led to increased support internationally from policy-makers and academics for using fiscal policy for macroeconomic stabilisation. This policy approach has received less support as long-term interest rates have increased since 2021.³² Recent policy analyses by the International Monetary Fund and the Bank for International Settlements have emphasised the role of monetary policy in controlling inflation and the need for fiscal policy to focus on debt sustainability and productivity – in line with the consensus assignment.³³

The role of fiscal policy in stabilising business cycles

Following the consensus assignment, in most circumstances, monetary policy operated by an independent central bank will be the most reliable means of stabilising the business cycle, with fiscal policy-makers allowing automatic fiscal stabilisers to operate and having regard to monetary policy when setting their fiscal strategy. Automatic fiscal stabilisers in New Zealand are estimated to play a significant role in limiting the volatility of the business cycle, with impacts that are broadly in line with other OECD economies.³⁴

The most notable example of discretionary fiscal policy being actively used to stabilise the business cycle was the response to COVID-19. The Treasury recommended strong fiscal stimulus at the start of the pandemic, arguing that fiscal policy was best placed to address the challenges from COVID-19, given the constraints on monetary policy. There were early successes in delivering timely, temporary and targeted fiscal support to the economy through the initial downturn in 2020. For example, the timely introduction of the Wage Subsidy Scheme made an important contribution to the strong initial recovery from COVID-19. By limiting the increase in the unemployment rate, the Wage Subsidy Scheme supported household incomes and enabled economic activity to resume more quickly when lockdowns were relaxed.

³¹ White, 2024.

³² Bernstein et al., 2024.

³³ International Monetary Fund, 2024b; Bank for International Settlements, 2023.

³⁴ Binning, 2024a; Bernstein et al., 2024. Recent work to quantify the role of automatic stabilisers in New Zealand using a small open economy monetary-fiscal dynamic stochastic general equilibrium model found that the standard deviation of GDP in New Zealand could be up to 29% higher in a world without automatic stabilisers. Plausible gains from strengthening automatic stabilisers are likely to be smaller, equating to a 7% reduction in the standard deviation of GDP.

Since then, New Zealand has experienced some of the limitations of fiscal policy as a macroeconomic stabilisation tool – particularly around the ability to tighten fiscal policy as an economy strengthens. The Treasury’s advice on the role of fiscal policy evolved in response to new information on the economic impacts of the pandemic and as these limitations became more apparent. As the economic picture improved in the second half of 2020 and into 2021, the Treasury started to move away from recommending broad-based fiscal stimulus to support the economy towards more targeted and moderate fiscal support where needed. For example:

- The Treasury’s post-election advice to the Minister of Finance in November 2020 noted that there was adequate fiscal space for fiscal policy to remain supportive as the economy recovered, and for further temporary support if the economic or public health situation deteriorated. The Treasury also highlighted the importance of controlling ongoing spending, and ensuring it was high value, to meet the medium-term fiscal challenge.³⁵
- By August 2021 the Treasury recommended that any decisions to provide support to businesses during the August 2021 lockdowns should take account of macroeconomic trade-offs and recommended against any further stimulus from Budget 2022 onwards.³⁶

Five years on from the start of the pandemic, core Crown expenditure as a share of GDP is still near its 2020 level, in contrast to the Treasury’s earlier forecasts (see Figure 3.1). Higher expenditure has only been partly offset by revenue (see Figure 3.2), resulting in a sustained deterioration in the budget balance relative to initial expectations (see Figure 3.3). This outcome partly reflects the impact of higher interest rates and debt on finance costs, cyclical weakness in GDP, and persistent downward revisions to Treasury’s output forecasts since 2023.³⁷ Lower than expected GDP contributed to the deficit both directly, by leading to a smaller tax base and lower revenue than anticipated, and indirectly, as spending plans were based on revenue expectations that did not eventuate. Furthermore, lower GDP implies higher expenditure as a share of GDP. In addition, fiscal policy was also tightened less than the Treasury anticipated – some temporary expenditure initiatives within the COVID-19 response persisted, and new spending at subsequent Budgets was higher than initially assumed.

³⁵ The Treasury, 2020.

³⁶ The Treasury, 2021c.

³⁷ With the benefit of hindsight, the Treasury has lowered our outlook for potential nominal GDP at successive economic updates since Budget 2023 as new information has suggested New Zealand is likely in a flat period of growth that was only briefly interrupted by COVID-19.

Figure 3.1: Successive Treasury forecasts of core Crown expenses

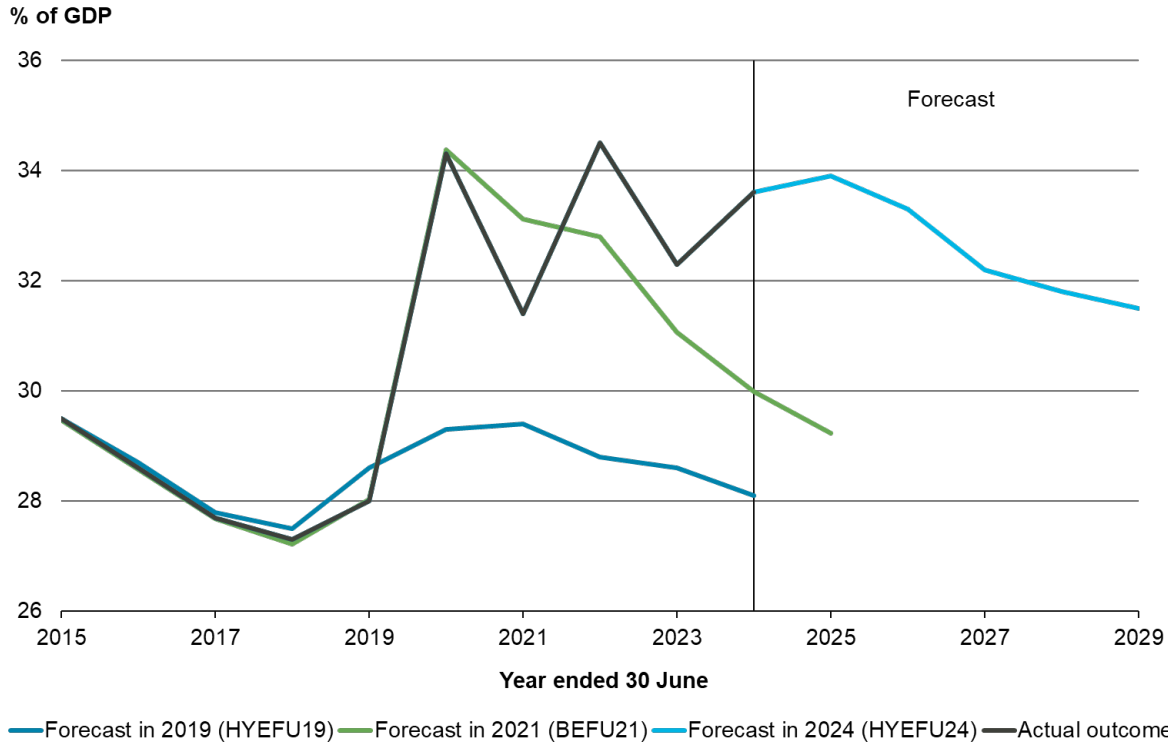


Figure 3.2: Successive Treasury forecasts of core Crown revenue

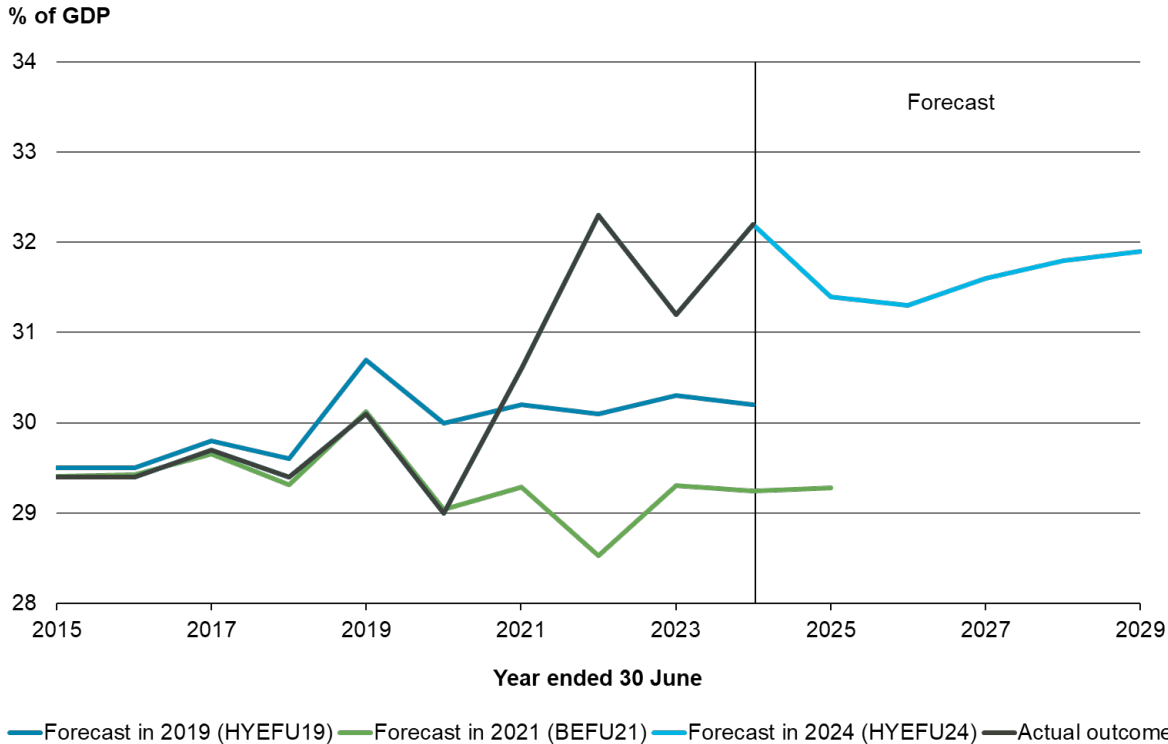
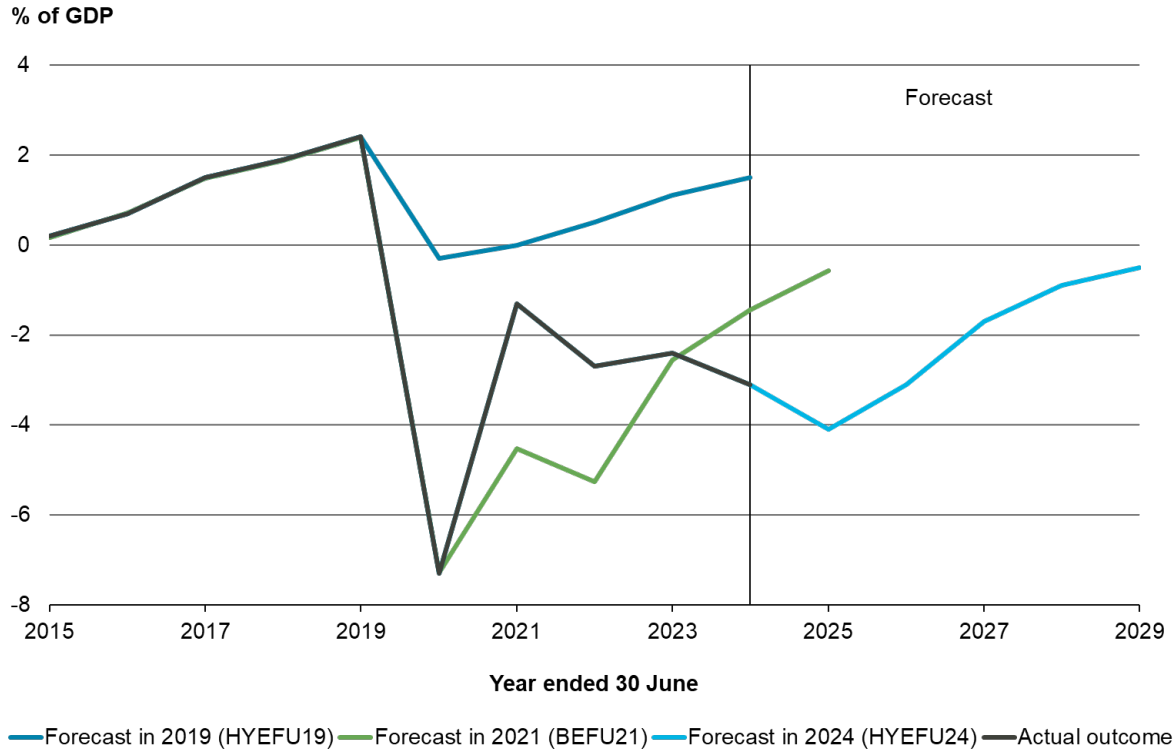


Figure 3.3: Successive Treasury forecasts of total Crown OBEGAL (including ACC)



Box E: Cyclicity of discretionary fiscal policy in New Zealand since 1987

Fiscal policy can be either pro-cyclical, counter-cyclical or acyclical. Pro-cyclical measures are those that align with the current economic cycle, exacerbating booms and downturns, whereas counter-cyclical measures work against the economic cycle to stabilise the economy. Acyclical policies are neutral and not systemically aligned with the economic cycle. All else equal, counter-cyclical fiscal policy is generally considered best for living standards as it mitigates the adverse impacts of large business cycles.

Treasury analysis suggests that discretionary fiscal policy was acyclical on average from 1987 to 2024. Within this, there are indications that fiscal policy was counter-cyclical in some periods and pro-cyclical during others.³⁸

Discretionary fiscal policy (measured using the primary balance after removing cyclical automatic fiscal stabilisers) was counter-cyclical for much of the time from the mid-1990s to the start of COVID-19. The budget balance was stronger when the economy was strong in the mid-1990s, mid-2000s and late 2010s and weaker during periods of cyclical weakness around the late 1990s and after 2009 (see Figure E.1). Some of this reflected active efforts to rebuild fiscal buffers during economic upswings.³⁹ However, part of this may also relate to fortunate timing of tax cuts around the same time as recessions such as the 1998 and 2008 tax cuts, which had been planned prior to the Asian financial crisis and GFC respectively.

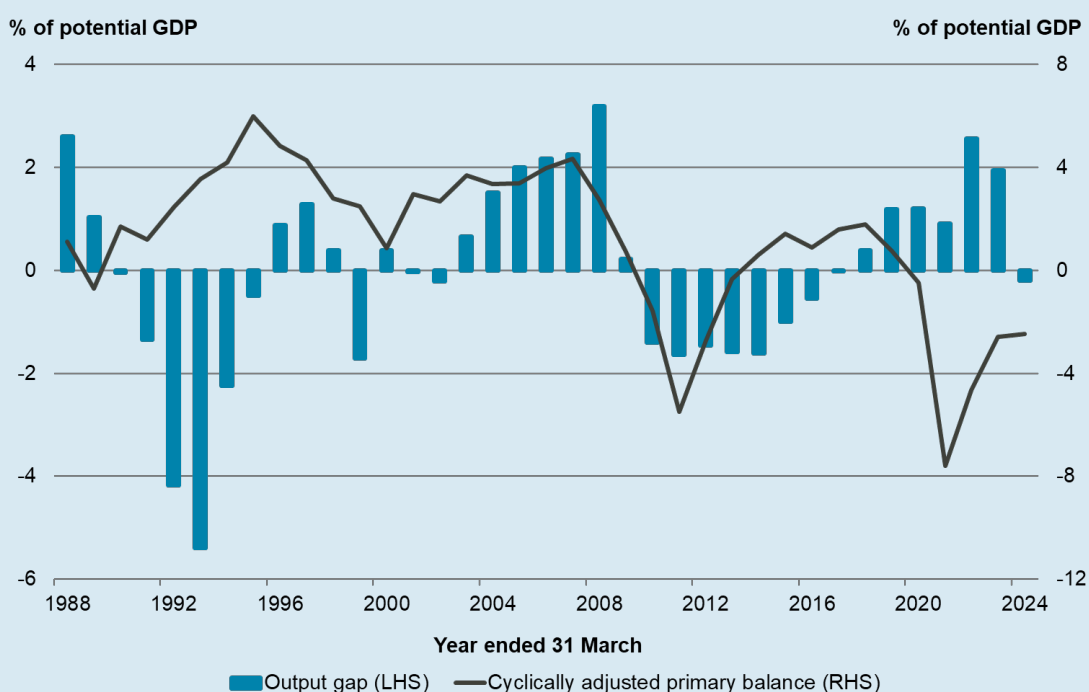
³⁸ A forthcoming Treasury Analytical Note will provide a more detailed analysis of the cyclical of fiscal policy over this period.

³⁹ White, 2024.

Fiscal policy was pro-cyclical in the early 1990s and during 2021-2023. In the late 1980s and early 1990s, pressures on fiscal sustainability motivated fiscal consolidation even as the economy was in recession. From 2020, fiscal policy loosened in response to COVID-19. At the time, it was anticipated that this would be counter-cyclical as a severe economic downturn was anticipated, but from late 2020, the economy turned out to be much stronger than expected (perhaps, in part, caused by the strength of fiscal stimulus itself). Combined with expenditure that was enduring rather than temporary, this resulted in large fiscal deficits while the economy was overheating.

This experience over the past three to four decades suggests that it is possible for fiscal policy to be operated counter-cyclically but also that it may be difficult to achieve on a consistent basis.

Figure E.1: Cyclically adjusted primary balance and output gap



Source: The Treasury, Stats NZ

Fiscal policy when monetary policy is at exceptional levels

In rare circumstances, discretionary fiscal policy can have an important role in stabilisation. In particular, the literature suggests it can still be beneficial for fiscal policy to take on more of a macroeconomic stabilisation role when monetary policy reaches exceptional levels. This includes if interest rates reach the effective lower bound (ELB), which is the point at which further cuts in the main monetary policy interest rate no longer provide stimulus to the economy. Fiscal policy may also sometimes be appropriate if very loose or very tight monetary policy results in significant distributional impacts or structural impacts on the economy.⁴⁰

⁴⁰ Bernstein et al., 2024; Brook, 2011.

The possibility of reaching the ELB remains, although the likelihood is lower now than it was around the start of COVID-19. Prior to 2021, system constraints in the banking sector meant that the OCR could not be reduced to negative levels, but the Reserve Bank is now confident the OCR could be reduced to mildly negative levels.⁴¹ In addition, the long-run neutral interest rate appears to have increased somewhat.⁴² Given these two changes, research by the Treasury indicates that the probability of New Zealand hitting the ELB at least once in the next 40 years is now closer to 45% compared to a probability of around 95% in 2020 (when interest rates could not be negative and the long-run neutral interest rate was thought to be significantly lower than now).⁴³

Once monetary policy reaches the ELB, additional monetary policy (AMP) tools such as Large Scale Asset Purchases (LSAPs) possibly can provide further stimulus. However, it is less clear that using AMP tools is preferable to using stimulatory fiscal policy for three reasons.

First, balance sheet tools such as LSAPs alter the government's exposure to interest rate risk, creating a risk of losses. Interest rate losses from the LSAPs undertaken during COVID-19 are estimated to be \$10.5 billion as of February 2025, although this figure does not account for the offsetting benefits of the effect of LSAPs on lowering government interest costs or raising tax revenue by supporting economic activity. Second, the extent to which LSAPs are effective in stimulating economic activity is still debated. Third, research finds that stimulatory fiscal policy is more effective during recessions or when there is a negative output gap and when monetary policy is closer to the ELB.⁴⁴

Annex 1 of this Briefing discusses the use of AMP tools in New Zealand in greater detail.

Aside from the ELB, very loose or very tight monetary policy can have harmful distributional, structural or financial stability impacts. Some groups benefit from low interest rates or a low exchange rate such as borrowers, asset-owners and exporters, and these groups are equally harmed by high interest rates. If interest rates and the exchange rate cycle around a broadly stable level over time, these distributional impacts will mostly balance out. However, if monetary policy reaches extreme levels, there could be acute impacts on some people, especially if levels persist for an extended period. Likewise, in the past, there has been considerable attention to the negative impacts of high and volatile interest and exchange rates on economic performance and external imbalances such as the current account balance.⁴⁵ Following the GFC, there was heightened attention on financial stability risks from low interest rates and the interaction of monetary, fiscal and macro-prudential policies.⁴⁶

If inflation pressures dictate either very loose or very tight monetary policy, there may be benefits from having fiscal policy complement monetary policy to lessen the stabilisation load carried by monetary policy, at least at the margin. This would involve looser fiscal policy, enabling monetary policy to be a little less loose, and tighter fiscal policy when monetary

⁴¹ Kengmana, 2021.

⁴² The Reserve Bank's (2025) long-term neutral interest rate estimate has increased from a low point of just over 2% in 2020 to nearly 3% in 2024.

⁴³ Draft research by the Treasury finds that, if there is 200 basis points of headroom between the long-run neutral rate and the ELB (the situation around 2020), there would be a 95% chance of having at least one period over a 40-year period where the economy is at the ELB for over a year. If the gap widens to 350 basis points (approximately the situation now), the likelihood of this occurring falls to 45%.

⁴⁴ Binning, 2024b.

⁴⁵ Brook, 2011.

⁴⁶ Bank for International Settlements, 2018; Dunstan, 2014; White, 2013.

policy is very tight, enabling a little less monetary restraint. This is consistent with a requirement in the Public Finance Act 1989 that the government have regard to the interaction between fiscal policy and monetary policy in setting its fiscal strategy.

Some possible approaches to fiscal policy when monetary policy is at the ELB are shown in Box F. In this modelled scenario, timely, temporary and targeted fiscal stimulus reduces the severity of an economic downturn.

Box F: Modelling fiscal policy responses in an ELB scenario

To explore the potential economic and fiscal impacts of different fiscal policy responses, we have modelled three fiscal stimulus policies equivalent in fiscal size to 2% of GDP or \$8.3 billion in 2024 dollars:

- Lump-sum payments to individuals in three equal payments over one year. If these transfers are sent to the bottom 80% of income earners, this equates to \$2,662 per eligible individual.
- An increase in public investment on maintenance and repairs.
- Tax changes to stimulate business investment.

These policies were modelled using the Treasury’s economic forecasting model in a scenario set in the early 2030s where a hypothetical global downturn and weak domestic activity leads to a recession and monetary policy hitting the ELB. In this scenario, real GDP falls by 1%, unemployment rises from 4.5% to 7.2% and the 90-day rate falls from 2.9% to -0.3% – within the range of market interest rates seen in other countries that have reduced their policy rates to mildly negative levels. The fiscal policy responses begin to impact economic activity when the 90-day rate reaches -0.3%, which occurs around a year into the scenario.

Table F.1: Policy response assumptions

	Lump-sum payments	Public maintenance	Business investment tax change
Fiscal size	2% of GDP/\$8.3 billion	2% of GDP/\$8.3 billion	2% of GDP/\$8.3 billion
Results	\$4.9 billion increase in private consumption	\$4.15 billion increase in government consumption and \$4.15 billion increase in business investment	\$6.6 billion increase in business investment
Phasing	Impact distributed over six quarters	Impact distributed over eight quarters	Impact distributed over eight quarters

The assumptions underpinning these policy responses have been formulated using available literature, previous Treasury work, and professional judgement. This modelling is indicative in nature and should not be taken as a comprehensive analysis of the economic impacts of these policy responses. The 2% of GDP fiscal size chosen is not reflective of an optimal or maximum feasible size of these policy responses. A comprehensive fiscal response to a large downturn is likely to consist of several types of policy responses.

Modelling results

Each of the policy options has a positive impact on real GDP over the modelled period (see Table F.2). However, the increase in GDP is equivalent to 50-75% of the fiscal cost across the three scenarios. This is because we assume a proportion of the lump-sum payments and public maintenance policies are spent on imports and that a proportion of the lump-sum payments and business investment tax policies are saved or banked instead of facilitating additional consumption or investment. Public maintenance is assumed to have the most significant flow-through to the rest of the economy, while lump-sum payments are assumed to have the fastest fiscal impact due to the relative speed at which they can be operationalised. All three policies lead to a smaller peak in unemployment compared to the baseline scenario (see Figure F.1), and all see interest rates return to a neutral rate sooner (see Figure F.3).

Table F.2: Results, difference to baseline downside scenario, by variable (\$ in 2024 dollars)

Variable	Lump-sum payments (2% of GDP or \$8.3 billion)	Public maintenance (2% of GDP or \$8.3 billion)	Business investment tax change (2% of GDP or \$8.3 billion)
Cumulative real GDP	+\$4 billion	+\$5.8 billion	+\$4.8 billion
Unemployment rate, average	-0.2 pp	-0.4 pp	-0.3 pp
CPI, average	+0.1 pp	+0.2 pp	+0.1 pp
90-day rate, average	<+0.1 pp	+0.1 pp	<+0.1 pp
Net debt, as % of GDP	1.4 pp higher at scenario end	1.1 pp higher at scenario end	1.4 pp higher at scenario end

Figure F.1: Unemployment rate

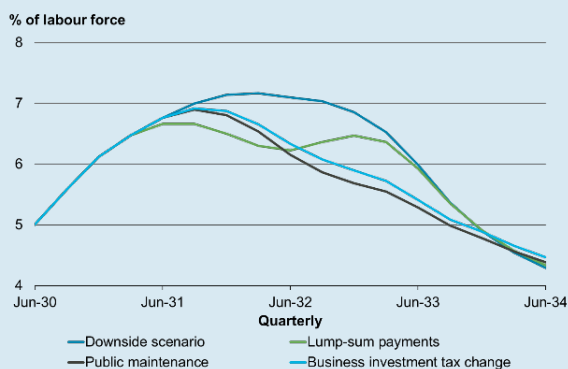


Figure F.2: Net debt

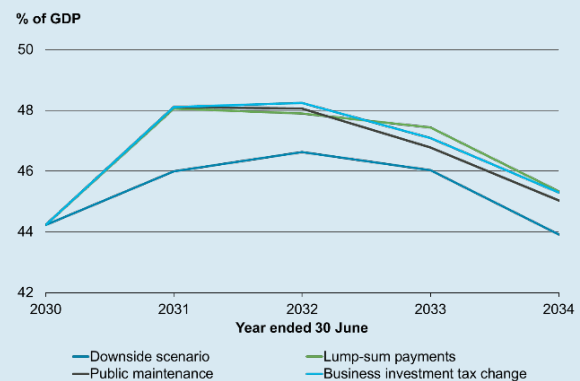


Figure F.3: 90-day interest rate

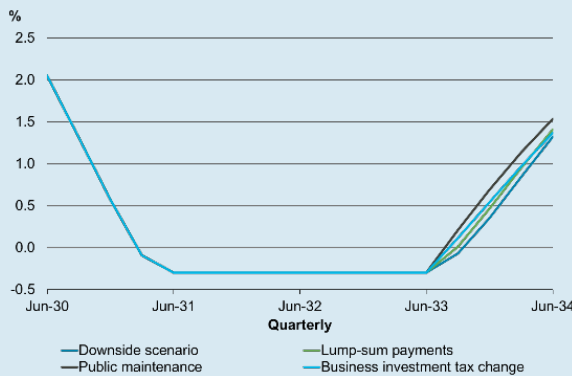
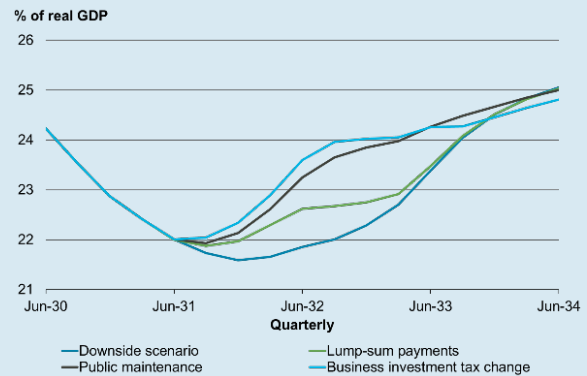


Figure F.4: Gross fixed capital formation



Distributional impacts of a lump-sum payments policy

We have also used the Treasury’s Tax and Welfare Analysis model to capture how a lump-sum payments policy equivalent to 2% of GDP, or \$8.3 billion in 2024 dollars, would affect the incomes of individuals in the economy under the same hypothetical global downturn. We looked at both the direct impact on recipients’ incomes of the transfers and the indirect impacts on their incomes from the economic stimulus effects. This modelling shows that, if equal payments are made to the bottom 80% of earners over the age of 18, they would receive around \$2,662 each in 2024 dollars.⁴⁷ Combined with the economic effects of the policy, this leads to the annual disposable income⁴⁸ for the bottom 80% of earners increasing by 5.0% or \$1,815 on average in the year stimulus is provided compared to an average fall of 2.2% or \$778 in a modelled scenario without any policy response (see Figure F.5). The incomes of those in lower deciles tend to fall by more than those in higher deciles during downturns as they are more adversely affected by increased unemployment and lower wage growth. Therefore, the overall effect of the lump-sum payments policy over the modelled period is to even out the impacts of the downturn on different parts of the income distribution (see Figure F.6).

Figure F.5: Change in mean disposable income in first year relative to no downturn scenario, by decile (2024 dollars)

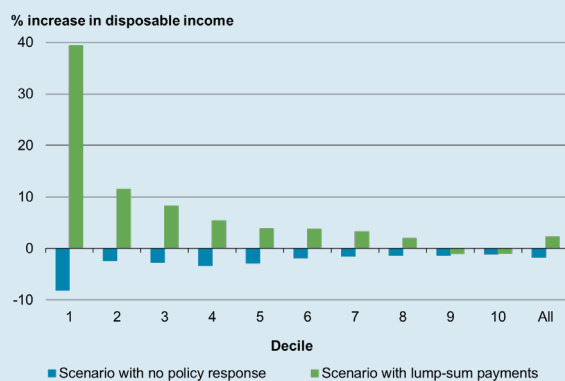
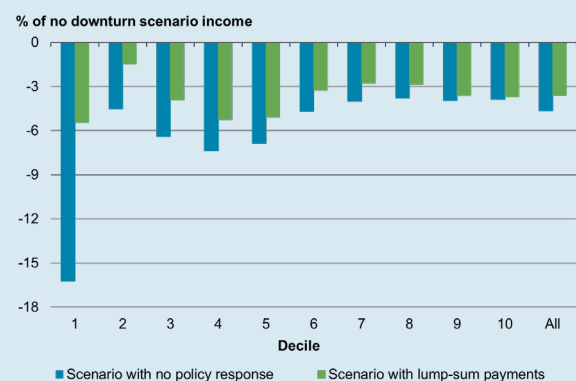


Figure F.6: Change in mean disposable income over modelled period relative to no downturn scenario, by decile (2024 dollars)



⁴⁷ Identified using their gross taxable income. These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI), which is carefully managed by Stats NZ. For more information about the IDI, see <https://www.stats.govt.nz/integrated-data/integrated-data-infrastructure/>. The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes and is not related to the data’s ability to support Inland Revenue’s core operational requirements.

⁴⁸ Income received in the hand after accounting for transfers received from government minus income taxes paid.

A scenario with tight monetary policy is illustrated in Box G. In this scenario, we illustrate how delaying an increase in expenditure can mitigate the required amount of monetary policy tightening.

Box G: Strong economy scenario

This box explores the potential impacts fiscal policy can have during a period of strong domestic activity, elevated inflationary pressure and high migration-led population growth, the latter of which puts increased pressure on public services. In such a scenario, the government can either decide to increase expenditure in line with population growth or keep fiscal policy restrictive and delay increasing spending until the economy has cooled. Increasing expenditure in line with population growth would help maintain per capita spending on public services but would risk exacerbating inflationary pressure and keeping interest rates higher for longer. Deferring spending would avoid putting additional pressure on inflation, allow for the rebuilding of fiscal buffers and may support value for money by not increasing procurement of goods and services while supply in the economy is already constrained. However, deferring spending would risk degrading public service quality and could undermine future growth and fiscal sustainability if productivity-enhancing investments are deferred.

Table G.1: Impact on key economic variables of keeping fiscal policy restrictive over the modelled period compared to baseline of increasing spending in line with population growth

Variable	Impact
Cumulative real GDP impact	-\$3.3 billion
Unemployment, average difference	+0.1 pp
CPI, average difference	<-0.1 pp
90-day rate, average difference	-0.2 pp

We have modelled a scenario in which strong domestic activity driven by high net migration-led population growth equivalent to 3% of New Zealand’s population over two years leads to a large positive output gap and inflation exceeding the Reserve Bank’s 1-3% target band. In the baseline scenario, government spending is increased 3% in line with the additional 3% increase in population growth. We then modelled an alternative scenario where the government decides to keep fiscal policy restrictive and defer spending on population growth-driven cost pressures until economic conditions normalise to help illustrate the impacts of the Government’s spending decisions in a supply-constrained economy.

The modelling results show that deferring the increase in government spending would result in interest rates being around 20 basis points lower on average over the scenario compared to the baseline scenario where spending is increased (see Figure G.1). The overall impact on inflation is minimal, and the short-term impact on GDP growth is slightly negative due to lower government spending than otherwise (see Figure G.2). The decision to defer spending leads to OBEGAL being on average \$1.7 billion higher per year and net debt 1.2 percentage points lower by the end of the scenario (see Figure G.3). However, the decision to defer spending would lead to lower government spending per capita over the modelled period, putting more pressure on public service delivery compared to the scenario where spending is increased (see Figure G.4).

Figure G.1: 90-day interest rate

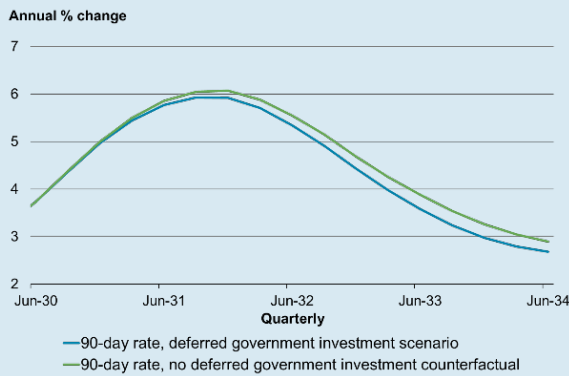


Figure G.2: Annual real GDP

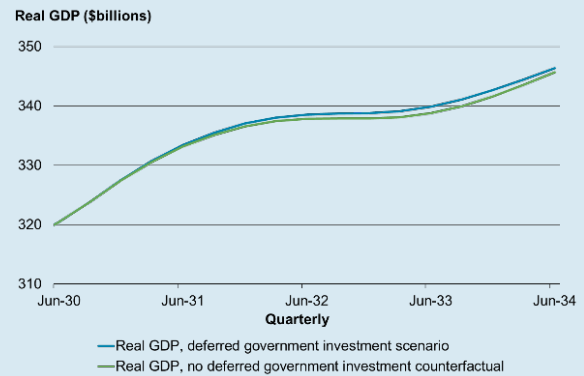


Figure G.3: Net core Crown debt

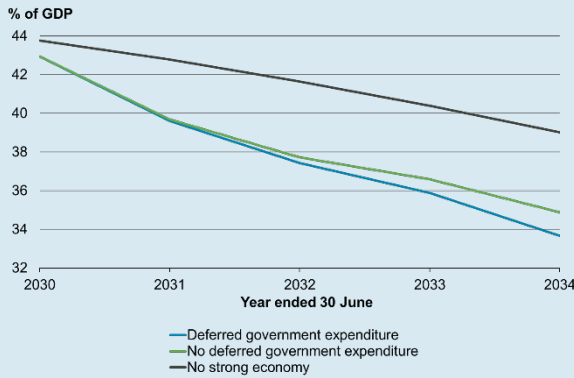
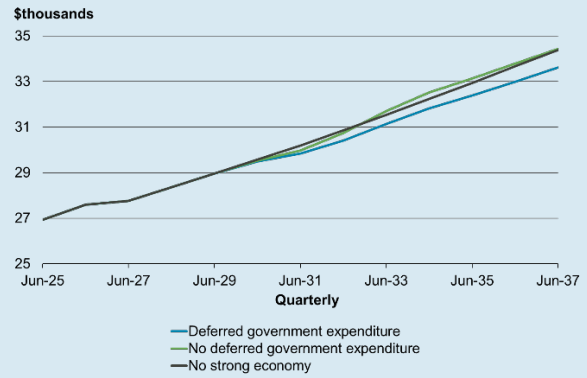


Figure G.4: Nominal core Crown expenses per capita



Source: The Treasury

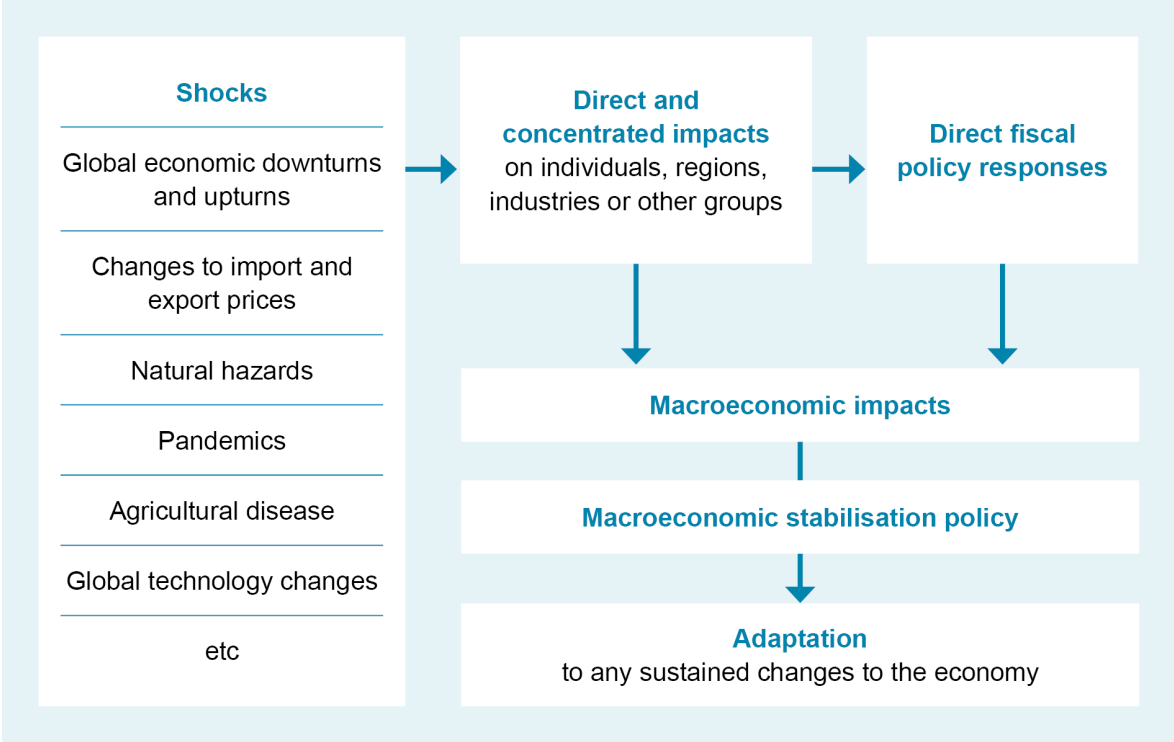
The role of fiscal policy in responding to shocks

In contrast to stabilising business cycles, fiscal policy is more naturally suited to responding to the direct impacts of shocks. This reflects that the impacts of shocks can be highly varied. For example, the Canterbury earthquakes impacted people and property near the epicentre, with less impact further away. The COVID-19 pandemic impacted a range of people and industries – for example, people vulnerable to illness or industries requiring person-to-person engagement such as the retail, tourism and accommodation sectors.

The range of mechanisms available for delivering a fiscal policy response means it is possible to provide support that is targeted to the businesses and households that are most impacted by the shock. Responses may make use of existing institutional structures, arrangements and policies – for example, the provision of welfare support, compensation payable by the Natural Hazards Commission or using established policies to restore critical infrastructure networks and essential services after a natural hazard event. The responses to the GFC, COVID-19 pandemic and several recent natural hazard events have shown fiscal policy can also deliver bespoke support packages if desired.

There are, however, a range of consequences to using fiscal policy in response to shocks. First is the fiscal cost, which needs to be recouped between shocks if fiscal policy is to remain sustainable. Second, fiscal responses to shocks have effects on the economy that should be taken into account. These are summarised in Figure 3.4. Third, using fiscal policy can affect private sector incentives to invest in its own resilience. The rest of this chapter looks further into how fiscal policy can be designed to manage costs and support private sector resilience.

Figure 3.4: Relationship between shocks, cycles and policy responses



Source: The Treasury

Choice and discretion in responses

Governments have choices around how to respond to a shock, including whether to provide discretionary support as well as the scale and the type of response. In practice, the extent of discretion available to the government depends on context. Sometimes governments will have wider scope in deciding whether and how to respond, taking account of fiscal, social, distributional and other objectives. In other circumstances, a policy response of some kind will be almost unavoidable where there is a public expectation for continuity of public services or strong public views about fairness, but there will be discretion about the details of the policy response.

For example, during the COVID-19 pandemic, most advanced economies provided some kind of income replacement for employees prevented from working by public health restrictions, but the details varied widely in their coverage, rates of payment and total fiscal cost. New Zealand's Wage Subsidy Scheme had the widest coverage in the OECD, covering 66% of employees, although the size of the government's payments was at the low end at 45% of the average wage.⁴⁹ As another example, there is discretion in the rebuilding of infrastructure following natural hazard events such as any additional investment to improve the service levels or resilience of infrastructure to future shocks. Some discretionary fiscal responses to shocks over recent decades are summarised in Table 3.1.

⁴⁹ OECD, 2020; Eichhorst et al., 2022.

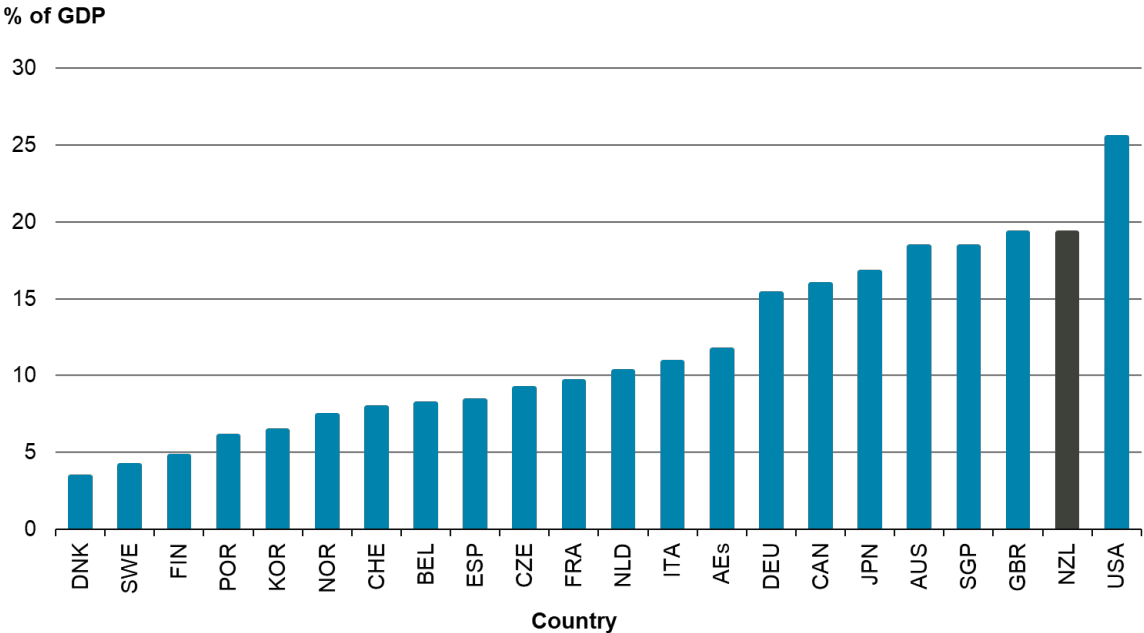
Table 3.1: Activities that form part of the direct government response to the direct impact of shocks

	Emergency management	Hardship support	Publicly provided insurance	Public infrastructure	Economic support to those impacted
Description	Coordination and funding of emergency response.	Transfers to affected households and businesses.	Transfer of losses resulting from the shock.	Maintain stock of essential infrastructure.	Subsidies to support economic activity post-event.
Objective	Address threats to life and support confidence in the immediate aftermath of shocks.	Provide a safety net that reduces the most severe concentrated impacts of shocks on affected groups.	Provide protection where affected groups have limited ability to insure against shocks.	Essential infrastructure is available despite the impact of shocks.	Mitigate temporary economic impacts of shocks and support recovery post-shock.
Functions established ex ante	National Emergency Management Agency, Crown absorption of disaster response costs.	Welfare system, including unemployment benefits and hardship assistance.	Natural Hazards Commission, Depositor Compensation Scheme.	Existing public assets owned by the Crown, NZTA funding for repairs to local roads, 60/40 cost sharing repairs of other council-owned assets.	Monetary policy and financial policy can interact with this objective by supporting economic activities.
Post-event discretion	Determination of duration of emergency status and scope of support to be provided through emergency management framework.	Whether to provide bespoke hardship support for groups impacted by a shock or extend scope of existing supports.	Whether to provide ad hoc compensation for losses not covered by existing schemes and how this is funded.	Whether to replace or change the location of assets or to improve their resilience to future shocks.	Whether to introduce bespoke subsidies to maintain economic relationships or activity and for how long post-shock.
Ad hoc discretionary measures recently used	<ul style="list-style-type: none"> Initial support packages for Canterbury and Kaikōura earthquakes and North Island weather events. Bespoke emergency management of COVID-19 response. 	<ul style="list-style-type: none"> COVID-19 Income Relief Payment. 2020 one-off increase to Winter Energy Payment. 	<ul style="list-style-type: none"> Buy-outs of red-zoned land after Canterbury earthquakes. Retail Deposit Guarantee Scheme 2008-2011. Intervention to protect policy holders of AMI. 	<ul style="list-style-type: none"> Betterment elements of National Resilience Plan in response to North Island weather events and Canterbury and Kaikōura rebuild strategies. 	<ul style="list-style-type: none"> Wage Subsidy Scheme after COVID-19. Loan guarantee schemes due/linked to COVID-19 and North Island weather events. COVID-19 Small Business Cashflow Scheme. Business support packages in response to cyclones in 2017, 2018 and 2023.

The extent to which New Zealand governments have responded to shocks and downturns has varied over time. Easton (2023) argues that New Zealand governments responded very actively to shocks over the 1970s. Rising public debt eventually put pressure on fiscal sustainability, as reflected in several sovereign credit rating downgrades from 1983 to 1991. From the late 1980s onwards, governments adopted steadier fiscal policy with more of a role for market adjustments and automatic fiscal stabilisers.⁵⁰ Since the GFC, use of fiscal policy has again increased, particularly during the COVID-19 pandemic.

As highlighted above, the overall scale of New Zealand’s discretionary fiscal response to COVID-19 was one of the largest among advanced economies, with spending and foregone revenue as a result of the pandemic estimated to be around 20% of GDP (see Figure 3.5).⁵¹ Wage subsidies and similar schemes during lockdowns were around 35% of the costs of New Zealand’s response.⁵² A further 18% of the costs arose from health system costs such as vaccination and contact tracing, along with managed isolation and quarantine (MIQ) costs. The remaining nearly half of the response was made up of a wide range of initiatives with varied objectives – some aimed at more directly responding to the impacts of COVID-19 and others aimed at providing fiscal stimulus or achieving social or environmental objectives. Examples of these other initiatives included tax changes, training schemes, housing construction, shovel-ready infrastructure projects, increases to welfare benefits, the Small Business Cashflow Scheme, Jobs for Nature, additional public housing places and school lunches.⁵³

Figure 3.5: Additional spending and foregone revenue due to the response to COVID-19 across advanced economies



Source: International Monetary Fund

⁵⁰ Easton, 2023.
⁵¹ International Monetary Fund, 2021. Figure 3.5 shows the International Monetary Fund’s estimate of additional expenditure and foregone revenue as part of the fiscal response to the pandemic, which was 19.3% of GDP for New Zealand. The International Monetary Fund dataset also includes the cost of equity, loans and guarantees provided as part of the response. These are not included in Figure 3.5 as they do not have immediate budgetary implications and the data does not include estimates of the final cost. This differs slightly from the more recent Treasury estimate shown earlier, which is 20.4% of GDP.
⁵² Binning et al., 2024.
⁵³ Based on the dataset compiled for Binning et al., 2024. Health and MIQ costs are those in Vote Health and Vote Building and Construction (which mostly related to MIQ).

To show the important role of choice in another context, Box H illustrates choices a government might face based on a potential future shock from a large weather event.

Box H: The role of choice in responding to a large weather event: a summary of scenario modelling

This work considers the economic and fiscal implications of a future large weather event and various fiscal responses. Three scenarios have been developed to reflect different options governments may have to use fiscal policy in response to an event (see Table H.1). They differ in their severity of impact and levels of fiscal response.

Table H.1: Modelled fiscal response scenarios

Scenario focus	Description	Assumed fiscal cost (cumulative, in 2023 dollars)	
		Base severity	2x severity
Restoring damaged public assets	The government focuses its response on restoring damaged Crown-owned assets (including transport assets) and local roading assets, alongside any statutorily required response.	\$3.18 billion	\$6.35 billion
Mitigating economic and social disruption	In addition to restoring damaged public assets, the government pursues additional response interventions to mitigate the local economic and social impacts of the event.	\$4.41 billion	\$8.82 billion
Building in future resilience	In addition to all the interventions associated with the other two responses, the government pursues measures to reduce risk in affected locations from future events.	\$6.55 billion	\$13.1 billion

These scenarios were created in the Treasury’s economic forecasting model and Fiscal Strategy Model. The North Island weather events of 2023 were used to calibrate the relative severity and fiscal responses due to their size, being recent and the availability of information held by the Treasury on the associated fiscal response.⁵⁴ The base severity event is equal in size to the North Island weather events and the 2x severity event is twice the size (similar in nature but impacting a larger population centre). There is significant variation in the economic and fiscal impacts of the event under different assumptions about severity and the type of policy response (see Figures H.1 and H.2).

⁵⁴ The North Island weather events were the combination of the Auckland Anniversary floods and ex-tropical Cyclone Gabrielle that hit the central and upper North Island. These two storm/flooding events occurred in very close succession in January and February 2023.

Figure H.1: 90-day interest rate in different response scenarios

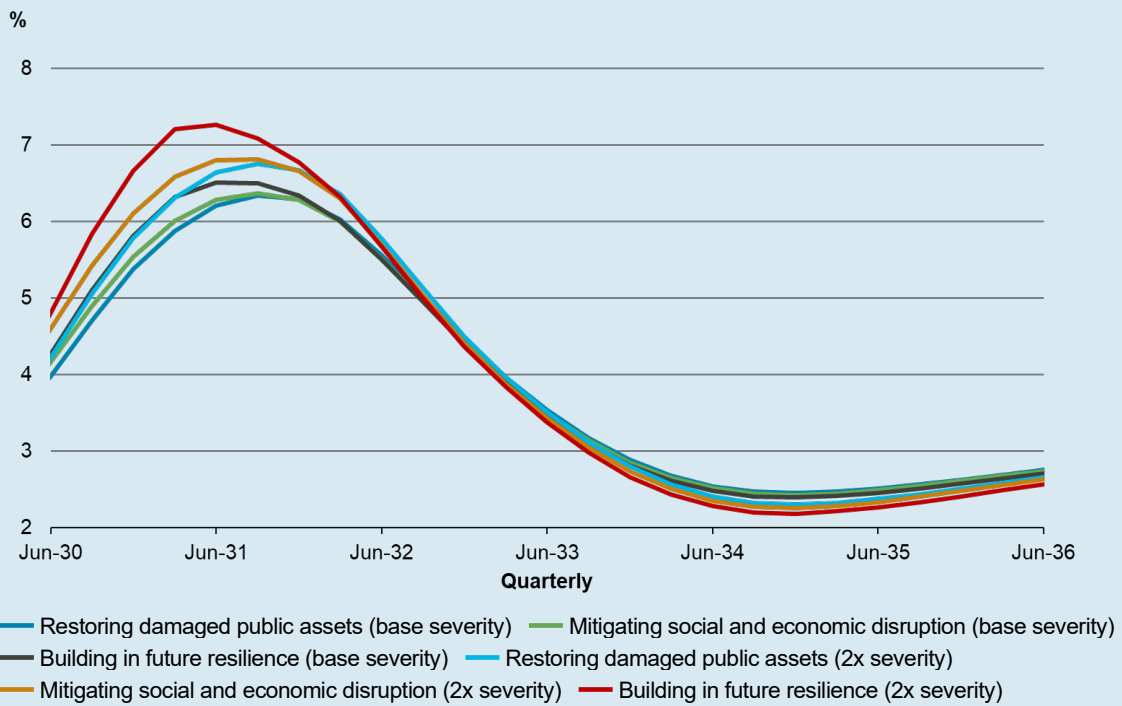
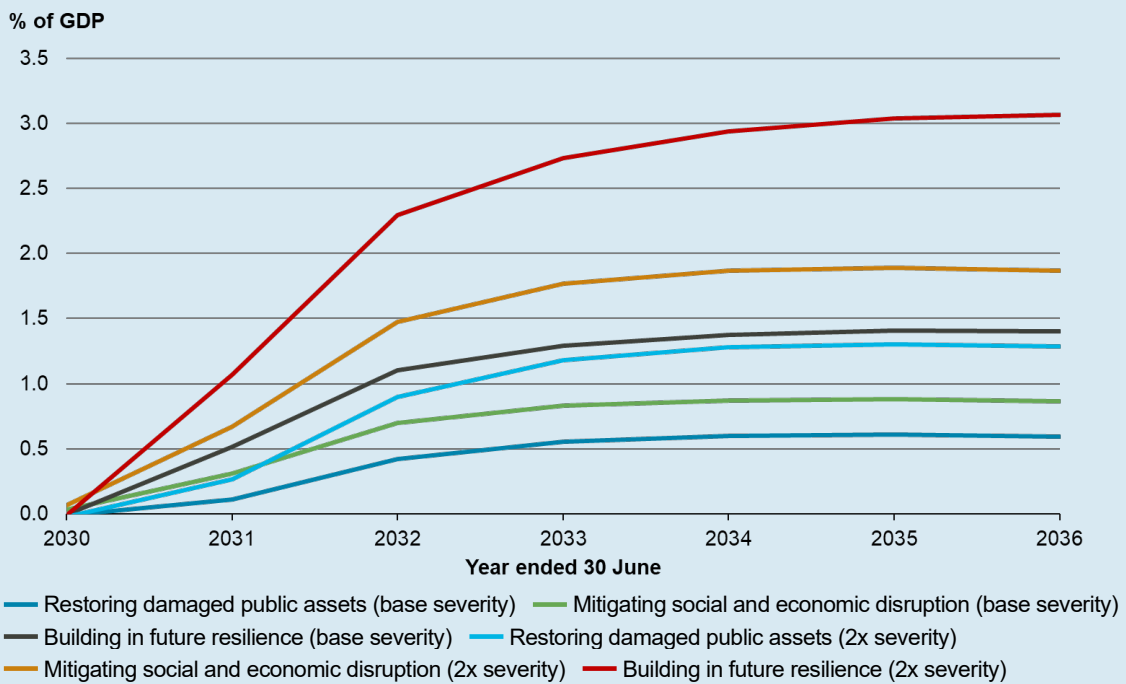


Figure H.2: Increase in net debt as % of GDP compared to no weather event counterfactual scenario



Sources: Stats NZ, the Treasury

The modelling highlights that different policy choices around the response to events can be as important, if not more, for the overall fiscal cost of the event as the severity of the event itself. Of particular impact are choices to invest beyond restoring assets to pre-event levels of service, including measures intended to mitigate the future hazard risk facing affected asset owners such as contributions to flood management interventions or retreat-related support. It also highlights that larger responses lead to greater monetary tightening, which has significant distributional impacts and implications for the wider economy.

Governments have choices on whether and how to fund these measures. These choices will have implications for who bears the cost and for fiscal sustainability. For some elements of post-event response, taking a prepaid approach with a focus on meeting costs from future damages or retreat-related support could help mitigate impacts on the fiscal position, in particular on net debt. Any approach would need to carefully consider how to retain incentives for private actors to manage their own risks.

The modelling also focuses on the economic and fiscal implications of a large weather event immediately after it has happened. It does not consider the potential benefits that post-event investment in future resilience may have on mitigating the potential costs associated with future weather event shocks. Decisions around a post-event response to large weather events within the broader context of climate change and adaptation strategy therefore adds complexity to the scenarios modelled here and further underlines the importance of policy choice. Annex 2 provides a full presentation of the modelling.

Costs and incentives for firms, households and communities

How the cost of fiscal responses are distributed

Another significant element of discretion for governments is deciding who bears the cost of any fiscal response. The nature of the fiscal policy response can have a significant influence on who ultimately pays for the costs of shocks and cycles. Meeting temporary and unanticipated spending needs through debt can be efficient if it allows revenue to be raised in a more stable and less distortionary way over time. A debt-financed fiscal policy response would transfer costs from those directly impacted by the shock to a mix of future taxpayers and future recipients of government services. Higher public debt would eventually require higher-than-otherwise taxes or lower-than-otherwise government expenditure to service the debt.

A debt-funded fiscal response would add to aggregate economic demand, putting upward pressure on interest rates.⁵⁵ This directly affects the distributional consequences of the shock, since higher interest rates are a benefit to savers and a cost to borrowers. Higher interest rates also incentivise people and businesses to delay economic activity, which in turn can create space for shock-related activity (for example, infrastructure rebuild) to occur without generating inflation.

⁵⁵ Yared, 2019.

Governments can also choose to introduce financing mechanisms that avoid funding the costs of fiscal interventions through increases in government debt. As discussed in Chapter 6, pre-commitments to the role of fiscal policy in specific events enable the charging of levies to those that benefit from fiscal support over time in line with the expected costs. This is currently the approach used to fund the ongoing costs of the Natural Hazards Commission and Depositor Compensation Scheme.

Even where arrangements to share costs have not been put in place prior to an event, governments can choose to use ad hoc financing mechanisms to fund any support and mitigate any impact on aggregate demand and interest rates. However, in doing this, governments are likely to face difficult choices around how to raise this revenue and whether certain groups should pay more or less than others. An example of this policy approach was during the rebuild of infrastructure after the 2010/11 floods in Queensland, Australia. The government announced that the cost of rebuilding infrastructure would be funded through a combination of reduced spending and a one-off flood levy on personal income above \$50,000 in the 2011/12 financial year.⁵⁶

Repeated large-scale fiscal interventions can limit the efficient reallocation of resources in the aftermath of shocks. For example, some shocks could permanently affect the viability of a firm's business model or make it too risky for a property to remain in its current location. In such cases, income support measures to limit the concentrated impacts of shocks, depending on their design, can mute signals for households and businesses to adjust to the enduring impacts of shocks.

Maintaining and building the resilience of firms, households and communities to manage their own risk

Firms, households and communities play a primary role in absorbing and adapting to shocks and navigating cycles, therefore enhancing the resilience of the economy.

There is a tension between governments providing fiscal resources to soften the direct impacts of shocks and maintaining incentives for firms, households and communities to manage their own risks. Undermining those incentives can lead to an increased exposure to loss in future events if, as a result, the private sector does less to manage its exposure – for example, by no longer insuring property or not maintaining financial buffers against income volatility. Even in the absence of actual interventions, the private sector may form implicit expectations that future fiscal interventions are likely to protect them.⁵⁷

Government policy can have an important bearing on the capacity of households and market participants to absorb shocks. This resilience has three parts:

- Mitigating or reducing risks upfront.
- Adapting and absorbing shocks as they occur.
- Insuring for adverse events to help recovery after a shock.

⁵⁶ Gillard, 2011.

⁵⁷ The case of deposit insurance provides an example of how the private sector can form implicit expectations of public support. During a period where the Government had made a deliberate decision not to protect depositors, a survey of 1,000 New Zealanders found that only a quarter of participants were aware they stood to lose money in the event of a bank failure. The Treasury & Reserve Bank of New Zealand, 2019, p. 84.

Mitigation – reducing risks upfront

There are many well-known ways of mitigating the impact of shocks – for example, building and earthquake strengthening codes to lessen damage from earthquakes, constructing river stopbanks to lessen flood risk, biosecurity controls at the border to lessen the risk of pathogens and pests incursions, and diversifying export markets and building resilience into import supply chains to lower geopolitical risks. Activities to reduce risks come at a cost, which needs to be weighed against the benefits of greater protection.

Adaptation – adjusting to shocks and business cycles as they occur

Two features of the New Zealand economy support its ability to absorb shocks. First, a relatively flexible labour market facilitates rapid redeployment of the workforce in response to changes in circumstance.⁵⁸ Second, flexibility in the New Zealand dollar's foreign exchange value helps absorb external shocks to the terms of trade. For example, changes in global prices for New Zealand export products are often matched by the NZD moving in the same direction. This spreads the benefit or cost beyond exporters to many other New Zealanders by changing the international purchasing power of their NZD wages and salaries.

New Zealand has had a floating exchange rate since 1985. Overall, it has helped in stabilising the macroeconomy.⁵⁹ Prior to 1985, large swings in the terms of trade spilled over to booms and busts in the wider economy more readily.

Insurance – supporting recovery after a shock

In New Zealand, compared to other markets, there is high take-up of property insurance to cover for many hazards and risks. The risk is often reinsured by local insurance companies with global insurers. Insurance uptake was a critical source of resilience in the Canterbury earthquakes. Large and timely transfers of resources from reinsurance markets supported the rebuild of damaged assets and reduced interruption to economic activity.⁶⁰

Some risks are not insurable or require government to play a loss-sharing role. For example, internationally, earthquake damage is usually excluded from insurance contracts in areas of high seismic risk unless separate additional earthquake cover is purchased. However, in New Zealand, residential earthquake insurance is widely available and earthquake cover is generally provided as a standard part of all-risks insurance policies. It is likely that insurers continue to offer default all-risks policies in higher-risk areas because the Natural Hazards Commission covers the first \$300,000 (plus GST) per dwelling for earthquake risk.

There is a trend towards more granular risk-based pricing in insurance markets, which brings benefits and possible challenges for insurance availability in risk-prone areas. More granular pricing incentivises market participants to manage risk. However, the increased cost of insurance could make it unaffordable for some. This could lead to increased pressure on the government to provide relief to affected asset owners after natural hazard events on an ad hoc basis or as part of institutional arrangements. While cover is generally available at present, it could change in the future as information technologies identify risks more granularly. Actions now may help manage such a transition. These include the role of central and local government in collecting and sharing natural hazard data, setting land-use policy and coordinating adaptation plans.⁶¹

⁵⁸ New Zealand Productivity Commission, 2020.

⁵⁹ O'Donovan & Stephens, 2004.

⁶⁰ OECD, 2015.

⁶¹ Reserve Bank of New Zealand, 2024a.

Chapter 4: Implementing effective fiscal policy responses to shocks and cycles

This chapter discusses broader considerations for implementing effective fiscal policy responses, sets out guidelines for how to approach fiscal responses and summarises analysis of different fiscal tools that could be used in response to shocks and cycles.

- In response to shocks and cycles, our experience and the literature indicate that it is best practice to keep fiscal responses timely, temporary and targeted.
- Tax and transfer tools will typically be more timely, temporary and targeted than public consumption or investment initiatives. For example, lump-sum payments may be a good fit in response to demand shocks. Wage subsidies may be effective if there is a clear exit strategy and there is a strong case for supporting labour market attachment. Altering public consumption is typically not proposed, as such changes can be difficult to reverse once implemented.
- A cautious approach should be taken before using public investment as a way of stabilising the economy. It is best to maintain a steady pipeline of projects, especially for new, large or complex projects. If faster changes to the level of public infrastructure spending are desired, this should be time limited and focused on small programmes and projects that are already captured in existing infrastructure plans.
- To improve crisis preparedness, consideration should be given to preparing the most promising fiscal tools to allow for a more streamlined and effective response if needed. This would improve the ability of governments to target resources to where they are most needed and to roll out responses more quickly by ensuring the right systems and processes are in place that also ensure value for money. A shared understanding of the impact of these tools will also assist with macroeconomic management, including the setting of monetary policy.
- A key challenge in determining the appropriate response to a shock is uncertainty. Decision-making under uncertainty can be supported by prior preparation, coordination across decision-makers, scenario planning and ongoing monitoring and adjustment. Maintaining and enhancing the quality, timeliness and frequency of New Zealand's economic statistics would also help.

Policy-making under uncertainty

During shocks and cycles, there will be uncertainty and limits to our knowledge, including about the state of the economy in real time, the nature of the shock, who it is impacting and if and how policy can best respond.

Fiscal strategies need to be cognisant of this uncertainty. In practice, this involves actively considering the possible outcomes in a situation and their probabilities, managing policy to balance the risks it presents and actively monitoring and adjusting policy as events unfold.⁶²

During the COVID-19 pandemic, there was significant uncertainty. In light of that uncertainty, policy-makers tended to err on the side of providing more support to mitigate the impacts of COVID-19. This choice reflected an expectation that upside surprises to the economy would be less costly and easier to manage than downside ones.⁶³ The New Zealand economy subsequently recovered much more quickly than the Treasury and other forecasters anticipated, with the level of monetary and fiscal stimulus contributing to a sustained period of high inflation.

In this context, one traditional benefit of using monetary policy over fiscal policy is that interest rates are comparably easier to adjust and reverse. For instance, during the pandemic, the Reserve Bank reduced the OCR to historical lows (and enacted the Large Scale Asset Purchase programme to inject liquidity into the economy). Following the significant rise in inflation, the OCR was increased significantly to manage inflationary pressures. Fiscal policy, on the other hand, was more difficult to reverse and remained stimulatory for longer.⁶⁴ Forecast changes added to this challenge. The Treasury's tax forecasts tended to be revised upward prior to 2023, which factored into the government's expenditure decisions. Since 2023 the Treasury's tax forecasts have been repeatedly revised down, but reducing expenditure in response is generally not as easy as increasing it. This has contributed to New Zealand being in a deficit on a cyclically adjusted basis since 2020.

To support decision-making under uncertainty, policy-makers can employ various strategies. These include monitoring and adjusting to new information, ongoing coordination across decision-makers, scenario planning and the use of models. Better inputs such as maintaining and enhancing the quality, timeliness and frequency of New Zealand's economic statistics may help make decisions under uncertainty. This could include, for example, investment to improve the timeliness of GDP releases and reduce the extent to which they are revised after initial release. Other areas of possible improvement in New Zealand's data noted in reviews include more comprehensive monthly CPI and labour market data and the frequency of reweighting CPI data.⁶⁵ There could also be value in collecting more real-time data sources arising from new technologies such as detailed electronic transactions, location and traffic data. However, improved data is only one approach to supporting good policy decisions under uncertainty – much depends on how this data is used in decision-making.

⁶² Literature setting out approaches to making economic policy under uncertainty: Kirkby & Fukac, 2016; Geweke, 2005; Brainard, 1967.

⁶³ This partly reflected that monetary policy was becoming constrained by the effective lower bound and there was uncertainty about how much additional stimulus could be provided through alternative monetary policy tools. The May 2020 Budget included a scenario where unemployment reached 9.5%, raising concerns about the scarring impacts of a severe downturn on the productive capacity of the economy and on the stability of the financial system.

⁶⁴ The Treasury, 2024c.

⁶⁵ OECD, 2024; International Monetary Fund, 2024a; Conway, 2024.

Economic literature indicates that the most reliable foundation for making good decisions under uncertainty is to have strong institutions with the capability to plan for shocks, take precautionary and pre-emptive action and follow good decision-making processes when they occur.⁶⁶ For example, evidence suggests that relatively ‘better’ COVID-19 outcomes were more associated with variables such as governance as opposed to those measured through the Global Health Security Index in 2019.⁶⁷ The literature refers to institutions in their broadest form – including norms, rules and governance arrangements – of which fiscal institutional arrangements form one part. Options to improve fiscal institutions are considered in Chapter 6.

The remainder of this chapter considers practical approaches to implementing fiscal policy in shocks and cycles in a context of uncertainty.

Framework for considering the appropriate response to shocks and cycles

Governments must balance a range of objectives when deciding on the appropriate response during shocks and cycles. As mentioned in Chapter 1, the ‘three Ss’ framework – structure, sustainability and stability – is useful for determining the role of fiscal policy. Where fiscal intervention is being considered, the following factors should be taken into account:

- **Structure:** Is there a role for government in directly responding to the shock or cycle and, if so, how can this be done in a way that supports value for money? Decisions on fiscal interventions should also consider who pays (including whether the private sector can effectively manage the shock) and how costs should be spread across time, location and groups.
- **Stability:** Should the government lean against the business cycle to help monetary policy? Consideration should be given to the magnitude and type of shock, which will inform whether a fiscal intervention is needed and, if so, the intensity and design of the response.
- **Sustainability:** How strong are the government’s finances, and how much debt headroom is there? Fiscal headroom determines the extent of possible fiscal measures, with greater headroom offering more options for government response.

There are interdependencies and trade-offs between the different objectives that constrain the scope and design of policies – for example, policy interventions aimed at achieving stability may conflict with other objectives such as productivity, social welfare or sustainability.

⁶⁶ The Treasury, 2022b.

⁶⁷ Rose et al., 2021.

Setting out plans for responding to shocks

As discussed in Chapter 3, prior preparation can support effective fiscal responses to future shocks and cycles.⁶⁸ By clarifying the role of the government and private sector, preparations can improve the efficiency of resources directed towards contingency planning, support operational readiness, shape public expectations of future fiscal support and improve the consistency of fiscal responses to different shocks.

Two examples of risks where the government has recently been developing its approach to potential associated impacts are foot and mouth disease and climate change, which are described below. Contingency planning is a tool that typically provides a high degree of flexibility to tailor any fiscal response to different circumstances. It can be complemented by bespoke institutional arrangements that pre-commit to the response to specific shocks (see Chapter 6) or the use of regulatory or investment tools to improve resilience. However, we will not be able to anticipate and prepare for every risk. Responses to novel shocks will rely on our general resilience, such as the quality of our institutions and debt capacity.

Box I: Examples of setting out plans in advance

Foot and mouth disease

Continued focus on foot and mouth disease (FMD) readiness is a critical risk management action to avoid an incursion or reduce impacts should one occur.

Reflecting this, the Ministry for Primary Industries continues to implement the recommendations from a 2022 independent review of FMD preparedness.⁶⁹

The Government is also working with a range of relevant industry representatives to agree an Operational Agreement as part of the Government Industry Agreement (GIA), which is, in turn, established under the Biosecurity Act 1993, to support joint FMD readiness and response activities.⁷⁰

Additional focus areas are:

- building a shared understanding between the government and at-risk industries of critical risk points across supply chains under FMD outbreak scenarios
- ensuring regulations are fit for purpose to allow the economy to adjust its resource allocations (such as into different land uses) should an outbreak occur
- ensuring there is sufficient system capacity – across the government and private industry – to respond decisively to an outbreak.

⁶⁸ For further analysis of the circumstances where prior preparation can support greater resilience in the aftermath of shocks, see Galt & Nees, 2022, Part 3.

⁶⁹ NZIER, 2024.

⁷⁰ Government Industry Agreement, n.d.

Climate change

Work is under way to develop an enduring adaptation framework that will strengthen how New Zealand prepares for the impacts of climate change. Climate change will drive both acute and chronic impacts to New Zealand – for example, increased severity and frequency of weather shocks (acute) alongside sea-level rise (chronic). These impacts can disrupt economic and social activity, leading to broader economic and fiscal implications.⁷¹ An enduring, long-term approach to preparing for and responding to these changes can help support effective risk management across central government, councils, insurers and individuals, who all have a role to play.

Elements of the proposed approach to adaptation include:

- minimising long-term costs to New Zealand
- providing greater clarity around the government's response to climate-related shocks
- clarifying the roles of insurers, local government and other groups
- improved information sharing so that everyone can make informed decisions
- maintaining efficient housing and insurance markets
- ensuring people have the ability and incentive to make decisions to reduce their risk where they can.

Coordination of fiscal and monetary policy

Maintaining the operational independence of the Reserve Bank is critical.⁷² However, there are useful ways in which decision-makers and agencies can coordinate to support effective policy responses to crises. Coordination of policy can play an important role in supporting macroeconomic stability. As outlined in Annex 1, there is an important role for more active coordination during economic downturns where monetary policy is constrained by the effective lower bound. This is because fiscal policy is more likely to play an active role in macroeconomic stabilisation, affecting the appropriate stance of monetary policy and additional monetary policy tools that could be used, with potential impacts on the government balance sheet.

As the Reserve Bank's Monetary Policy Committee determines monetary policy independently of the government of the day, monetary and fiscal policy coordination in New Zealand is primarily oriented around information sharing. Coordination involves each agency understanding the other party's outlook for the economy and policy strategy, enabling them to take into consideration how they will respond to different scenarios. This helps to ensure that monetary policy can independently pursue – and be held to account for – the objective of low and stable inflation. Moreover, independent decision-making and production of economic forecasts reduces the risks of 'group think' by the Treasury and the Reserve Bank when assessing the economic outlook.

⁷¹ For a more in-depth consideration of the economic and fiscal impacts of climate change in New Zealand and the channels and feedback loops through which these are expected to flow and occur, see Craxton et al., 2024; The Treasury & Ministry for the Environment, 2023.

⁷² Buckle, 2023.

The current institutional arrangements involve the following mechanisms to promote information sharing:

- Published information on the policy strategy adopted by each decision-maker through the Monetary Policy Statement, Financial Stability Report and Budget documents and their assessment of the impact on the economic outlook.
- A Treasury observer sitting on the Monetary Policy Committee to share relevant and timely information on fiscal policy. The observer is non-voting to maintain monetary policy independence.
- References in the operational framework for monetary policy, including textual guidance in the remit and requirements in the Monetary Policy Committee Charter such as seeking to understand and communicate material interactions between monetary policy and the government's objectives.
- Working-level engagement on the production and communication of economic forecasts and the risks to the economic outlook, while retaining independent production of this material.

There are also institutional arrangements in place to recognise that the actions taken by the Reserve Bank to promote price and financial stability can generate fiscal risk. In 2023, the Minister of Finance agreed to provide pre-positioned financial resources to enable timely use of tools such as bond purchases, with a particular focus on supporting interventions aimed at financial stability. A Memorandum of Understanding sets out a process for seeking additional financial backing should this be required to support larger interventions with the objective of providing additional monetary stimulus.⁷³

Effective coordination depends critically on a strong mutual understanding of the respective objectives, policy strategies, toolkits and tool interactions of monetary, financial and fiscal policy. There are limited further improvements that could be made to formal coordination mechanisms, although there is scope to further understand possible economic shocks and policy responses. The first stage of the Royal Commission COVID-19 Lessons Learned recommended that the Treasury and the Reserve Bank work together to develop a framework setting out how monetary and fiscal policies will be used together in response to future shocks.

⁷³ Reserve Bank of New Zealand, 2020.

The form of fiscal response

When fiscal stimulus is used, the government is deliberately seeking to increase demand in the economy as a whole as part of business cycle management. The literature indicates that best practice in these situations is to keep stimulus measures timely, temporary and targeted.⁷⁴ The impact of fiscal policy is typically stronger when it is timely, temporary and targeted, particularly in a downturn when fiscal multipliers are higher.⁷⁵ This is because such measures are more likely to be spent rather than saved, thereby having a more significant effect on aggregate demand. Targeted support ensures that resources are directed to the sectors or groups most in need and limits costs, while keeping fiscal support temporary ensures that the measures are withdrawn as the economy recovers, preventing the economy from overheating and limiting the impact on long-term fiscal sustainability.

The principles of 'timely, temporary and targeted' are also relevant to the fiscal responses to the concentrated impact of shocks. Timely support is often required to effectively mitigate these impacts such as in the provision of shelter as part of the emergency response to a natural disaster. Direct responses should also be targeted to support value for money and consistent with the purpose to mitigate impacts on groups most affected by the shock, and they should be temporary to limit impacts on fiscal sustainability and resource allocation. This is particularly true if the shock is coincident with a business cycle boom, meaning that the fiscal response is likely to add to inflationary pressures. Nevertheless, some aspects of the fiscal response to shocks are likely to be more enduring, including investment to rebuild critical infrastructure and any support provided to affected groups to facilitate adjustment to the enduring impacts of shocks.

Where discretionary fiscal policy is used more broadly to provide macroeconomic stimulus, more consideration is needed about which tools can be deployed in a timely, temporary and targeted manner. For example, large-scale infrastructure projects often involve lengthy planning, design and construction processes, and as such, their stimulative effects on the economy are not typically immediate (not timely). In addition, developing appropriate exit strategies for fiscal tools can be challenging. For instance, it can be difficult to judge the best moment to withdraw support and politically difficult to remove support at all. There are challenges in targeting support – administrative systems are often not set up to specifically target groups and sectors that may be most impacted by a shock. There are also limits in knowledge when it comes to targeting. For example, it is difficult to distinguish between viable and non-viable firms and sectors, which can reduce economic efficiency over time by impeding the redeployment of resources away from non-viable firms.

As discussed in Chapter 3, cyclical management should mostly be left to monetary policy. In some instances – for example, if monetary policy is constrained or if there is a need for targeted support during downturns or in response to natural hazard events – it may be appropriate to use discretionary fiscal policy. In such case, governments have a range of tools that can be used in response. Using discretionary fiscal policy tools to manage upside events is less appropriate in most circumstances. Instead, governments should run operating surpluses to rebuild fiscal buffers between negative events. This is explored in more depth in Chapter 5.

⁷⁴ Horton & El-Ganainy, 2020.

⁷⁵ Huidrom et al., 2016

The following discussion outlines at a high level a range of tools that could be considered in response to a shock, both to support macroeconomic stabilisation and to address concentrated distributional impacts. To assess these tools, we have considered whether they can be timely, temporary and targeted, while noting that the relevance of these criteria in guiding direct responses will vary depending on the nature of the shock. Below is a summary of what these three criteria consider:

- **Timely:** Is it feasible to implement this tool in a timely manner? How quickly would stabilisation effects flow through to the rest of the economy, and does it provide assistance when it is needed?
- **Temporary:** Is it possible to implement a clear and credible exit strategy with this tool? Would the tool have persistent effects, and would it create expectations of future government support that would be difficult to reverse? To what extent could the tool alter demand and have long-term impacts on efficiency and incentives?
- **Targeted:** Does the tool address a clear problem definition such as targeting specific groups or sectors that need support or broad-based support if this is needed for macroeconomic stabilisation purposes? How high is the risk that the tool can be misused or not reach the intended recipients?

In addition to these criteria, it is important to provide assurance on the value for money of fiscal interventions. This would require setting up appropriate processes that support quality of advice, procurement and evaluation mechanisms. Implementing such processes may have implications for timeliness, which underscores the importance of prior preparation. A shared understanding of the impact of these tools on the economy is also important as it can assist with macroeconomic management, including the setting of monetary policy.

Lump-sum payments

Lump-sum payments to individuals can boost aggregate demand in downturns. One-time payments may provide rapid financial relief and increase consumption, particularly if they are designed in a way to encourage spending over saving.⁷⁶ Research suggests the consumption response to such payments ranges from 30% to 60% per dollar, with smaller payments more likely to be spent (noting that the payment needs to be sufficiently significant to be effective).⁷⁷ Targeting payments towards groups with a higher propensity to spend such as lower-income or financially vulnerable individuals can enhance their stimulatory impact.⁷⁸

The targeting of lump-sum payments relies on their design and eligibility criteria such as using the tax or benefit systems to target low-income or unemployed individuals. New Zealand's experience with the 2022 Cost of Living Payment demonstrated Inland Revenue's growing capability to administer such schemes, although there were also some limitations – for example, some payments were made to people who were not intended to receive them such as people who were overseas or deceased. However, there are trade-offs between precise targeting, promptness and implementation cost. Readiness for such tools could be enhanced by improving data availability for better targeting and pre-setting some design elements to facilitate informed policy advice and improve the ability to provide timely

⁷⁶ Scholnick, 2009; Kaplan & Violante, 2014.

⁷⁷ Literature assessing the effectiveness of lump-sum payments includes Shapiro & Slemrod, 2009; Parker, 2011; Sahm et al., 2012; Leigh, 2012.

⁷⁸ There are also asset-rich, cash-poor households that will have higher marginal propensities to consume.

and effective support. Given current systems, the Ministry of Social Development would be better placed to do targeted payments to their existing client base, whereas Inland Revenue would be better placed for more broad-based payments. Ensuring legislation, IT systems and payment systems are fit for purpose and sufficiently flexible is key to enable a timely and targeted disbursement of payments.

Scaling government benefits

Another option that could be considered in response to shocks is scaling benefits such as Working for Families, Accommodation Supplement, Winter Energy Payment and/or Jobseeker Support.

Changes to benefits could provide a significant stimulatory impact during downturns, particularly as the number of recipients generally rises at the same time. For example, total benefit grants increased significantly in 2020 during the COVID-19 lockdown, driven by a rise in Jobseeker Support Work-Ready grants. Work-Ready recipients increased by 60% (84,700 to 135,800 from January 2020 to January 2021) and costs (not entirely due to Work-Ready grants) increased around 58% or around \$694 million annually.

Making permanent changes to main benefits should be approached with caution, as permanent increases may have long-term fiscal and efficiency impacts and drive incentives regarding job search. Time-limited payments such as the COVID-19 Income Relief Payment can provide targeted and temporary financial assistance during crisis periods without imposing long-term fiscal costs for governments. The COVID-19 Income Relief Payment was a temporary, short-term payment for people who lost their jobs between 1 March and 30 October 2020. However, time-limited payments can raise concerns about equity if they are perceived as being more generous than existing payments for beneficiaries. They may also raise expectations about future levels of support and it can be difficult to discontinue payments once the time limit has expired.

Scaling government subsidies and fees

On a smaller scale, changes to subsidies and fees such as public transport fees, road-user charges and childcare subsidies could be considered. Given the limited size of such policies, a combination of tools may have a greater impact. Depending on the design, scaling these policies could help alleviate hardship of specific groups if used in response to downturns. There are options for how these tools could be adapted if used either for macroeconomic stabilisation or to address the direct impact of shocks. For example, efforts could be made to increase flexibility or targeting, although the ability to target specific regions is likely to be an issue for some of these tools if the intention is to use them in response to natural hazard events.

However, such changes can be difficult to reverse and would affect demand for the product or service being subsidised or charged for. This might be desirable in some circumstances – for example, subsidising vaccination during a pandemic – but can be undesirable in other circumstances as it can lead to market distortions.

Personal income tax change

In a downturn, a temporary reduction in personal income tax would increase spending and incentivise labour supply. However, it is difficult to quickly design and implement personal income tax cuts to specifically target lower-income groups who are more likely to spend the extra income unless a more comprehensive redesign of the tax system is undertaken. There are also implications for main benefits, which are prescribed net of tax.

The timeline for implementing personal income tax changes can be lengthy, potentially requiring 12 weeks for payroll adjustments and a year for more complex changes such as adding new tax rates or thresholds. Any reduction in income tax would need to be temporary to avoid long-term fiscal implications and keep its use confined to the downturn period. However, reversing a tax reduction may be challenging as it would reduce take-home pay. In addition, the literature indicates that one-off lump-sum payments have a greater immediate economic impact due to their likelihood of being spent rather than saved when compared to the gradual benefits of tax reductions.⁷⁹ We therefore consider personal income tax cuts a less promising tool in response to a downturn.

Tax adjustments could also be considered to stabilise the economy during an upturn. By increasing tax rates, the government could aim to cool an overheating economy while building fiscal buffers. However, tax increases often encounter political resistance, especially during periods of heightened inflation when the cost of living is already a concern. There are also significant structural concerns such as efficiency costs and the risk of undermining stability in the tax system.

GST reduction

A temporary goods and services tax (GST) reduction could be explored as a means of encouraging spending by giving people more disposable income during downturns. The temporary nature of the reduction would also encourage people to bring forward their spending while the rate is temporarily lower. This essentially changes the time value of consumption, which is the closest fiscal policy can get in mirroring how interest rates operate.

Temporary GST cuts have been implemented internationally during crises such as by Germany and the UK in response to COVID-19. However, the process has substantial design and implementation challenges, including administrative and compliance costs for businesses, and could be hampered by implementation lags. New Zealand's experience with adjusting GST rates indicates it could take several months to effect such changes, and it would require engagement with the business community to determine realistic timelines. There are risks of potential deferment in consumer spending if there is a significant lag between announcement and implementation, which would reduce the effectiveness of the measure.

⁷⁹ Sahm et al., 2012; Elmendorf & Furman, 2008.

In addition, there is debate about the macroeconomic efficacy of GST reductions. Some literature suggests that temporary GST reductions may encourage significant changes in the timing of consumption – for example, by bringing consumption forward.⁸⁰ More recent evidence looking particularly at the COVID-19 experience suggests that direct lump-sum payments have clearer impacts on consumption.⁸¹ Furthermore, studies point out that the benefits of a GST cut may be more pronounced for higher-income individuals who can more easily alter their consumption patterns.⁸²

Liquidity measures

Liquidity measures involve providing a cash injection to businesses facing a fall in revenue or increase in costs that has been caused by external events. Among the suite of options available, liquidity measures may be most effective in providing immediate short-term financial relief to viable businesses in need during downturns. There is a choice between debt-based and grant-based support. Grant-based support may provide improved access and fewer long-term liabilities that could hinder the recovery but comes at a higher fiscal cost. Drawing on the experiences and lessons from the pandemic response, it is possible that these tools can be adjusted to improve their effectiveness and to ensure agencies have the capacity and systems in place to deploy them rapidly.⁸³ For example, the communications approach could be improved to maximise the accessibility and take-up of the schemes. Payments were made to some affected businesses following the North Island weather events. We have limited information about the impact and value for money from this scheme and would therefore need to investigate further to determine their future use.

Targeting liquidity measures can be difficult – limited data on businesses in New Zealand makes it difficult to distinguish between viable and non-viable businesses. Poor targeting of businesses may have negative implications for productivity. Moreover, using liquidity measures in response to natural hazard events that require regional targeting would be difficult as firms may be registered in a place that is different to where they primarily operate.

Credit guarantee schemes

During times of reduced access to credit, credit guarantee schemes can act as a safety net where a government entity guarantees to cover a portion of the lender's losses should the borrower fail to repay the loan. These schemes are designed to aid businesses that struggle to secure traditional loans, often due to a lack of collateral or perceived high risk. Since the global financial crisis (GFC), such schemes have gained traction globally as a financial tool for both stabilising markets and as a counter-cyclical measure, but their overall effectiveness remains debated.⁸⁴ New Zealand's Business Finance Guarantee Scheme, initiated in response to the pandemic, demonstrated that a credit guarantee scheme can be quickly deployed to mitigate short-term financial instability. Success factors for a credit guarantee scheme include rapid restoration of market liquidity and confidence, timing and carefully determined coverage ratios.⁸⁵

⁸⁰ Crossley et al., 2014; Bachmann et al., 2021.

⁸¹ Baudisch & Neuenkirch, 2023.

⁸² Bachmann et al., 2021; Crossley et al., 2009; Thomas, 2015, 2022.

⁸³ OECD, 2021.

⁸⁴ Bénassy-Quéré & di Mauro, 2020; Falagiarda et al., 2020; Cascarino et al., 2022; Carletti et al., 2023.

⁸⁵ Coverage ratios refer to the proportion of a loan that a guarantee will cover in the case of default.

Credit guarantee schemes should be wound up soon after the resumption of normal market conditions. Guaranteeing loans that would be made in the absence of a guarantee is poor value for money. Guaranteeing loans that wouldn't make commercial sense in normal times runs the risk of supporting 'zombie' firms, which can reduce economic efficiency by preventing the redeployment of resources from less productive to more productive firms.⁸⁶

Wage subsidy

In response to certain conditions such as a natural hazard event or pandemic, a wage subsidy could be adopted to help businesses retain staff. New Zealand's experience with the Wage Subsidy Scheme during the COVID-19 pandemic demonstrated that it can be implemented quickly and was effective in preserving labour market attachment during periods of significant uncertainty.⁸⁷ However, preserving labour market attachment – which was the main objective for the implementation of a wage subsidy in response to the pandemic – raises concerns regarding labour market efficiency as it may cause 'job lock-ins' where individuals remain in roles that may not align with their skills or are not the most beneficial for the economy. For example, there is an argument that Australia's wage subsidy scheme implemented during the pandemic may have contributed to lower productivity in Australia due to worker mismatch that may have tied individuals to less productive firms.⁸⁸ The choice of whether to use a wage subsidy or a different tool such as income support will depend on the specific shock and prevailing economic and labour market conditions in terms of how important it is to maintain labour market stability versus to encourage mobility. Generally, a wage subsidy would be suitable in short sharp shocks that have a well-defined endpoint or where it is possible to clearly articulate triggers for starting and stopping support. The Wage Subsidy Scheme during the COVID-19 pandemic being linked to alert levels is a good example of this.

Tailoring wage subsidies to specific sectors, regions or demographics is complex and hinges on the scheme's design and the operational capabilities of the agency implementing the scheme. Geographically targeted wage subsidies are particularly challenging when agencies lack precise location data, often relying on information from a responsible party such as an accountant who may be situated outside the intended regional focus, as experienced with the Christchurch wage subsidy following earthquakes. To enhance future wage subsidies, improvements could focus on better regional targeting and adjusting design parameters specific to the nature and scale of the shock. Reviews of the COVID-19 Wage Subsidy Scheme highlighted the effectiveness of its broad-based, high-trust approach but identified the need for more thorough analysis on its impacts on labour productivity, including the risk of supporting zombie firms,⁸⁹ as well as impacts across different societal groups, including Māori interests and interactions with employment and tax law.⁹⁰

⁸⁶ Zombie firms are companies that earn just enough money to continue operating and service debt but are unable to pay off debt or invest in growth.

⁸⁷ Martin Jenkins, 2023.

⁸⁸ Andrews et al., 2023.

⁸⁹ Meriküll & Paulus, 2024.

⁹⁰ Andrews et al., 2021; Meriküll & Paulus, 2024; Fyfe et al., 2023; Controller and Auditor-General, 2021.

Business investment taxation

There are tax measures that can incentivise business investments such as investment tax credits and depreciation settings.⁹¹ The tool design, including asset eligibility and duration, would help determine the fiscal impact and effectiveness. However, the economic activity resulting from such schemes may not occur at a time that is relevant to the shock or downturn since it takes time for businesses to plan and implement investments. While the use of a time-limited scheme can reduce these delays and lead to more timely stimulus, a reduced window in which firms can make investment decisions could reduce the average quality of investments made.

Public investment, infrastructure, repairs and maintenance

Public infrastructure and public investment have often been proposed as a form of economic stimulus during slowdowns on the basis that it can support demand in the near term while delivering social, economic or environmental benefits in the long-term.⁹² However, infrastructure projects have a long lead time before they begin to impact economic activity, sometimes ramping up only once activity in the economy has normalised. During New Zealand's \$3 billion Shovel-Ready Projects programme, initiated during COVID-19, over half of the spending occurred more than two years after the government decided to commence the programme.⁹³ Consequently, much of the spend happened while the economy was significantly overheated. Lags of this length are not unusual – the International Monetary Fund reports that the typical duration of infrastructure projects internationally is 6-15 years.⁹⁴ There were also value-for-money concerns about the Shovel-Ready Projects programme given the pace of decisions. The Auditor-General noted concern that significant spending of public money was occurring without appropriate processes for ensuring value for money and transparent decision-making processes.⁹⁵

Despite challenges with timeliness and value for money in fast-changing public investment programmes, it would still be possible for public infrastructure and investment to make a modest contribution to macroeconomic stabilisation if specific strategies are followed:

- **First, focus on maintaining a steady pipeline of projects, especially for new, large or complex projects:** Given the lead times for new, large or complex projects, it is not practical to make rapid changes to their level of spending in response to economic developments. Furthermore, making rapid adjustments can involve bypassing key stages in the investment decision-making lifecycle that can increase risk and value-for-money concerns. Nonetheless, a stable pipeline would help with macroeconomic stabilisation by providing a steady flow of forward work. This is preferable to pro-cyclical capital investment, which may arise if public investment responds to short-term demand pressures and cyclical movements in public finances.

⁹¹ Rodgers & Hambur, 2018.

⁹² International Monetary Fund, 2020.

⁹³ Controller and Auditor-General, 2023; Crown Infrastructure Partners, 2024. Cabinet agreed to establish funding for the programme in May 2020, and by 30 June 2022, around 42% of total government spend and co-funded money had been spent.

⁹⁴ International Monetary Fund, 2020.

⁹⁵ Controller and Auditor-General, 2023.

- **Second, if rapid changes to the level of public infrastructure spending are desired, focus on small projects already captured in existing infrastructure plans:** These are more likely to be maintenance, repairs and renewals projects or programmes of work or other small projects that have already been identified in government agencies' infrastructure investment plans. Examples of these projects include road maintenance and repairs, improvements to housing stock such as building renewals or earthquake strengthening and repairs of school property.⁹⁶

The ability for public infrastructure and investment to make these contributions will depend on the quality of infrastructure planning. Work under way by the New Zealand Infrastructure Commission to develop a 30-year National Infrastructure Plan should promote more stability in investment and greater certainty about the long-term pipeline of infrastructure projects.⁹⁷ There is also an important role for individual agencies having good investment intentions plans that set out priorities for projects that are already scoped and costed.

Other factors to consider when contemplating rapid changes to the timing of smaller public investment or infrastructure projects include:

- spreading any increase in investment across a range of smaller projects to minimise localised industry or workforce capacity constraints
- ensuring that both the cost of capital expenditure and ongoing operating expenditure from running the asset are budgeted for upfront
- complementing any government funding with other sources of funding and financing where feasible such as private sector investment or options to generate revenue from the asset
- ensuring that the government agencies involved in delivery have the systems and capability to effectively deliver the volume of work procured or delivered.

Public consumption

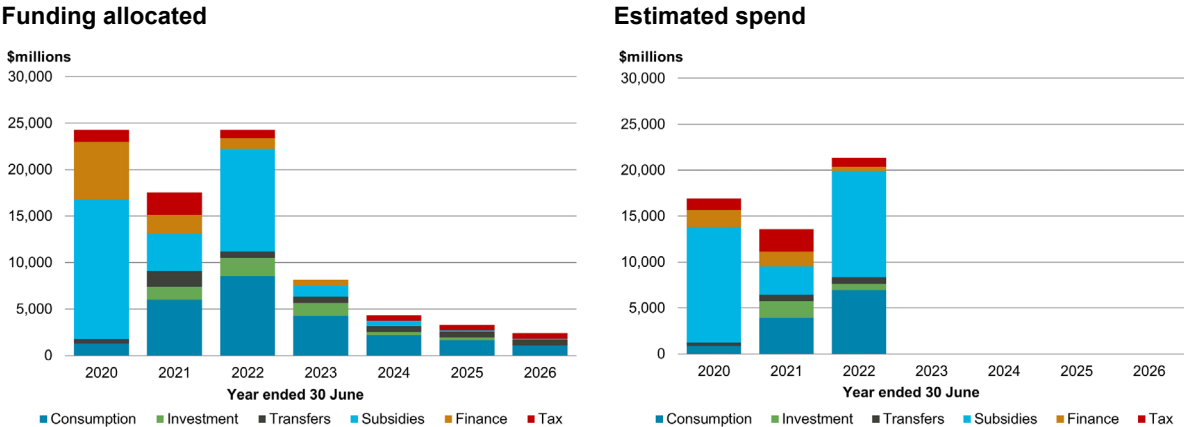
Public consumption can be used as a form of economic stimulus but is more likely to face challenges being timely, temporary and targeted than tax and transfer programmes. Public consumption is predominantly the direct provision of goods and services, including compensation of government employees. Increasing the scale or breadth of government goods and services provision can take time, making this type of public consumption less timely than other forms of stimulus such as taxes and transfers. In addition, recipients of government goods and services will tend to be specific groups, and there may be resistance to ending initially temporary programmes.

⁹⁶ For example, the New Zealand Upgrade Programme included a programme to bring forward urgent school property improvements from existing planning processes (up to \$400 million).

⁹⁷ New Zealand Infrastructure Commission, 2025.

The lags in public investment and public consumption were evident in the COVID-19 response. As shown in Figure 4.1, approximately 30% of the funding allocated to the COVID-19 response occurred in the 2019/20 financial year. It was largely used to fund the Wage Subsidy Scheme that was first introduced in March 2020. The Wage Subsidy Scheme was also deployed, albeit in a more targeted form, in response to later lockdowns in the subsequent two financial years. In contrast, the rise in government consumption and investment was notably more lagged, with over 70% of funding allocated to the period after 2020/21 (when GDP had returned to its pre-pandemic level) and 36% after 2021/22 (when inflation was already well above target). According to these estimates, more money was spent in 2021/22 than in the more immediate aftermath of COVID-19. Note this chart does not show spend from 2022/23 onwards due to data limitations.

Figure 4.1: New Zealand COVID-19 fiscal response across national accounts categories over time



Source: The Treasury

Designing the mix of policy interventions

Overall, a range of fiscal tools is needed to ensure we can effectively respond to different types of shocks. The government’s response to shocks and adverse events will likely consist of multiple policies, and it is important that they do not duplicate or cancel each other out. Policy options should therefore be developed as a system of interventions that can be altered over time in response to emerging information or new objectives. An overview of the various fiscal tools that could be used in response to downside events, including their relative trade-offs, is provided in Table 4.1.

Table 4.1: Options for fiscal tools to support the economy during a downside economic shock or cycle

Tools	Examples	Recipient(s)	Problems addressed	Timely	Temporary	Targeted
Lump-sum cash payments to individuals	2022 Cost of Living Payment	Individuals	Weak aggregate demand, fall in household disposable income, people unable to attend work	Yes	Yes	Targetable towards individuals and particular households but cannot easily target specific regions
Scaling government benefits	COVID-19 Income Relief Payment, Winter Energy Payment	Individuals, households, businesses	Weak aggregate demand, fall in household disposable income, people unable to attend work	Varies depending on the benefit	Yes, but can be difficult to reverse	Targetable to specific groups, particularly those that are currently receiving support through the welfare system
Scaling government subsidies and fees	Reduction in public transport fares and road-user charges, childcare subsidies	Individuals, households, businesses	Weak aggregate demand, fall in household disposable income	Varies depending on the tool	Yes, but can be difficult to reverse	Varies depending on the tool
Reduction in personal income tax	2008-2010 US tax stimulus Acts	Individuals	Weak aggregate demand, fall in household disposable income	No	Yes, but can be difficult to reverse	Can only target individual taxpayers, not households, and can be difficult to target those on low incomes/main benefits
Reduction in GST	UK and Germany during the COVID-19 pandemic	Individuals, households, businesses	Weak aggregate demand, fall in household disposable income	No	Yes, but can be difficult to reverse	No
Liquidity support to businesses	COVID-19 Support Payment, Small Business Cashflow Scheme	Businesses	Weak aggregate demand, credit crunch	Yes	Yes	Can be very difficult to effectively target productive businesses as it is difficult to determine which firms are viable

Tools	Examples	Recipient(s)	Problems addressed	Timely	Temporary	Targeted
Credit guarantee schemes to cover potential business losses	New Zealand Business Finance Guarantee Scheme	Businesses	Weak aggregate demand, credit crunch	Yes	Yes	Can be difficult to avoid providing support to underperforming firms
Wage subsidy	COVID-19 Wage Subsidy	Businesses, individuals	Weak aggregate demand, people unable to attend work	Yes	Yes	Tailoring wage subsidies to specific sectors, regions or demographics is difficult
Tax measures to support business investment	Australia during the COVID-19 pandemic, building depreciation in New Zealand	Businesses	Weak aggregate demand, credit crunch	Varies depending on specific tool and industry	Yes	Can be targeted at specific sectors or investment types, but this could lead to market distortions
Increasing spending on investment, repairs and maintenance	Shovel-Ready Projects programme, rebuild after natural hazard events, school property investment programme	Businesses	Weak aggregate demand, natural hazard events	Large, complex infrastructure projects are rarely timely, and small projects already captured in existing infrastructure plans may be timely	Yes	Ability to target varies depending on context
Increasing public consumption	Aspects of the COVID-19 economic response	Overall economy	Weak aggregate demand, various specific issues relating to the increase in expenditure	No	Yes, but can be difficult to reverse	Harder to target than tax and transfer programmes

Chapter 5: Maintaining sustainable fiscal capacity

This chapter analyses the amount of fiscal capacity required to respond to future shocks and cycles in a sustainable way.

- Fiscal policy can only be used in response to shocks and cycles if the government has the capacity to fund it sustainably.
- New Zealand faces greater pressures on the fiscal position than it has in the previous 20 years, including higher starting debt levels, less favourable interest rate and growth trends, long-term fiscal pressures such as population ageing and climate change, and demands on government service provision and public investment.
- In this context, it is important that successive governments deliver operating surpluses on average over time, maintain borrowing capacity, prioritise high-value capital projects and lift economic growth to rebuild and maintain sustainable fiscal capacity.

Maintaining sustainable fiscal capacity

Fiscal policy can only be used in response to shocks and cycles if the government has spare fiscal capacity or 'fiscal space'. According to the International Monetary Fund, fiscal space exists if a government can raise spending or lower taxes without endangering market access and putting debt sustainability at risk.⁹⁸ Fiscal space is often quantified in terms of the maximum amount of additional debt the government could accrue while it is still plausible, without extraordinary measures, to stabilise and reduce debt back to a level that restores the fiscal space.⁹⁹ Building fiscal space means achieving sufficient operating surpluses on average over time to enable borrowing to respond to future shocks and cycles.

⁹⁸ International Monetary Fund, 2016.

⁹⁹ The size of fiscal buffers can also be specified in terms of other metrics such as net worth or debt servicing. Compared to net worth, net debt has the advantage that it only counts liquid assets as opposed to roads, schools and hospitals that would be more challenging to use to obtain funding in a stress scenario. It also avoids some of the asset revaluation issues that can be associated with net worth. Debt servicing costs are very sensitive to unpredictable movements in global long-term interest rates, and therefore the government has only limited control over the path of the indicator.

Countries with greater fiscal space, including New Zealand, tended to fare better through COVID-19. This is consistent with smaller output losses in advanced economies compared to pandemic projections relative to those of developing and emerging economies.¹⁰⁰ Absent sufficient fiscal space, governments are more constrained in their capacity to use fiscal policy to stabilise the economy in response to shocks. Where unsustainable levels of debt are accrued, governments would be more likely to be forced to make an extraordinary and disruptive fiscal adjustment to restore sustainability, as experienced by some small European countries following the global financial crisis (GFC).

Box J: The Treasury's 2022 debt sustainability analysis

In 2022, the Treasury applied a debt sustainability analysis to recommend a debt ceiling of 50% of GDP (when measured using net core Crown debt) under which net debt should stay over the long-term.¹⁰¹ The analysis reached these conclusions:

- Maintaining net debt below 50% of GDP would maintain sufficient fiscal space to enable governments to respond to a range of shocks from an average sized shock of 10% of GDP, which is likely over a decade, to a large shock of 40% of GDP.
- In the extreme scenario of a shock of 40% of GDP, the Treasury assessed that the government would be able to fund and stabilise debt at 90% of GDP. In such cases, net debt should be reduced over time back below the 50% net debt ceiling.
- Small operating surpluses should be maintained on average over time. This means that, outside of shocks, the government rebuilds fiscal space and lowers debt, avoiding ratcheting up of debt after successive shocks.

The key assumptions underpinning the 2022 debt sustainability analysis are outlined below.

Estimating a conservative fiscal buffer required for shocks and cycles

The Treasury recommended that a fiscal buffer of 40% of GDP would be appropriately conservative to accommodate an extreme but plausible shock or series of shocks. New Zealand's history of shocks and cycles suggests a large shock probably requires a public debt buffer of around 20% of GDP, but a larger buffer of around 40% of GDP could be required in more extreme scenarios, as experienced in other countries. The size of the buffer was based on New Zealand's historical debt increases after recessions, modelling of potential shocks such as a significant earthquake and international experience, which found New Zealand's record over recent decades had been similar to other countries. The buffer assumed a high degree of risk aversion.

¹⁰⁰ International Monetary Fund, 2023.

¹⁰¹ The Treasury, 2022c.

Identifying a maximum feasible primary balance¹⁰²

In a situation where debt is unsustainably high, governments face difficult choices about how to consolidate and reduce debt to a sustainable level. This can be both economically and politically challenging. When making an assumption about what degree of consolidation could be feasible in New Zealand, the 2022 analysis considered historical fiscal performance in New Zealand and other advanced economies and concluded that governments could achieve a primary surplus of 1-3% of GDP for a sustained period to bring down debt if they needed to. The primary balance is used in the analysis, rather than the operating balance before gains and losses (OBEGAL), as it more accurately reflects the required change in expenditure and revenue to reduce debt (the impact of interest costs are captured in the interest-growth differential, discussed next). The International Monetary Fund has noted that, for advanced economies, it is possible to assume a maximum feasible primary surplus of 4% of GDP.¹⁰³

Identifying a conservative real interest rate and growth rate differential

The difference between debt interest rates and the GDP growth rate is particularly important for long-term debt sustainability. If GDP growth exceeds interest rates, the economy is growing at a faster pace than the cost of debt, which means the government's debt becomes a smaller proportion of the economy over time (with a primary balance of zero). Conversely, if interest rates exceed GDP growth, the debt burden can grow faster than the economy, potentially leading to unsustainable debt levels. Based on New Zealand's historical experience, the Treasury's 2022 analysis used the assumption that the interest rate would be 3 percentage points higher than the growth rate on a sustained basis. While there have been brief periods where interest rates have exceeded GDP growth rates by more than this, recent experience suggests that extreme interest rate differentials are short-lived. Near-term measures of the real interest rate and growth rate differential now sit around zero, up from significantly negative levels in the early 2020s (see Figure 5.2). A 3 percentage point interest-growth differential could be considered a tail risk scenario, but to support the robustness of the debt ceiling to extreme outcomes, the 2022 analysis used this conservative assumption.

Increasing fiscal pressures in future will make it more difficult to maintain and rebuild fiscal space

Forward-looking estimates of a government's fiscal space rely on the trajectory of a range of fiscal and economic variables, including future fiscal pressures on spending and revenue, the credibility of future fiscal adjustments, economic growth prospects and global factors, including in debt markets. All of these variables can impact on the ability of the government to fund expenses out of current revenue and to increase borrowing to fund the response to future shocks and cycles.

¹⁰² The primary balance is the difference between the government's total revenues and expenditure, excluding interest payments on its debt. The maximum feasible primary balance is the highest level of surplus the government can maintain over the medium to long-term based on past experience in New Zealand and other advanced economies.

¹⁰³ Eyraud et al., 2018a.

Compared to the past two decades, New Zealand faces greater pressures on the fiscal position, making it more challenging for governments to maintain and rebuild fiscal space.

First, long-term fiscal pressures are starting to hit such as population ageing and climate change in addition to other global trends such as geopolitical change. These pressures will make it more challenging for future governments to achieve and maintain operating surpluses to stabilise and reduce debt even in normal economic conditions. Long-term fiscal pressures will be explored further in the Treasury's next Long-term Fiscal Statement to be released later this year and include the following:

- An ageing population, which is already having a fiscal impact. Analysis by the Treasury implies demographic trends since 2017 have increased public expenses by 1% of GDP on account of superannuation and increased demand for health services. As the over-65s become a larger share of the population, fiscal pressures will continue to rise.
- Higher public capital expenditure such as on infrastructure may be required in the future. High-quality investment should improve long-run economic growth prospects and could be used to improve New Zealand's resilience to future shocks and cycles such as those associated with climate change. However, increased investment would make it more challenging to maintain fiscal space for shocks and cycles. This is due to both the direct impact from additional borrowing to fund investments and the ongoing maintenance and depreciation costs that need to be funded out of current revenue.

Second, there is some evidence that the track record of reducing debt levels after shocks and cycles has weakened. The long-term average for the core Crown primary balance has declined materially since 2008, contributing to increasing net debt. Deficits have increased following successive shocks and cycles, with the peak surplus achieved during normal times declining.

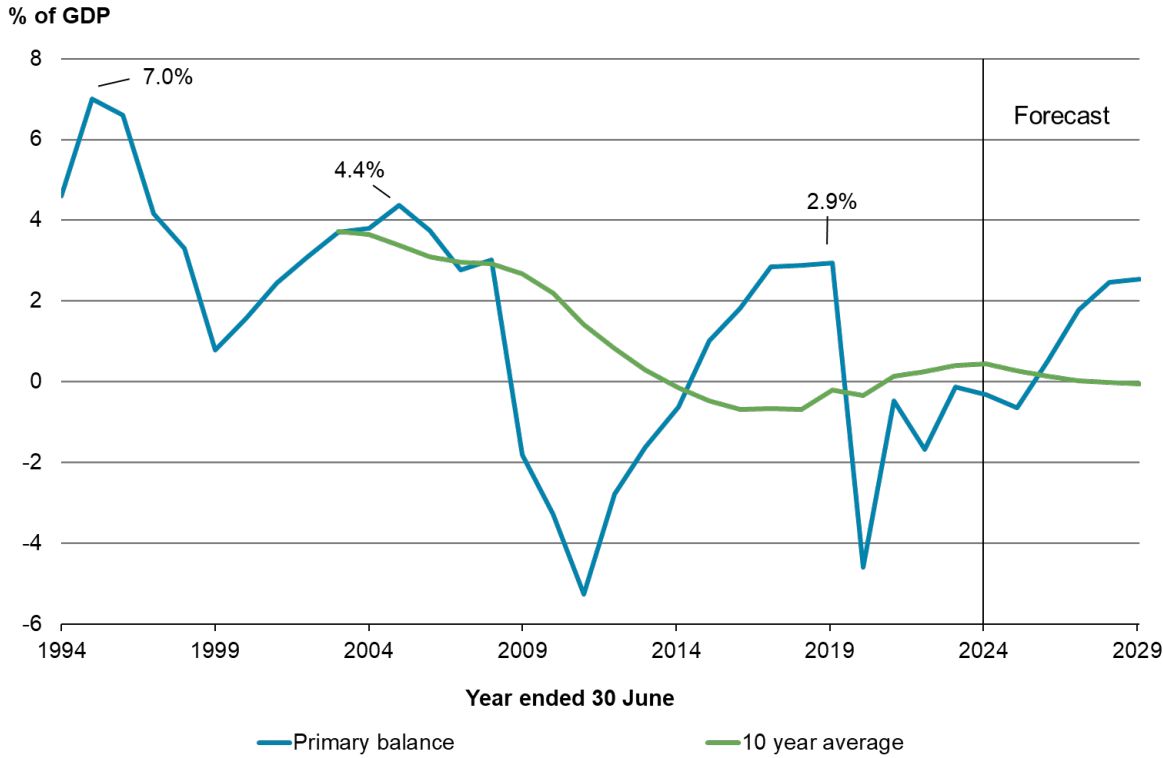
Most notably, persistent structural deficits – that can't be explained by the business cycle or one-off expenditure in response to shocks – have occurred following the response to COVID-19. Structural deficits are not compatible with building capacity to respond to future shocks and cycles.

There is also some evidence of a broader international trend towards looser fiscal policy and lower responsiveness of fiscal policy to debt levels.¹⁰⁴ International Monetary Fund analysis examining how political parties across 65 countries discuss fiscal policy indicates that, over the last three decades, the share of expansion discourse has increased by 40% across both advanced and emerging economies, while restraint discourse has declined substantially.¹⁰⁵

¹⁰⁴ Bolhuis et al, 2024.

¹⁰⁵ Cao et al., 2024.

Figure 5.1: Core Crown primary balance

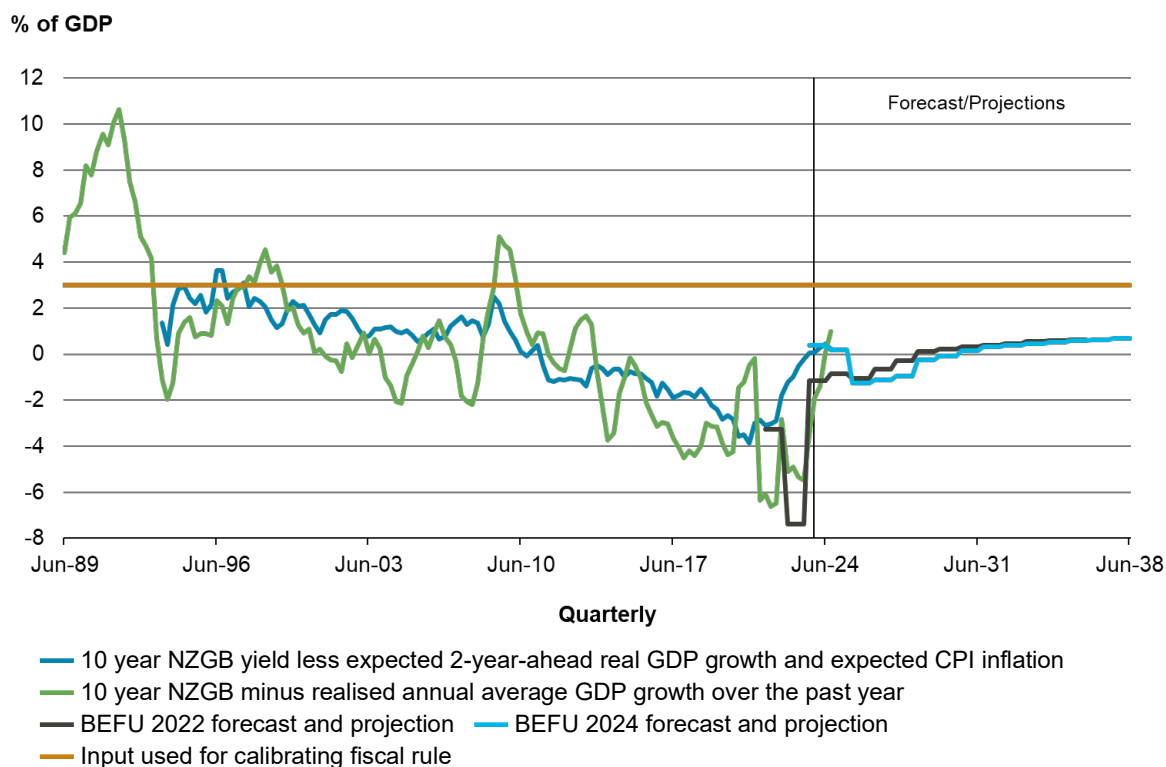


Source: The Treasury

Note: Data on core Crown interest revenue is unavailable for the years 1994-2001. For these years, we have estimated core Crown interest revenue as being 73% of total Crown interest revenue on the basis that this was the average ratio between core Crown and total Crown interest revenue in the five years starting 2002. This assumption will not materially affect the primary balance estimates for 1994-2001 as total Crown interest revenue ranged from 0.6% to 0.8% of GDP over that period.

Third, while real interest rates have trended down from the early 1990s to exceptionally low (including negative) levels, a continuation of this cannot be expected. Interest rates and growth rates have moved unfavourably for governments from a debt sustainability perspective since 2020, with near-term measures of expected future interest rates less GDP growth now around zero (up from significantly negative levels in 2022) (see Figure 5.2). Underlying this has been an increase in interest rates and a reduction in growth expectations. As a result, the differential between the government’s cost of borrowing and the future growth of incomes available to service debt is likely to increase compared to recent history.

Figure 5.2: Measures of the interest rate less GDP growth rate



Sources: Stats NZ, the Treasury

Note: The 10-year bond yield has been chosen as a long-term indicator of interest rates. Expected real GDP growth and expected CPI inflation come from the Reserve Bank’s survey of expectations, and two years ahead is the longest time horizon for growth in this survey. Although shorter than the 10-year period for interest rates, it should still provide a reasonable indication of expectations for trend growth.

Fourth, New Zealand’s current debt levels are higher than in the recent past, reducing the fiscal space to respond to shocks and cycles and increasing the challenge of maintaining operating surpluses given higher finance costs. Between 1992 and 2008, government debt consistently fell despite periodic adverse shocks. However, since 2008, sequential fiscal responses to multiple major events and persistent fiscal deficits have led to increasing government debt. Future shocks on top of New Zealand’s higher debt levels would mean governments would have less flexibility – compared to recent history – to respond to shocks and cycles or delay the rebuilding of fiscal space.

Sound fiscal management to maintain and rebuild fiscal space

Over time, New Zealand’s fiscal capacity is shaped by the fiscal strategies of successive governments. In the context of higher public debt and increasing fiscal pressures, it is important that the policy choices of governments position New Zealand to weather future shocks by rebuilding and maintaining sustainable fiscal capacity. This can be achieved by delivering operating surpluses on average over time, putting net debt on a downward trajectory and lifting the long-term economic growth trajectory. Maintaining operating surpluses on average over time will mean that debt capacity is not used up to fund day-to-day expenditure, which reduces the ability of the government to use debt for smoothing revenue and expenses across economic cycles, responding to shocks and spreading the costs of high-value capital expenditure over time. Key policy choices include constraining public expense growth, improving the efficiency of public expenditure, making more efficient use of the government’s balance sheet and increasing revenue through base broadening or higher rates and doing so in a way that is growth enhancing overall.

Chapter 6: Institutions to support sustainable and resilient fiscal policy

This chapter describes the institutional frameworks for fiscal policy and possible options for their reform.

- Institutional arrangements for fiscal policy should support credible commitments to fiscal sustainability and timely, temporary and targeted responses to shocks and cycles.
- New Zealand’s fiscal frameworks require governments to set their own fiscal strategy to achieve the principles of responsible fiscal management, supported by strong transparency requirements that enable the public to hold them to account for delivering on sustainable outcomes.
- New Zealand’s fiscal frameworks are well regarded internationally. Our fiscal frameworks played a role in an improved track record of fiscal discipline since the 1990s and have enabled fiscal policy to respond to a wide range of shocks and cycles, contributing to improved economic resilience.
- However, there is a need to monitor the performance of our institutional frameworks to ensure they remain fit for purpose. Ensuring that our frameworks effectively promote transparency will be an ongoing priority, along with exploration of the benefits of a suitably resourced independent fiscal institution to provide scrutiny of the fiscal strategy.
- The Treasury will also continue to research options for different fiscal rules and targets and for changing the scope of pre-commitments made about the response to future shocks.

Institutional arrangements are critical to delivering sustainable and effective fiscal policy. Fiscal institutions can mitigate deficit bias by enabling credible commitments to sustainable fiscal policy over time and support decision-makers in responding to shocks in a timely, temporary and targeted manner.¹⁰⁶ Beyond fiscal policy, New Zealand’s broader institutions support living standards by strengthening economic resilience to shocks and cycles and the ability of the economy to adapt to their economic impacts.

¹⁰⁶ Deficit bias can be defined as the tendency of governments to allow deficit and public debt levels to increase. Irish Fiscal Advisory Council, 2012, p. 81.

This chapter discusses institutional arrangements that support effective and sustainable fiscal responses to future shocks and cycles. After summarising New Zealand's current fiscal and economic institutions, we focus on different aspects of fiscal frameworks and the trade-offs associated with potential reforms to strengthen them. This includes the role of fiscal rules in committing the government to achieve fiscal sustainability, measures to promote strong transparency of fiscal policy and options for governments to pre-commit to the response to specific shocks or scenarios.

New Zealand's institutional settings

The main feature of New Zealand's fiscal framework is its emphasis on principles of fiscal responsibility, transparency and independence in reporting, standards and audit. The institutional framework is anchored by the Public Finance Act 1989, which requires governments to set and publish fiscal objectives and the Treasury to publish updates on the economic and fiscal outlook. This approach means that governments have flexibility to set their own fiscal objectives and can be held to account for achieving these objectives.¹⁰⁷

Specifically, the Public Finance Act requires that, twice a year, the government set out its fiscal strategy, including setting targets for key fiscal variables (total operating expenses, total operating revenue, operating balance, total debt and net worth) for at least three-year and 10-year periods. Rather than specifying specific rules, the Act specifies that the fiscal strategy and objectives must be set in accordance with the principles of responsible fiscal management – maintaining prudent public debt levels, ensuring that, on average, operating expenses do not exceed operating revenues and having regard to the interaction between fiscal policy and monetary policy and the impact on future generations. The Treasury's regular fiscal strategy advice and independent fiscal and economic reports help governments formulate and implement fiscal strategies that build and maintain fiscal space.

Within New Zealand's institutional framework, Parliament has broad responsibility to authorise expenditure and hold the government to account, including via the specific roles of Office of the Auditor-General¹⁰⁸ and the Finance and Expenditure Committee.¹⁰⁹ Ministers set priorities and allocate funding through the Budget process and are accountable to Parliament, while departments and agencies deliver public services and manage public money and are accountable to Ministers. Outside of the public sector, scrutiny of fiscal performance is supported by dissemination of information through the media, review and engagement from the expert community, risk assessments by rating agencies and data and analysis supplied by international agencies.

¹⁰⁷ The Treasury, 2023b.

¹⁰⁸ The Office of the Auditor-General conducts annual audits of departments, provides public reports on findings from audits and inquiries, provides advice and support to Parliament's select committees and also has Controller function powers, which include the power to stop a department from receiving money if the Controller is dissatisfied with the steps a department is taking to fix errors related to unlawful spending.

¹⁰⁹ This select committee considers matters regarding economic and fiscal policy, including performance and audits. Key work it considers includes the Estimates of Expenditure for key finance and expenditure Votes, annual reviews of relevant departments and agencies and economic and fiscal updates published by the Treasury.

Table 6.1: New Zealand’s institutional framework for fiscal policy¹¹⁰

	Parliament	Ministers	Public sector organisations
Role	Approves spending via appropriations set as part of the annual Budget process. Scrutinises the Executive/Ministers, including through select committees such as the Finance and Expenditure Committee and the Office of the Auditor-General.	Set priorities and allocation of funding through the fiscal strategy and Budget. Direct officials in departments and agencies.	Deliver public services and manage public money.
Accountability	Represents and is accountable to the public.	Accountable to Parliament.	Accountable to Ministers, supported by regulatory stewardship and transparent financial reporting.
Guiding legislation	Public Finance Act and Standing Orders Requires estimates of appropriations and supporting information and an annual review process. Public Audit Act Supports Parliament scrutiny by empowering the Office of the Auditor-General.	Public Finance Act Requires governments to adhere to principles of fiscal responsibility and produce fiscal strategy that meets specified requirements. Outlines powers and responsibilities of Ministers.	Public Finance Act, Crown Entities Act and Public Service Act Establish the role of chief executives and boards. Require reporting by departments and agencies to portfolio Ministers and production of annual reports and performance information.

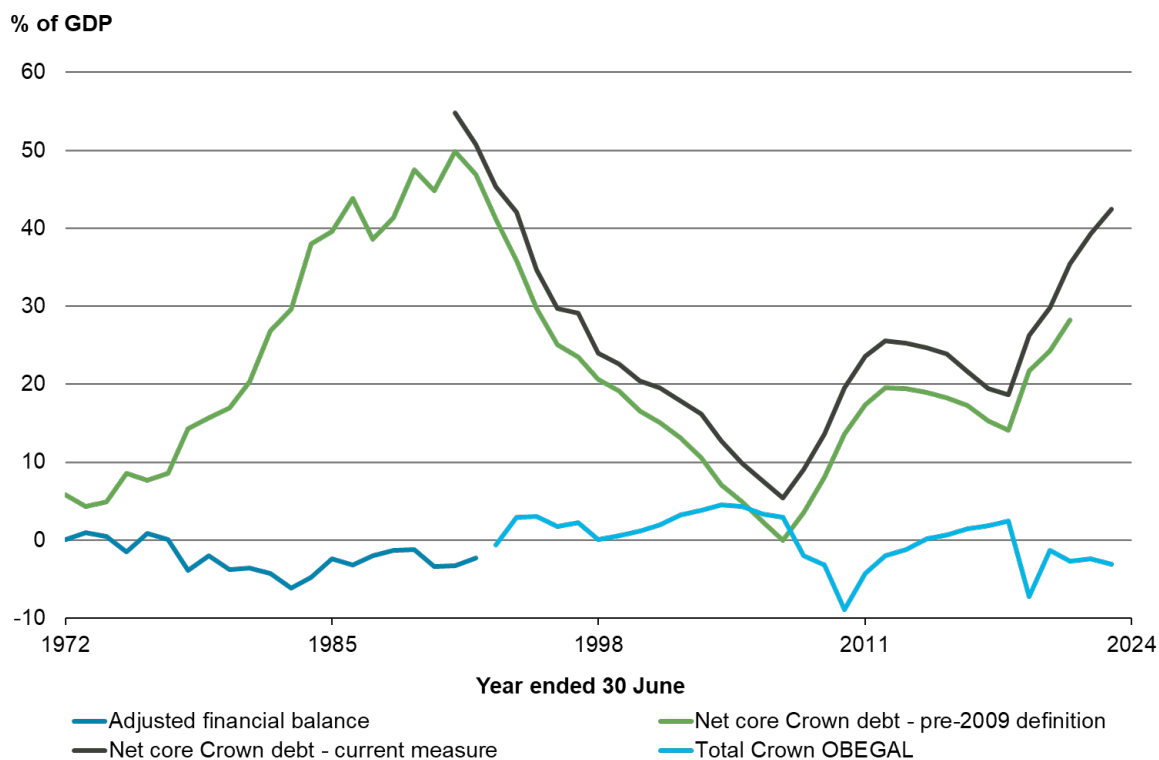
Reforms to our fiscal frameworks were made in response to the unsustainable increases in public debt in the decades prior to 1990.¹¹¹ The introduction of the Fiscal Responsibility Act in 1994 was an important contributing factor to a stronger multi-party commitment to fiscal prudence. Between 1994 and the advent of COVID-19, government debt declined, the total Crown operating balance before gains and losses (OBEGAL) was in surplus on average and net worth increased. The reforms appear to have been successful in limiting incentives to spend stronger revenue during periods of high economic growth and also appear to have reduced uncertainty about the fiscal outlook.¹¹²

¹¹⁰ See www.parliament.nz/en/visit-and-learn/how-parliament-works/the-budget for an overview of the role of Parliament in examining and approving spending, www.treasury.govt.nz/publications/guide/guide-public-finance-act for a guide to the roles and responsibilities of Ministers under the Public Finance Act and www.publicservice.govt.nz/system for the role of different public sector organisations.

¹¹¹ Gill, 2019.

¹¹² Ryan & Holmes, 2024.

Figure 6.1: Government operating balance and net debt



Note: The adjusted financial balance is the difference between receipts and expenditure (current plus capital expenditure), excluding net lending transactions, and removal of non-forecast items and extraordinary receipts such as proceeds from forestry sales and currency realignments. It measures the extent to which current plus recurring capital expenditure exceeded current revenue and thus measured the need to raise finance by raising net liabilities and/or selling assets.

Source: *The Treasury*

Fiscal policy can also affect the appropriate stance of monetary policy and the volatility of the business cycle. As discussed in Box E, discretionary fiscal policy was acyclical (uncorrelated with the economic cycle) on average between 1987 and 2024. Policy settings reduced volatility in the business cycle in some periods and exacerbated it in others.

There is discussion in the literature of using automatic stabilisers to strengthen the counter-cyclicality of fiscal policy. However, significantly improving macroeconomic stability through strengthening automatic stabilisers would require major reforms such as changes to the progressivity of income taxes, structural changes to the welfare system or an increase in the overall size of government in the economy. The main consideration for any reforms of this nature is likely to be their efficiency and equity objectives rather than their macroeconomic stabilisation role.¹¹³

The resilience and adaptability of the economy to shocks are supported by New Zealand’s broader economic institutions. With the passage of the Reserve Bank of New Zealand Act in 1989, New Zealand adopted operationally independent monetary policy, reducing inflation and business cycle volatility. Since the GFC, prudential regulation and supervisory intensity was also significantly strengthened, promoting resilience against financial stress in the banking and insurance sectors. The ability of the economy to adapt following shocks was

¹¹³ Binning, 2024a; Bernstein et al., 2024.

also strengthened by a floating exchange rate and improved flexibility of labour markets.¹¹⁴ Finally, widespread availability and high uptake of private insurance – supported by the provision of public insurance for certain natural hazard risks – has provided an external source of funding to support the rebuilding of damaged infrastructure and property following natural hazard events.

New Zealand's institutional arrangements for fiscal policy are well regarded internationally and are an important source of resilience to future shocks and cycles. Along with a strong track record of maintaining fiscal sustainability across successive governments, institutional frameworks are often highlighted as a source of strength by credit rating agencies. However, other chapters of this Briefing have noted the tendency of debt levels to ratchet upwards following recent shocks and cycles and long-term pressures on the fiscal position associated with an ageing population. In light of these developments, it is important to continually assess the performance of our fiscal frameworks and whether there are opportunities to strengthen them. This is the focus of the remaining sections of this chapter.

Rules-based decision-making as a commitment device

Fiscal rules are constraints within the fiscal institutional framework that aim to deliver credible commitments to fiscal sustainability. Fiscal rules can be set over a range of different fiscal indicators, typically debt, the operating balance and expenditure. Designing effective fiscal rules requires policy-makers to balance competing objectives, which are sometimes referred to as the fiscal rules trilemma:

- **Simplicity:** The rules should be easy to understand and follow and for external actors to monitor.
- **Flexibility:** The rules should provide flexibility for fiscal policy to be used in response to shocks and cycles when appropriate.
- **Enforcement:** There should be a mechanism for enforcement to give incentives for decision-makers to follow the rules.

It is challenging to design rules that achieve all three objectives. For example, rules that are simple and enforceable are more likely to reduce flexibility. Increasing flexibility will typically require that the rule is either made more complex (for example, through the inclusion of exit clauses) or less enforceable (for example, by introducing more discretion as to when rules must be followed).

¹¹⁴ Galt (2023) finds that New Zealand's income growth was higher in the 20-30 years after these reforms as industries adjusted to changing global prices of our exports and imports and the labour force participation rate increased.

New Zealand's framework uses procedural requirements to ensure that the government's fiscal objectives are transparent, creating a commitment mechanism for them to define sensible fiscal objectives and adhere to them. The framework is premised on governments tending to be more committed to following rules that they have designed.¹¹⁵ New Zealand's current institutional arrangements enable governments to adopt their own fiscal rules as part of the fiscal strategy as long as:

- there is consistency with the principles of responsible fiscal management, including reducing debt to prudent levels and ensuring that total operating expenses do not exceed operating revenue over time
- fiscal strategy reports are published by the Minister of Finance every financial year, including short-term intentions and long-term objectives for specified fiscal indicators, and explaining any changes to the fiscal strategy
- the reasons for any temporary departures from the principles of responsible fiscal management are stated along with the approach and timeframe for returning to adhering to the principles.

These arrangements are supported by the Fiscal Management Approach – a flexible set of rules that supports governments to align their near-term budget decisions with the longer-term goals in their fiscal strategy and imposes fixed nominal limits on baseline spending, which do not automatically increase to adjust for inflation. Within the framework, publicly announced operating allowances are used to manage and prioritise new spending and/or revenue reductions at each budget and to signal their likely path at future budgets.¹¹⁶ This approach promotes transparent and consistent decisions as part of the Budget process.

Despite the specific rules adopted varying across governments, the requirements relating to fiscal rules appear to have contributed to improved fiscal discipline while providing flexibility for fiscal policy to respond to a wide range of shocks and cycles and to pursue a wide range of other policy objectives.

New Zealand's approach to fiscal rules is different to most other advanced economies, which tend to place more weight on legislated numerical rules that multiple governments are required to follow. This approach can lead to greater consistency across governments, which could result in increased public understanding of, and confidence in, the framework. However, this potential benefit has often been undermined by a tendency for the rules to become increasingly complex over time (including to accommodate the preferences of multiple governments). For example, studies of European fiscal rules, where there is a common fiscal rules framework that enables benchmarking, have found a poor track record of compliance in recent decades.¹¹⁷

¹¹⁵ Janssen (2001) sets out the basis for New Zealand's principles-based approach to fiscal rules in more depth. The rationale included:

- a perceived lack of sound theoretical justification for any particular fiscal target
- that judgements about appropriate targets for fiscal aggregates can vary over time and across economic circumstances and the inflexibility of targets would make it difficult for fiscal policy to respond appropriately to changing economic circumstances
- as a consequence, the use of targets could pose a risk to the credibility of fiscal policy
- despite the advances made in transparency of fiscal policy and improving the availability of fiscal information, it was felt that targets could still be evaded.

¹¹⁶ Lomax et al., 2016.

¹¹⁷ Reuter, 2019.

For these reasons, successive reviews of New Zealand’s fiscal rules framework have recommended against introducing legislated rules.¹¹⁸ Nevertheless, based on our review of the international literature and experience, there are several principles that are relevant for the appropriate design of fiscal rules in New Zealand:¹¹⁹

- There is a role for multiple types of rules within the framework. An effective approach is to adopt a medium-term objective to anchor the framework (typically using a debt indicator), supported by operational rules that guide annual budget decisions (typically based around expenditure).
- Flexibility can be incorporated into the design of fiscal rules by using simple exit clauses and tailoring the rigidity of the rule to the degree of control that the government has over the relevant fiscal indicator. Partly for this reason, expenditure limits are becoming increasingly popular as operational rules.¹²⁰
- Compliance with rules is more effectively promoted by using transparency and/or monitoring to increase the reputational costs of not complying rather than through prescriptive legal requirements. Options to maintain strong transparency and monitoring of fiscal policy are surveyed in the next section.

Finally, institutional arrangements can also be used to promote more counter-cyclical fiscal policy. The Treasury has previously investigated a model where Parliament pre-commits to holding surpluses associated with windfalls or business cycle booms in a stabilisation fund and uses the accumulated funds to pay for deficits during recessions.¹²¹ However, this approach was not implemented due to concerns about the difficulty of identifying cyclical or windfall revenue in real time. The current institutional framework supports counter-cyclical policy by requiring governments to adopt fiscal strategies that have regard to interactions between fiscal and monetary policy and that deliver operating surpluses on average over time.

Promoting fiscal discipline through accountability and transparency

As noted above, New Zealand’s fiscal institutions have a strong focus on transparency measures that enable scrutiny of fiscal performance. New Zealand was one of the first countries in the world to move to more transparent accruals-based accounting¹²² and ranks highly in international comparisons of budgetary transparency.¹²³

¹¹⁸ Mears et al., 2010; The Treasury, 2012; Ter-Minassian, 2014.

¹¹⁹ Eyraud et al., 2018b; Brändle & Elsener, 2024.

¹²⁰ Cordes et al., 2015.

¹²¹ Brook, 2011.

¹²² Accrual-based accounting recognises transactions when they occur, which supports informed decision-making and transparency. This differs from cash-based accounting where expenses are recorded when payment is made and revenues are recorded when cash is received.

¹²³ International Budget Partnership, 2025.

Budget publications, including the Treasury's economic and fiscal updates, are a critical source of information for those seeking to monitor fiscal performance. There is a trade-off in these documents between higher levels of transparency and information availability, and plain communication that highlights the most important developments of interest to readers, although this can be overcome through use of different material targeted at audiences that have different levels of expertise. The Treasury is always looking at how it can improve the quality of its budget publications and is considering assessing budget documents using the evaluation tools offered by international institutions.¹²⁴

An important part of the economic and fiscal updates is the publication of specific fiscal risks, which set out all government decisions and other circumstances known to the Treasury whose fiscal implications may have a material effect on the fiscal and economic outlook but are not certain enough on the outcome, timing or quantum to include in the forecasts. Specific fiscal risks are therefore key to a transparent understanding of the potential fiscal performance of the government. In 2024, the Treasury made a number of changes to support a better understanding of specific fiscal risks in the economic and fiscal updates, including:

- updating the principles applied by the Treasury in assessing whether a government decision or other circumstance meets the definition of a specific fiscal risk
- classifying each specific fiscal risk into one of nine risk categories, aligned to the underlying risk driver
- clearer explanations for the expiry of specific fiscal risks since the previous economic and fiscal update.

The ability of the public to apply scrutiny to public expenditure can vary over time. For example, during the COVID-19 period, the previous Government suspended its fiscal rules in the May 2020 Budget and established the COVID-19 Response and Recovery Fund (CRRF) to fund the fiscal response. While the CRRF supported a timely economic response and was supported by the Treasury at the time, it resulted in significant expenditure occurring outside of the operating allowances framework. Subsequent reviews identified that this reduced the ability for the government to monitor the quality of spending and that there was scope to improve the transparency of expenditure charged against the CRRF.¹²⁵

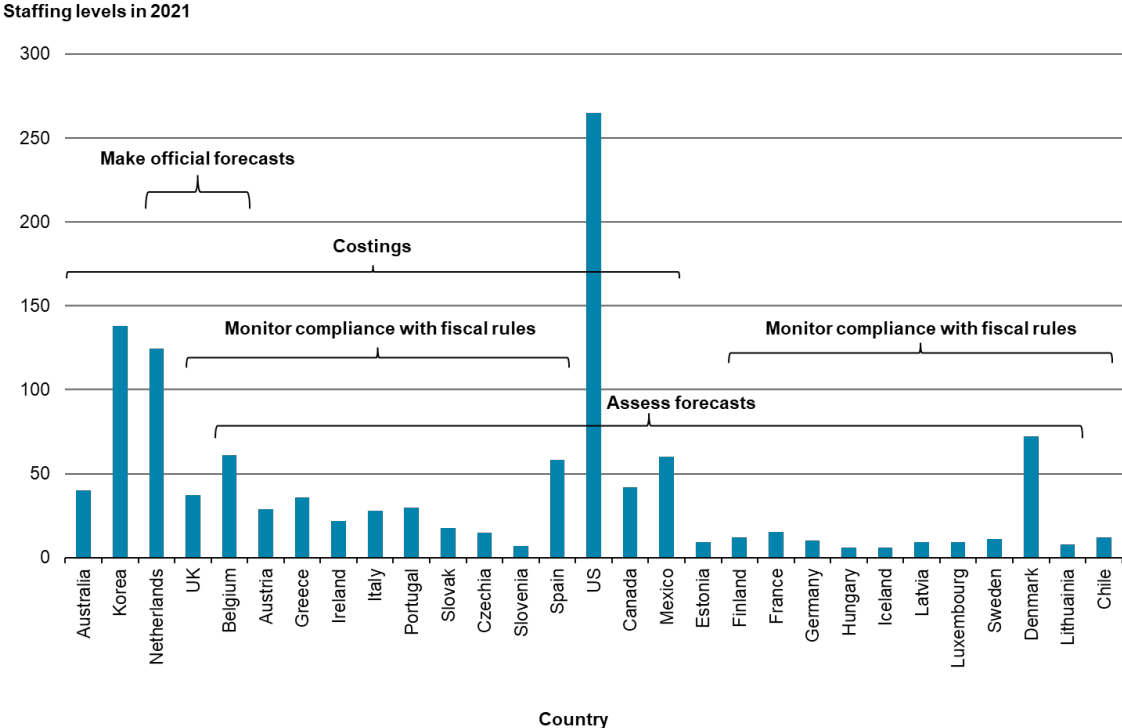
¹²⁴ For example, the International Monetary Fund has a Fiscal Transparency Evaluation tool, which provides countries with a comprehensive assessment of their fiscal transparency practices against the standards set in its Fiscal Transparency Code. These assessments include analysis on the scale and sources of fiscal vulnerability, summaries of fiscal transparency strengths and proposals to address any transparency weaknesses. The OECD has the Spending Better Framework, which sets out the key entities, functions, processes and procedures that combined create quality budget institutions.

¹²⁵ Controller and Auditor-General, 2022.

The possible role of an independent fiscal institution

A more fundamental change to accountability and transparency arrangements would be to establish an independent fiscal institution (IFI). IFIs are increasingly common overseas.¹²⁶ IFIs perform a range of functions that differ widely across countries, as illustrated in Figure 6.2. IFIs may produce the official forecasts, assess (but not produce) the official forecasts, monitor compliance with fiscal rules, produce or comment on long-term fiscal sustainability forecasts, comment on the appropriate stance of fiscal policy, provide budget commentary, including on specific items of expenditure, produce independent analytical research and produce policy costings both for the government and for political parties. The Treasury consulted the public on options to introduce an IFI in New Zealand in 2018,¹²⁷ but the proposal was not progressed.¹²⁸

Figure 6.2: Comparison of independent fiscal institutions’ roles and functions



Source: OECD Independent Fiscal Institutions Database

The outputs from IFIs are publicly available, reducing the costs to members of the public of monitoring fiscal performance while increasing the reputational costs to governments of poor performance. There is some empirical evidence suggesting that IFIs increase fiscal rule compliance and are correlated with more accurate forecasts. However, this evidence is not conclusive.¹²⁹

¹²⁶ Caldera Sánchez et al., 2024. IFIs exist in 30 of 38 OECD countries.

¹²⁷ The Treasury, 2018.

¹²⁸ There are also some historical examples of somewhat independent bodies that reported on and monitored public policy, including the Monetary and Economic Council during the 1960s and 1970s, and the New Zealand Planning Council of the 1970s and 1980s.

¹²⁹ Rawdanowicz, et al., 2021.

Any IFI proposal should look to address the gaps in New Zealand's fiscal framework. The benefits of an IFI producing the economic and fiscal forecasts or undertaking long-term fiscal sustainability analysis may be more limited in the New Zealand context given that the Treasury already produces and publishes such forecasts independently of the government. However, there may be merit in establishing a body whose primary purpose is to undertake independent fiscal scrutiny (a fiscal council) and/or to undertake costings for political parties. This could include commentary on fiscal policy, such as assessing compliance with fiscal rules. The Treasury is not charged with providing the extent of public scrutiny of fiscal policy that some overseas IFIs are. A primary function of the Treasury is to be a trusted advisor to the government of the day, and an increased role in providing independent public scrutiny and commentary could conflict with this function. The recent OECD economic survey of New Zealand provides a discussion of the benefits of introducing an independent fiscal institution.¹³⁰

Opportunities for pre-defining responses to shocks and cycles

Chapter 4 discussed the options for governments to signal their intended strategy for responding to shocks and cycles and to undertake contingency planning to support effective responses. In addition to these measures, bespoke institutional arrangements can be used to pre-commit to the response to specific events and manage the resulting fiscal cost. The Natural Hazards Commission and the Depositor Compensation Scheme, discussed in Chapter 3, are examples of pre-commitments. For example, recent reforms have reviewed arrangements:

- Recent Natural Hazards Commission reforms introduced a requirement for Ministers to publish the government's strategy for funding the scheme and managing the resulting risks to increase transparency on the risk share between levy payers and the Crown balance sheet.¹³¹
- The forthcoming Depositor Compensation Scheme will replace the current arrangements where depositors would share in losses alongside other creditors in the event of a failure. The scheme is fully funded through levies charged to eligible institutions.

Although the governments may still need to provide short-run liquidity, the ongoing fiscal impact of an earthquake or deposit-taker failure is significantly reduced by these schemes.¹³²

There are pros and cons associated with pre-commitments. The benefits of pre-commitments are:

- management of the impact of events on the Crown balance sheet
- clarity on the amount of public support to be provided
- faster access to funding and a more timely public response
- potential to recover costs of providing fiscal support through levies charged to groups that benefit.

¹³⁰ OECD, 2024.

¹³¹ This is done by evidencing the modelling that underpins the levies, the financing structures that manage the timing risk of natural hazard events and the point at which Crown funding will be required should the absolute cost of risk be too high to be repayable.

¹³² This reflects that any payouts under the schemes should be matched by past and future levies charged to beneficiaries. In the absence of a formal scheme, any fiscal response to these shocks would be more likely to be funded by taxpayers.

However, pre-committing the government to future intervention could reduce incentives for the private sector to manage its own risk and have the potential to increase the costs of managing funding and liquidity of the government balance sheet.¹³³

Decisions about the scope of pre-commitments need to carefully weigh the economic costs and benefits, taking into account risks to the Crown balance sheet. Pre-commitments are most likely to have net benefits in these situations:

- There is a strong underlying policy rationale for the government intervening to limit the concentrated impacts of the shock. This will generally require that governments exhaust options to improve risk management incentives such as addressing informational or capability barriers to people being aware of risk.
- Pre-committing is likely to help incentivise private action to reduce risks before shock events rather than to disincentivise private action. For example, pre-commitments can improve incentives where a strong implicit expectation of support is replaced by an explicit and credible commitment to limiting support.
- An event is likely to have large and quantifiable fiscal costs and pre-commitments are expected to smooth their impact on the Crown balance sheet. This will generally require a funding and financing model that manages any mismatch between timing of revenue collection and claims expenses.
- There is a consensus across the political spectrum on the role for government and about how to respond. Pre-commitments should preposition a fiscal response that all parties would support, resulting in a credible commitment that endures in the aftermath of actual events.
- It is efficient or equitable for the costs of the fiscal response to be allocated to those that benefit rather than being funded by taxpayers. In these circumstances, pre-commitment can enable the transfer of the medium-term fiscal costs to third parties that benefit from fiscal support in the event of a crisis. The Depositor Compensation Scheme is an example of a pre-commitment that shifts the cost of fiscal responses onto those that benefit.

¹³³ There are potential diversification benefits and economies of scale associated with managing the Crown's funding and liquidity risk in a more centralised way.

Chapter 7: Next steps

This Briefing has highlighted several areas of focus for future work that would support sustainable and effective fiscal responses to future shocks and cycles. Maintaining high-quality policy frameworks to guide future policy will remain a priority for the Treasury's work programme, and this ongoing work will be informed by feedback through this Long-term Insights Briefing process. There are also important roles that external researchers and the wider public can play in supporting more sustainable policy. The draft Briefing suggests three broad areas of focus.

First, there needs to be a strong understanding of, and confidence in, the fiscal buffers required to respond to future shocks and cycles. The evidence base from this Briefing about the fiscal costs of future shocks and cycles – adjusted for feedback from the consultation process and taking into account the findings of external researchers – will inform the Treasury's ongoing work on fiscal strategy. This includes providing advice on fiscal sustainability targets, the calibration of the fiscal strategy in order to achieve those targets and how fiscal policy should be deployed in response to future events.

Building sufficient buffers to respond to future shocks and cycles is likely to require ongoing fiscal consolidation, implying difficult trade-offs for future governments. The Treasury will continue to encourage public discussion and debate about how to respond to the challenge of maintaining fiscal sustainability, including through the forthcoming Long-term Fiscal Statement.

Second, institutional frameworks for fiscal policy are critical. Although our fiscal institutions are well regarded internationally and are a source of resilience, maintaining their quality will require ongoing stewardship. Economic and fiscal updates must make each government's choices about how to respond to shocks and cycles transparent. There is a critical role for Parliament, expert stakeholders and the wider public to provide scrutiny of fiscal responses and hold governments to account for achieving their fiscal strategy, based on this information. Further exploration of the costs and benefits of a suitably resourced independent fiscal institution in providing scrutiny of the fiscal strategy has merit, and the Treasury will continue to research frameworks for fiscal rules and targets and pre-commitments for specific shocks.

Finally, there is more work that can be done to prepare for responses to future shocks and cycles, informed by the broad findings of the Briefing on the appropriate role of fiscal policy. Governments can do more, supported by the public sector, to clarify and communicate how they will respond to different types of shocks, including through working with external stakeholders to develop contingency plans for specific shocks. The Treasury also intends to continue to analyse promising fiscal tools and to work with the Reserve Bank to better understand the respective strategies of fiscal and monetary policy in different economic scenarios.

The Treasury looks forward to submissions on the issues discussed in this Briefing. We also encourage you to read our next Long-term Fiscal Statement and Investment Statement when these are released towards the end of the year. These three reports all raise important questions around how we want to use fiscal policy to raise living standards for all New Zealanders.

Annex 1: The effective lower bound and additional monetary policy

Overview

Additional monetary policy (AMP) tools sit within the Reserve Bank's monetary policy toolkit. They raise particular challenges for macroeconomic stabilisation and policy coordination. There are several key issues to consider when comparing the use of AMP tools against fiscal tools for a given economic shock, including relative policy effectiveness and the Crown balance sheet impacts. However, there are some key lessons that have been learned from the recent experience during the COVID-19 shock:

- New Zealand's economy can be subject to the effective lower bound (ELB). There is a lower bound beyond which monetary policy becomes less effective.
- AMP tools can loosen monetary policy beyond what would otherwise be the lower bound but their limits and impacts are more uncertain compared to using the Official Cash Rate (OCR).
- The fiscal risks of AMP tools can be significant. In particular, Large Scale Asset Purchases (LSAPs) impact fiscal aggregates by altering the duration of the Crown's liabilities.

Therefore, fiscal policy-makers need to consider using fiscal policy to support macroeconomic stabilisation if monetary policy approaches its limits in the future. In any specific episode, there would need to be careful consideration of the potential costs, benefits and risks of potential monetary and fiscal policies for macroeconomic stabilisation alongside macrofinancial stability. Fiscal policy-makers exert significant influence over the fiscal-monetary mix, as the Reserve Bank's Monetary Policy Committee (MPC) will independently assess the implications of the fiscal stance for monetary policy.

The role of AMP tools

Monetary policy is crucial for macroeconomic stabilisation. In New Zealand's institutional framework, the MPC holds legislative responsibility for achieving medium-term price stability, which is given operational effect through the setting of the inflation target in the MPC remit. As part of achieving price stability, the remit requires that the MPC shall seek to avoid unnecessary instability in output, employment, interest rates and the exchange rate and have regard to financial stability. The main tool for implementing monetary policy is the OCR. However, there are times when the OCR cannot go low enough to provide sufficient monetary stimulus to achieve its price stability mandate. In these conditions, the MPC could use AMP tools as a supplement to the OCR, as occurred during the COVID-19 pandemic. AMP tools, some of which have already been operationalised, include LSAPs (also known as quantitative easing) and term lending operations. Additional AMP tools may be operationalised or developed in the future.

Fiscal-monetary interactions

Fiscal and monetary policy interactions matter for stabilisation, especially when considering AMP tools. Fiscal sustainability and avoiding fiscal dominance are crucial underpinnings for price stability.¹³⁴ Moreover, with an independent, inflation-targeting central bank and floating exchange rate, fiscal policy has significant influence over the mix of fiscal and monetary policies. This is because monetary policy considers the range of pressures that are affecting the inflation outlook, including the fiscal stance. Fiscal policy-makers can therefore set the fiscal stance with an anticipation for how monetary policy will respond.¹³⁵ Fiscal policy-makers have a broad understanding of the central bank's inflation-targeting reaction function. Expansionary fiscal policies could reduce the likelihood of the central bank needing to deploy the AMP tools in a severe economic shock.

The use of some AMP tools can create direct fiscal-monetary interactions due to their quasi-fiscal nature. These interactions occur via the impact on the Reserve Bank's balance sheet, which is part of the Crown's balance sheet. Therefore, such tools may create fiscal gains or losses and share some characteristics with policies that are traditionally viewed as fiscal policy such as debt management. A distinguishing feature of AMP tools is that they are subject to the MPC's operationally independent decision-making and shape expectations about current and future monetary conditions. In some instances, the use of AMP tools can also play a market functioning role in support of the Reserve Bank achieving its statutory requirement to protect and promote the stability of New Zealand's financial system.

AMP tools pose coordination challenges for the balance sheet operations of central banks and public debt managers as their objectives may conflict. Therefore, clear governance arrangements are needed to ensure accountability while preserving central bank independence over monetary policy decisions.¹³⁶ There are a range of approaches internationally to solving these coordination challenges while preserving operational independence of monetary policy.¹³⁷ During the COVID-19 pandemic, New Zealand adopted arrangements to ensure there was not fiscal dominance while enabling appropriate information sharing between operational units in the Treasury and the Reserve Bank. In particular, the Reserve Bank's LSAP programme only purchased government bonds on secondary markets to limit the risk of perceived monetisation of fiscal deficits. In addition, a Crown indemnity safeguarded the strength of the Reserve Bank's balance sheet. The Reserve Bank maintains a policy framework that governs the use of AMP tools, guided by the principles around financial risk in its risk appetite statement.¹³⁸

¹³⁴ Fiscal dominance occurs when fiscal policy exerts pressure on monetary policy to adopt a certain stance. For example, if a government accumulates significant levels of debt, there may be pressure on the central bank to keep interest rates low.

¹³⁵ In this sense, fiscal and monetary interactions can be seen as a Stackelberg game where the Treasury is the leader and central bank is the follower. Bean, 2009; Brook, 2012.

¹³⁶ Buckle, 2023.

¹³⁷ International Monetary Fund, 2024a.

¹³⁸ Kengmana, 2021.

The effective lower bound

The ELB on the policy interest rate is the lowest level that it could be set beyond which any further policy rate cuts would not be effective in achieving price stability. Aside from operational or legal constraints, the ELB exists because households and businesses can potentially withdraw physical cash to avoid paying deeply negative interest rates on bank deposits. In principle, the ELB could be eliminated through changes in the arrangements for physical currency. Some international economists have advocated for removing physical currency or other changes to currency arrangements that directly address this constraint.¹³⁹ However, there remains considerable public demand to retain physical currency.¹⁴⁰ Other economists have proposed lifting inflation targets to reduce the likelihood of interest rates needing to reach the ELB.¹⁴¹ These options would entail costs and risks as well as macroeconomic stability benefits. In practice, there is little prospect of the ELB being eliminated in New Zealand or other economies in the near future.

The lowest that the OCR has reached in New Zealand was 0.25% during 2020 and 2021. Operational constraints in the banking sector prevented the OCR from being set at negative levels. These operational constraints have now been addressed, and the Reserve Bank has indicated that a negative OCR would be feasible though has not yet stated precisely how negative it considers the OCR could go.

Moderately negative interest rate policies (NIRPs) can be effective. NIRPs have been deployed by a range of central banks since 2012. In particular, the European Central Bank and some other European central banks have set their policy interest rates as low as -0.50% to -0.75%, suggesting the ELB could be at some slightly negative level. The evidence so far suggests that NIRPs were broadly effective in achieving their objectives by reducing market interest rates without causing unintended consequences for financial stability.¹⁴²

However, some central banks have avoided NIRPs due to institutional constraints or country-specific financial system characteristics. Further monetary policy stimulus can also be provided at the ELB through forward guidance about the future path of the OCR. However, central banks will tend to be cautious about providing extensive forward guidance during periods of uncertainty as the appropriate stance of monetary policy is ultimately data-dependent.¹⁴³

There is a material risk that the ELB could become binding in the future. The probability of the OCR needing to reach the ELB depends on a range of factors: the neutral interest rate, inflation target, level of ELB and the economy's risk exposure. The Treasury's research finds that the probability of hitting the ELB at least once in the next 40 years is around 45% based on current assumptions for the neutral interest rate and other variables.¹⁴⁴ If a smaller gap between the neutral interest rate and ELB emerges, as was the case at the onset of the COVID-19 pandemic, the probability of the OCR hitting the ELB at least once in the next

¹³⁹ Rogoff, 2017.

¹⁴⁰ Reserve Bank of New Zealand, 2024c. In a survey of 18,000 New Zealanders about digital cash, 84% of respondents expressed concern about losing access to physical cash.

¹⁴¹ Blanchard et al., 2010.

¹⁴² Gelos, 2021.

¹⁴³ Reserve Bank of Australia, 2022; Reserve Bank of New Zealand, 2022.

¹⁴⁴ Binning (2025) forthcoming. This assumes there is 350 basis points from the long-run neutral interest rate to the ELB, which is consistent with a nominal neutral interest rate of around 3% and the OCR being able to reach moderately negative levels.

40 years could be as high as 95%.¹⁴⁵ Therefore, it is important for fiscal policy-makers to take account of this potential constraint on the OCR. The appropriate role of fiscal policy at an ELB episode will also depend on the relative use and effectiveness of AMP and fiscal macro stabilisation tools for any given type of economic shock.

Monetary policy options at the ELB

The MPC has options if the OCR again approaches the ELB. In addition to providing forward guidance on the future path of the OCR, the MPC can use a range of balance sheet tools such as lending programmes, LSAP programmes or foreign exchange intervention to provide further stimulus. These tools work through similar channels to conventional monetary policy (namely by placing downward pressure on interest rates and/or the exchange rate) and can complement a negative OCR. Very low interest rates may create concerns for policy-makers – for example, financial stability concerns (such as the search for yield) and distributional concerns (such as from asset price appreciation). Fiscal policy-makers need to weigh up these factors against the potential benefits and costs of using direct fiscal policies to provide stimulus as is the case for monetary easing using both conventional and AMP tools. The distinct issues for comparing AMP tools against fiscal policies is their relative effectiveness for a given economic outlook and balance sheet implications.

AMP tools can be effective in supporting monetary policy objectives, although there remains uncertainty about the size and timing of impacts. For example, LSAPs have a clear role in addressing financial market dysfunction, but their impacts outside of this situation have proven harder to estimate. The Reserve Bank's research suggests the LSAP programme was effective at reducing long-term interest rates by 50-100 basis points, although there appears to have been decreasing marginal gains from each additional expansion of the upper limit of the LSAP programme over time.¹⁴⁶ The Reserve Bank also found that its Funding for Lending Programme was effective in causing modest reductions in interest rates.¹⁴⁷ Internationally, there are a wide range of estimates of the effectiveness of LSAP programmes that depend on the specifics of the episode studied and research method.¹⁴⁸

Fiscal impacts of AMP tools

Unlike adjustments in the OCR, the use of AMP tools such as LSAPs can directly influence the duration profile of the Crown's liabilities and therefore the risk profile of the Crown's balance sheet. The balance of risk requires a careful analysis, which should be conducted ex ante before tools are deployed. Although fiscal considerations are not the objective of monetary policies, a risk analysis should inform the design of policies. For example, bond purchases increase the sensitivity of the Crown's interest expenses to movements in interest rates with both upside and downside risks, but the risks may not be symmetric and there may be a considerably larger impact on longer-maturity bonds compared to shorter-maturity bonds. The fiscal risks are also likely to be lower where bonds are purchased during periods of financial market dysfunction, as bond prices tend to be discounted at these times.

¹⁴⁵ A 95% probability arises if there is only 200 basis points from the long-run neutral interest rate to the ELB.

¹⁴⁶ Reserve Bank of New Zealand, 2022.

¹⁴⁷ Nolan & Tong, 2022.

¹⁴⁸ Fabo et al., 2021.

Risk of unnecessary financial losses form part of the Reserve Bank's set of considerations when using AMP tools, with others including the soundness of the financial system and operational readiness. This is consistent with the MPC's low appetite for undertaking policies that expose it to unnecessary financial risk, including policies that result in avoidable financial losses for the Reserve Bank or the Crown, as outlined in the MPC's risk appetite statement.¹⁴⁹

The direct fiscal gains and losses are marked to market in the Crown financial statements. As an example of what this means for the Crown's accounts, New Zealand's LSAP programme effectively substituted the Crown's fixed rate borrowing for floating rate borrowing. As the OCR rose to contain the rise in inflation, the valuation of the bonds purchased under the programme fell below what the Reserve Bank paid for them, and the cost of maintaining the LSAP bond portfolio increased commensurately with the increase in the OCR. Interest rate losses from the LSAPs undertaken during COVID-19 are estimated to be \$10.5 billion as of February 2025 although this figure does not account for the offsetting benefits of the effect of LSAPs on lowering government interest costs or raising tax revenue by supporting economic activity.

¹⁴⁹ Reserve Bank of New Zealand, 2024d.

Annex 2: Large weather event scenario modelling

We have modelled several scenarios that assume New Zealand experiences a large weather event of a given severity in a period of strong economic activity where inflation is high and capacity is constrained. For a given assumed event, we model varying levels of fiscal response to reflect options governments have on how to leverage fiscal policy to respond to these events within the context of broader macroeconomic conditions. We have used the Treasury's forecasting model (Matai) and Fiscal Strategy Model to undertake this analysis.¹⁵⁰

We have used the North Island weather events of 2023 to calibrate our modelled scenarios given their relative size as a collective weather event in recent New Zealand history.¹⁵¹ There is also information held by the Treasury on the associated fiscal response. However, while the North Island weather events and associated fiscal response at the time have been used to calibrate our analysis, none of the scenarios presented in this report are wholly representative of those events or any associated response. Scenario construction has also required multiple intentional simplifications and abstraction. The outputs of our analysis should therefore be treated as illustrative rather than precise or predictive. All dollar amounts are in 2023 dollars.

Event severity

Our modelled scenarios assume one of two levels of severity regarding the impact of the large weather event. Our base severity assumption is that the impacts of the event are roughly equivalent to those of the North Island weather events. We also consider scenarios in which the impact of the event is assumed to be twice the baseline. This '2x' severity assumption is based on consultation with members of the climate research community who have advised that the impacts of an event that is comparable in nature to the North Island weather events could plausibly be at least two times as severe depending on what locations are impacted.^{152 153}

¹⁵⁰ These scenarios and policy responses were modelled using shocks to capture some of the potential direct economic impacts of a large weather event as well as the potential responses of households, businesses and governments.

¹⁵¹ The North Island weather events were the combination of the Auckland Anniversary floods and ex-tropical Cyclone Gabrielle that hit the central and upper North Island. These two storm/flooding events occurred in very close succession in January and February 2023.

¹⁵² An event with the equivalent scale of Cyclone Gabrielle is expected to occur on average every 30-40 years, with roughly an 80% likelihood of occurring in the next 50 years. Over time, climate change is expected to increase the severity of such events.

¹⁵³ This advice provided by members of the climate research community was based on the assumption that the modelled weather event occurred at the time the advice was provided. The severity and associated economic consequences of events further in the future (10, 20 or 30 years, for example) is likely to be different given the expectation that climate change will increase the severity of such events, that there may be a different mix of assets and that their exposure levels may vary (including with respect to insurance coverage). The Treasury thanks Ilan Noy, Belinda Storey, David Frame, Daithi Stone and Thomas Wilson for providing their advice and assistance.

Fiscal responses

For any given shock, the government has choices about the scale and nature of its policy response. Some choices are likely to be more discretionary than others. For example, in response to a large weather event shock, decisions about repairs to Crown assets are likely less discretionary than the scale and nature of any economic and social supports or potential contribution to any post-event risk reduction measures (including flood resilience or retreat-related support). To illustrate the potential implications of some of these choices, we have modelled three different fiscal policy responses, each with a different focus:

- **Restoring damaged public assets:** This is our smallest modelled policy response. It has a focus on expenditure that is likely to be less discretionary under current system settings.
- **Mitigating economic and social disruption:** This includes the costs of restoring damaged public assets while also assuming additional expenditure focused on addressing economic and social disruption (such as to address basic needs and mitigate financial hardship).
- **Building in future resilience:** This includes all other expenditure in the two responses above while also assuming additional investment to increase resilience to future weather shocks. Such expenditure represents a relatively high degree of discretion as it goes beyond remediating the impacts of the large weather event (such as through like-for-like replacements of damaged assets) and reflects decisions to pursue improvements on pre-event levels of resilience in order to reduce future risk.

Table A2.1 provides additional detail on these scenarios, including the assumed fiscal cost (combined operating and capital expenditure). It is assumed that these costs are spread across the six-year modelled period, with most of the spending occurring in the first three years. For the scenarios where the impact of the modelled event is assumed to be two times as severe as the baseline, we scale the assumed overall fiscal response cost by a factor of 2. To inform our macroeconomic modelling, we assume these fiscal responses are positive shocks to government consumption and business investment.¹⁵⁴

¹⁵⁴ We assume a 25/75 split across government consumption and business investment, reflecting the capital-intensive nature of the responses.

Table A2.1: Types of government fiscal responses

Scenario focus	Description	Examples of components of each response	Assumed fiscal cost (cumulative)
Restoring damaged public assets	The government focuses its response on restoring damaged Crown-owned assets (including transport assets) and local roading assets, alongside any statutorily required response.	<ul style="list-style-type: none"> Reinstating damaged Crown-owned assets and local roads. Contributions to local authority response and recovery costs, including 60% of costs of reinstating essential damaged local infrastructure. Payouts on Natural Hazards Commission insurance claims for land damage. Basic provision of temporary accommodation support. 	<i>Base severity:</i> \$3.18 billion <i>2x severity:</i> \$6.35 billion
Mitigating economic and social disruption	In addition to restoring damaged public assets, the government pursues additional response interventions to mitigate the local economic and social impacts of the event.	In addition to the above: <ul style="list-style-type: none"> Further contributions to local authority response and recovery costs, including to costs of the clean-up. Additional supports to meet basic needs and mitigate financial hardship, including larger-scale temporary accommodation support. Financial support for affected businesses. Top-up of Crown resourcing for post-emergency management functions. 	<i>Base severity:</i> \$4.41 billion <i>2x severity:</i> \$8.82 billion
Building in future resilience	In addition to all the interventions associated with the other two responses, the government pursues measures to reduce risk in affected locations from future events.	In addition to the above: <ul style="list-style-type: none"> Improving the resilience of Crown-owned assets and infrastructure and local roads. Measures to mitigate future hazard risk facing affected communities, including contributions to flood management interventions and retreat-related support. 	<i>Base severity:</i> \$6.55 billion <i>2x severity:</i> \$13.1 billion

Assumed baseline scenario

The Treasury’s models require assumptions around a baseline scenario against which any economic or fiscal shocks can be considered. With respect to timing of the large weather event within broader economic conditions, we assume it occurs when supply in the economy is constrained by strong domestic activity. This has been done to show how fiscal policy can be constrained by the state of the economy at the time the event occurs and how events like these can exacerbate pre-existing macroeconomic imbalances. The large weather event and associated responses are therefore overlaid on a baseline scenario where strong domestic activity leads to a large positive output gap, low unemployment and inflation peaking at 3.7% on an annual basis around a year after the weather event is meant to occur.

Direct economic impacts (excluding fiscal response)

We have used the Matai model to consider the implications of non-fiscal responses related to economic shocks associated with a large weather event.¹⁵⁵ We have used the Treasury's preliminary estimates of the economic impacts of the North Island weather events to calibrate the following economic shocks. Our specific assumptions are outlined below:¹⁵⁶

- **Output losses:** ~\$1 billion reduction in goods exports over the modelled period (reflects lost production).
- **Impacts on private residential investment:** ~\$1.5 billion increase to residential investment over the modelled period (reflects that residential investment is expected to increase due to the rebuild).
- **Damage and destruction of physical assets:** ~\$1 billion increase in business investment over the modelled period (reflects the purchase of replacement goods and additional services).

Modelling results – economic and fiscal impacts

Economic impact

The modelling suggests that the macroeconomic impact of a large weather event and any associated fiscal response would mostly be felt through higher interest rates. In our baseline severity scenario, modelled interest rates are on average 0.1-0.3 percentage points higher than the baseline scenario when the direct impacts and the fiscal responses are incorporated (see Table A2.2). This increase to interest rates leads to the impacts on GDP, unemployment and inflation being relatively small.

Table A2.2: Impact on economic variables compared to baseline scenario, by response and severity

Policy response	Restoring damaged public assets		Mitigating economic and social disruption		Building in future resilience	
	Base	2x	Base	2x	Base	2x
Event severity (fiscal size, cumulative, nominal)	Base (\$3.2 billion)	2x (\$6.4 billion)	Base (\$4.4 billion)	2x (\$8.8 billion)	Base (\$6.6 billion)	2x (\$13.1 billion)
Cumulative real GDP impact (in \$2009/10)	+\$1.0 billion	+\$1.9 billion	+\$1.1 billion	+\$2.3 billion	+\$1.5 billion	+\$3.1 billion
Unemployment, average	<-0.1 pp	-0.1 pp	<-0.1 pp	-0.1 pp	-0.1 pp	-0.1 pp
CPI, average	<+0.1 pp	<+0.1 pp	<+0.1 pp	<+0.1 pp	<+0.1 pp	<+0.1 pp
90-day rate, average	+0.1 pp	+0.2 pp	+0.1 pp	+0.2 pp	+0.1 pp	+0.3 pp

¹⁵⁵ The destruction of capital is not directly captured in this modelling and is instead implicit in the negative shock to output and the positive shocks to residential and business investment.

¹⁵⁶ All nominal amounts are doubled for the 2x severity scenarios.

Figure A2.1: Annual real GDP

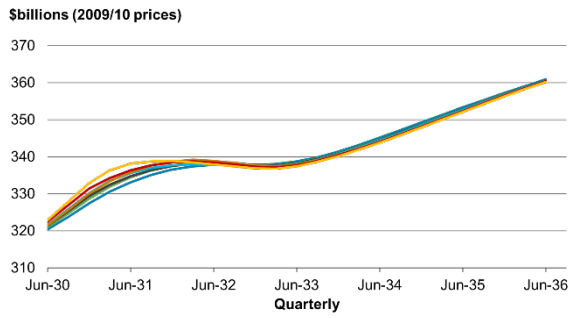


Figure A2.2: Unemployment rate

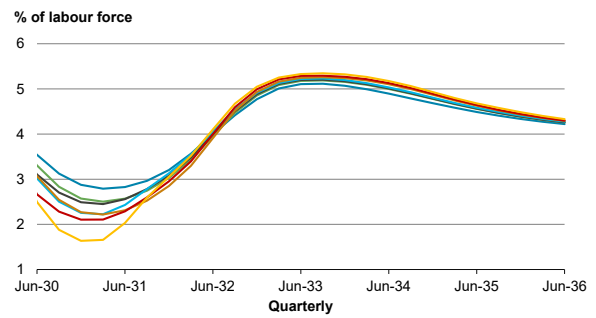


Figure A2.3: Annual inflation

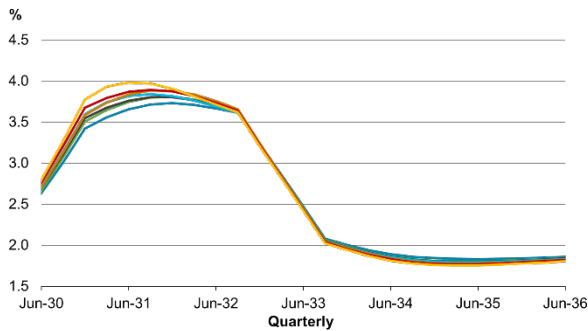
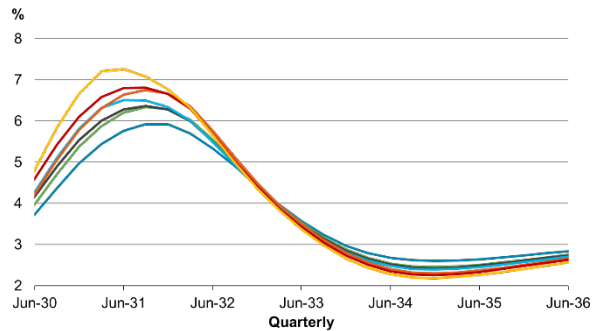


Figure A2.4: 90-day interest rate



- Upside scenario with no weather event
- Mitigating economic and social disruption (base severity)
- Restoring damaged public assets (2x severity)
- Building in future resilience (2x severity)
- Restoring damaged public assets (base severity)
- Building in future resilience (base severity)
- Mitigating economic and social disruption (2x severity)

Fiscal impact

We use the economic indicator outputs from Matai along with our assumptions around the fiscal response to consider implications for the broader fiscal position through the Fiscal Strategy Model (see Table A2.3 and Figures A2.5 and A2.6). As a simplifying assumption, we have assumed that any fiscal response on behalf of the government is supported by an increase in Crown borrowing.¹⁵⁷

Table A2.3: Impact on fiscal variables compared to baseline scenario, by response and severity

Policy response	Restoring damaged public assets		Mitigating economic and social disruption		Building in future resilience	
	Base	2x	Base	2x	Base	2x
Event severity (fiscal size, cumulative, nominal)	Base (\$3.2 billion)	2x (\$6.4 billion)	Base (\$4.4 billion)	2x (\$8.8 billion)	Base (\$6.6 billion)	2x (\$13.1 billion)
Cumulative OBEGAL impact (nominal)	-\$2.4 billion	-\$5.0 billion	-\$3.7 billion	-\$7.7 billion	-\$6.7 billion	-\$14.4 billion
Net debt at scenario end, as % of GDP	0.6 pp higher	1.3 pp higher	0.9 pp higher	1.9 pp higher	1.4 pp higher	3.1 pp higher

¹⁵⁷ The extent to which the government wishes to borrow to fund such a response versus supporting it through other levers (such as adjustments to other expenditure and/or revenue sources) is a choice for the government of the day.

Figure A2.5: Change in OBEGAL as % of GDP compared to baseline scenario without weather event

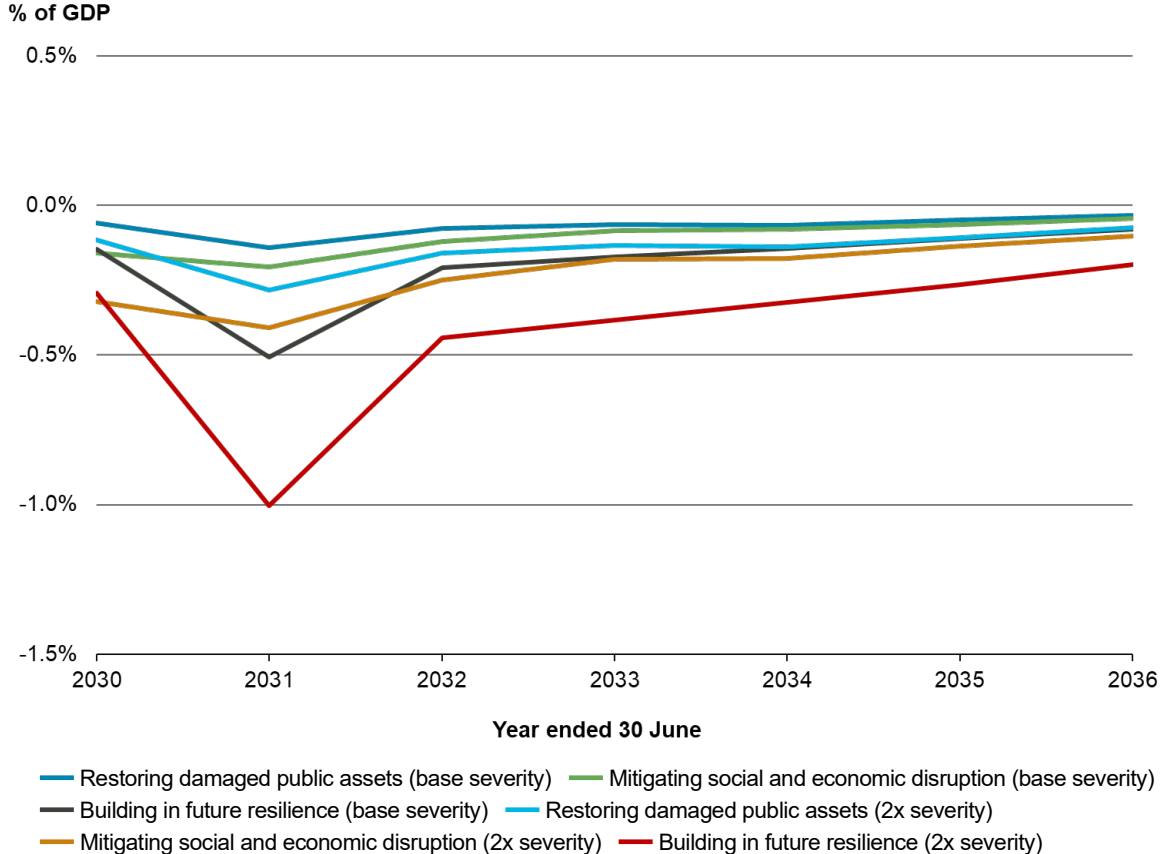
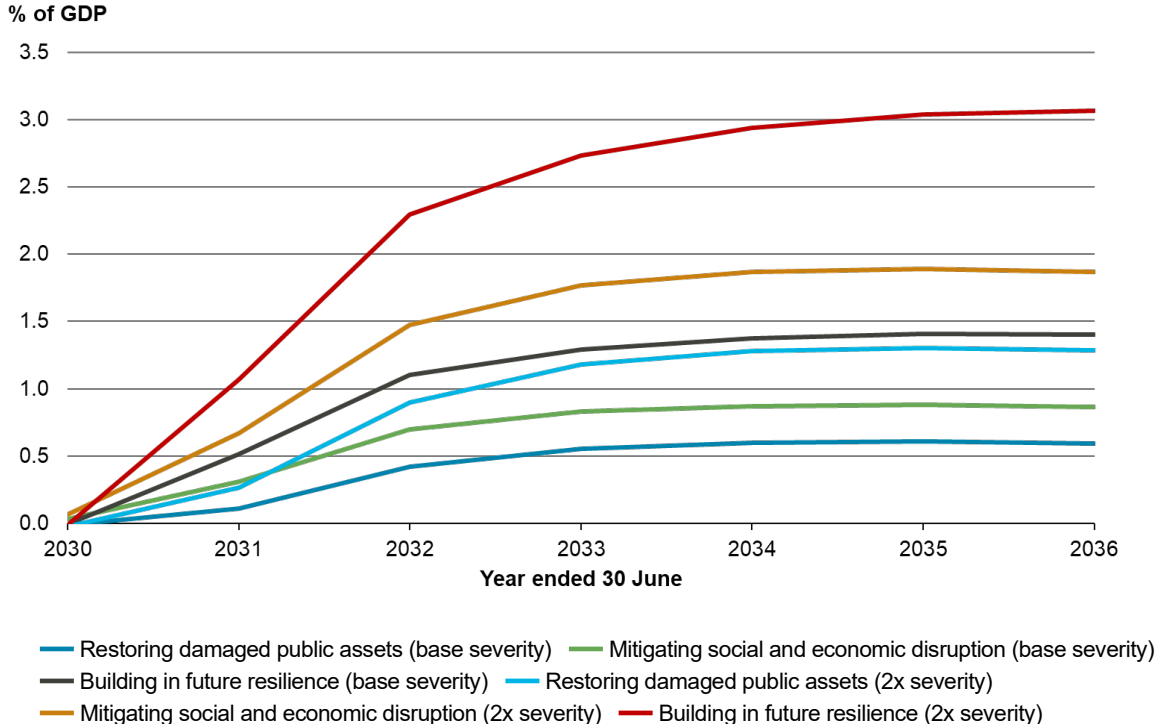


Figure A2.6: Change in net debt as % of GDP compared to baseline scenario without weather event



Under the baseline severity assumption, Figure A2.6 shows that a fiscal response with a focus on mitigating economic and social disruption (in addition to core spending to restore damaged public assets) could result in an additional 0.3 percentage point increase of net debt as a percentage of GDP. A response that incorporates additional expenditure on building in future resilience could increase this again by 0.5 percentage points. Notably, the impact of a choice to undertake the largest policy response compared to the smallest is just over double and therefore is slightly greater than the fiscal implication of a choice to pursue the smallest policy response under an event where impacts were twice as severe.

While this analysis highlights how the severity of a weather event can have implications for the fiscal position, what is particularly insightful is the implication policy choice can have on fiscal outcomes. This is heightened regarding choices to invest beyond restoring assets to prior levels of service and underlines the importance of future adaptation policy choices, including around approaches to post-event response.

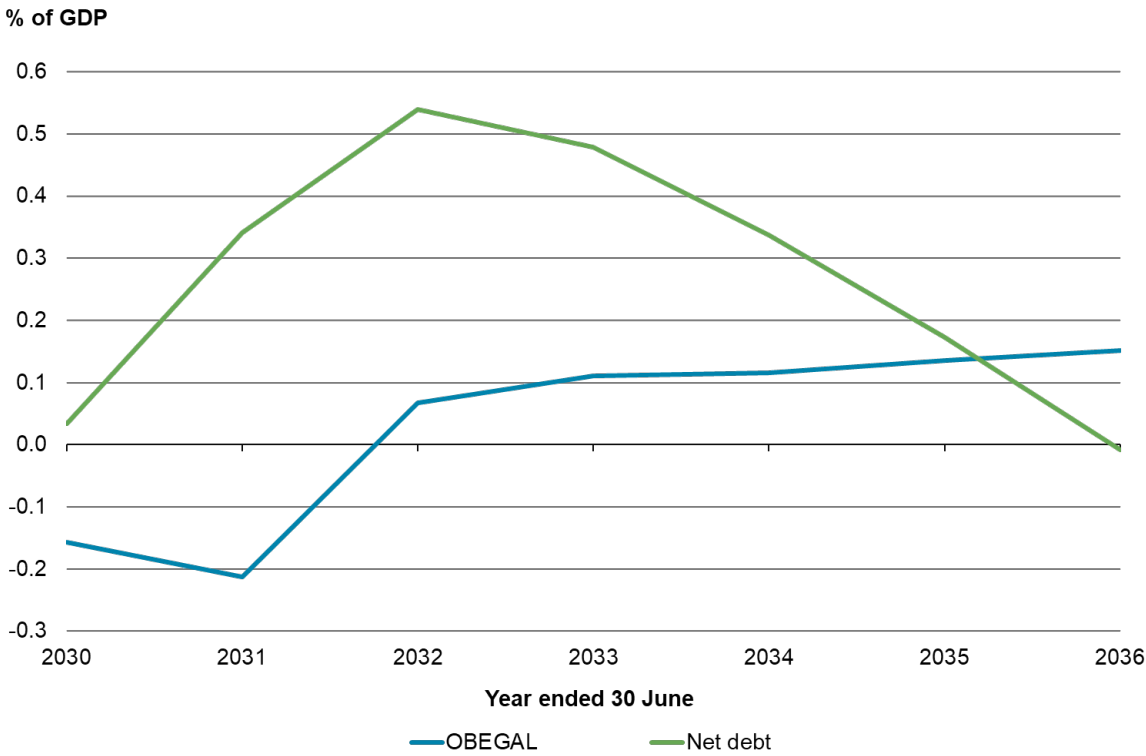
Policy choice can have significant implications for both fiscal and economic costs

As with other shocks, governments not only have choices in how to respond but also how any response is funded. This includes choices around the extent to which additional revenue is raised (and from where) or debt is increased. As a sensitivity test, we have remodelled an event of baseline severity with the mitigating economic and social disruption response, but rather than assume the response is entirely funded by increases in debt, we have assumed a general increase in taxes funds the response.¹⁵⁸ Under this scenario, the impact of the weather event on growth, inflation and unemployment and the fiscal response are largely minimised, while net debt to GDP at the end of the scenario is similar to that of the counterfactual scenario where there is no weather event.

There is merit in considering options to fund these costs beyond general taxation – for example, a prepaid levy with a focus on meeting costs from future damage and any retreat-related support. Taking a prepaid approach would still have implications for OBEGAL but would mean the impact on net debt would be much less (see Figure A2.7), therefore lessening the impact of these types of shocks on the Crown’s fiscal buffer. As referenced in Chapter 6, there can be benefits associated with pre-commitments, but they need to be carefully considered within the context of the extent to which they reduce incentives for the private sector to manage its own risk. These considerations are particularly important within the context of choices regarding post-event response.

¹⁵⁸ Note that this decision to fund a response through a general increase in tax rates is meant to illustrate the funding of a fiscal response and is not indicative of how such a response would actually be funded. In this scenario, the increase in taxes occurs two years after the large weather event. This delay means that in the first two years, the response has a negative impact on OBEGAL and is funded by debt. However, in subsequent years the increase in taxes has a positive impact on OBEGAL, covering for both the cost of the response in the later years and repaying the debt accrued during the first two years.

Figure A2.7: Change in OBEGAL and net debt as % of GDP compared to baseline scenario without weather event



The analysis in this annex also focuses on the implications of policy choice on economic and fiscal indicators immediately following the realisation of a large weather event shock. However, it is important to note that investment undertaken today focused on building future resilience can help mitigate the extent of fiscal cost required when future shocks are realised. For example, if event recovery invests in building the resilience of Crown-owned infrastructure, the damage done to that infrastructure in the next event may be reduced.

Decisions around post-event response to large weather events within the broader context of climate change and adaptation strategy therefore adds complexity to the scenarios modelled here and further underlines the importance of choices around policy response.

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