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FOREWORD

This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of New Zealand were reviewed by the Committee on 12 March 2024. The draft report was then revised in light of the discussions and given final approval as the agreed report of the whole Committee on 24 April 2024.

The Secretariat's draft report was prepared for the Committee by David Haugh, Charles Dennery and Axel Purwin, under the supervision of Vincent Koen. Research assistance was provided by Axel Purwin, and editorial support by Sisse Nielsen. The thematic chapter, Ensuring the tide lifts all boats: Improving quality and equity in schools across New Zealand, was authored by David Haugh, Axel Purwin and Paulo Santiago (Directorate for Education and Skills), the chapter Macroeconomic developments and policy challenges was authored by Charles Dennery, David Haugh and Axel Purwin, the chapter Revamping Competition was authored by Charles Dennery, and the chapter A fight on two fronts: Adapting to Climate Change and reducing GHG emissions was authored by David Haugh.

The previous Survey of New Zealand was issued in January 2022.

Information about the latest as well as previous Surveys and more details about how Surveys are prepared is available at www.oecd.org/eco/surveys.

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Glossary of acronyms

Acronyms	Terms
ADHD	Attention Deficit/ Hyperactivity Disorder
CDR	Consumer Data Right
CIPs	Curriculum Insights and Progress Study
CMA	United Kingdom Competition and Markets Authority
DIRA	Dairy Industry Restructuring Act
e-asTTle	Electronic Assessment Tool for Teaching and Learning
EECA	Energy Efficiency and Conservation Authority
ECEC	Early Childhood Education and Care
EFTPOS	Electronic Fund Transfer at Point of Dale
EITE	Emissions Intensive Trade Exposed
ERO	Education Review Office
EQC	Earthquake Commission
ETS	New Zealand Emissions Trading Scheme
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IMF	International Monetary Fund
GWP	Global Warming Potential
IEA	International Energy Agency
ISO	International Organisation for Standardization
IT	Information Technology
ITE	Initial Teacher Education
MBIE	Ministry of Business, Innovation and Employment
NDCs	Nationally Determined Contributions
NDD	Neurodevelopmental disorders
NMSSA	National Monitoring Study of Student Achievement
MRV	Measurement, Reporting and Verification
NZCC	New Zealand Commerce Commission
NZCCC	New Zealand Climate Change Commission
NZD	New Zealand Dollar
NZPC	New Zealand Productivity Commission
OECD	Organisation for Economic Co-operation and Development
PATs	Progressive Achievement Tests
PCE	Parliamentary Commissioner of Environment
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
RBNZ	Reserve Bank of New Zealand
R&D	Research and Development
RMA	Resource Management Act
SES	Socio-economic Status
SOEs	State-Owned Enterprises
TFP	Total Factor Productivity
TIMSS	Trends in International Mathematics and Science Survey
UNFCC	United Nations Framework Convention on Climate Change

Country acronyms

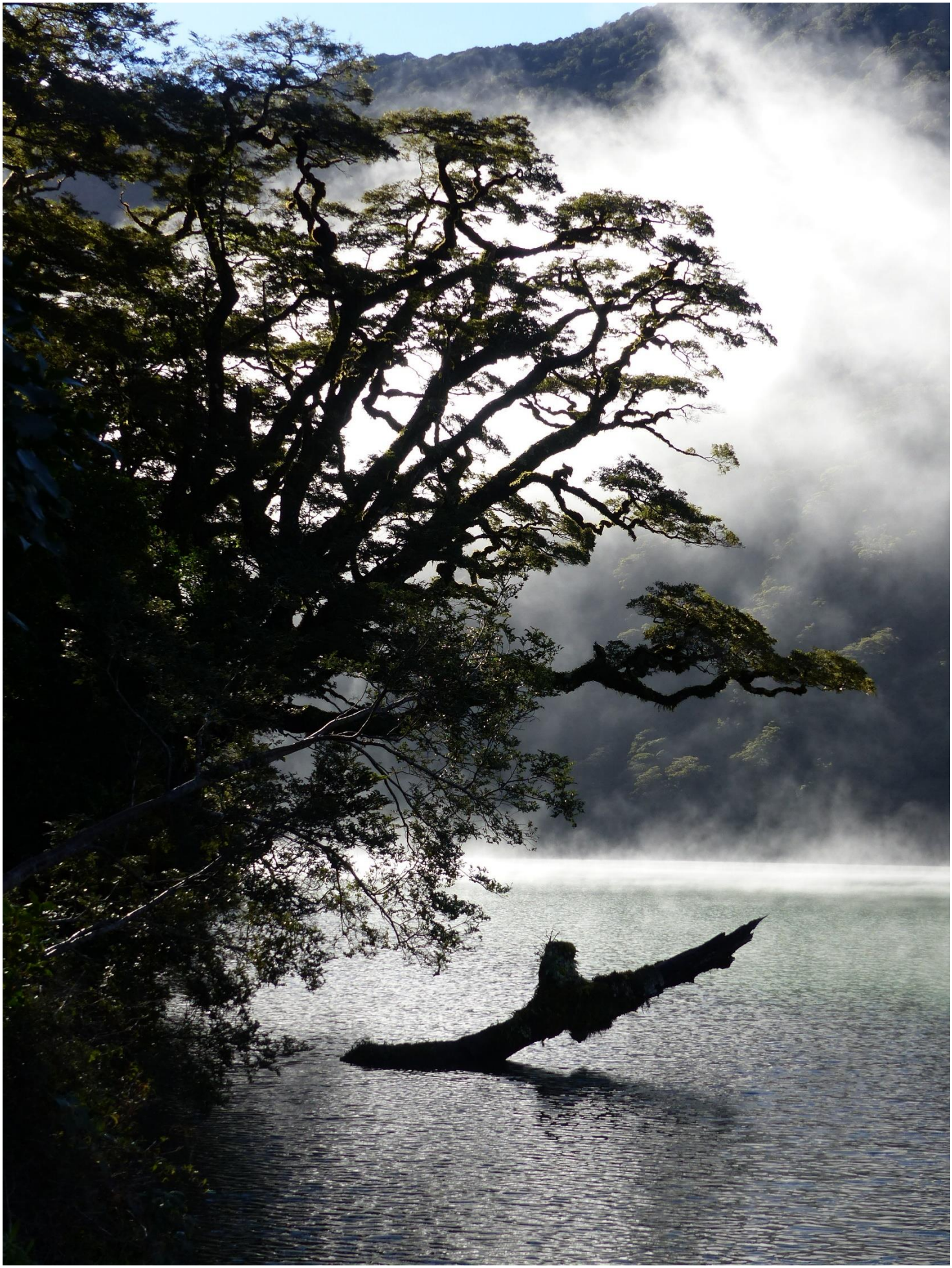
ISO3 code	Country name
AUS	Australia
AUT	Austria
BEL	Belgium
BGR	Bulgaria
BRA	Brazil
CAN	Canada
CHE	Switzerland
CHL	Chile
COL	Colombia
CRI	Costa Rica
CZE	Czechia
DEU	Deutschland
DNK	Denmark
DOM	Dominican Republic
ESP	Spain
EST	Estonia
EU	European Union
FIN	Finland
FRA	France
GBR	United Kingdom
GEO	Georgia
GRC	Greece
HRV	Croatia
HUN	Hungary
IRL	Ireland
ISL	Iceland
ISR	Israel
ITA	Italy
JPN	Japan
LVA	Latvia
LTU	Lithuania
LUX	Luxembourg
KOR	Korea
MEX	Mexico
MLT	Malta
MNE	Montenegro
NLD	Netherlands
NOR	Norway
NZL	New Zealand
PER	Peru
POL	Poland
PRT	Portugal
ROU	Romania
RUS	Russia
SGP	Singapore
SVK	Slovak Republic
SVN	Slovenia
SWE	Sweden
THA	Thailand
TUR	Türkiye
TWN	Taiwan
URY	Uruguay
USA	United States

BASIC STATISTICS OF NEW ZEALAND, 2022

(Numbers in parentheses refer to the OECD average)*

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million)	5.1		Population density per km²	19.5	(39.0)
Under 15 (%)	18.7	(17.2)	Life expectancy at birth (years, 2021)	82.2	(78.7)
Over 65 (%)	16.3	(18.0)	Men (2021)	80.5	(75.9)
International migrant stock (% of population, 2019)	22.3	(13.2)	Women (2021)	84.0	(81.7)
Latest 5-year average growth (%)	1.3	(0.4)	Latest general election	October 2023	
ECONOMY					
Gross domestic product (GDP)			Headline inflation (y-o-y % change, 2023Q4, OECD: Nov-2023)	4.7	(5.4)
In current prices (billion USD)	242.1		Key monetary policy rate (%, Jan-2024)	5.5	
In current prices (billion NZD)	381.1		Value added shares (%, 2020, OECD: 2022)		
Latest 5-year average real growth (%)	2.9	(1.7)	Agriculture, forestry and fishing	6.1	(2.8)
Per capita (000 USD PPP)	51.2	(60.2)	Industry including construction	21.4	(28.3)
			Services	72.4	(68.8)
GENERAL GOVERNMENT (Per cent of GDP)					
Expenditure (2021, OECD: 2022)	43.8	(42.9)	Gross financial debt	52.9	(113.5)
Revenue (2021, OECD: 2022)	39.6	(39.7)	Net financial debt	12.1	(67.6)
EXTERNAL ACCOUNTS					
Exchange rate (NZD per USD)	1.57		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	1.45		Food and live animals	60.0	
In per cent of GDP			Crude materials, inedible, except fuels	11.1	
Exports of goods and services	23.8	(33.4)	Machinery and transport equipment	6.0	
Imports of goods and services	29.5	(34.8)	Main imports (% of total merchandise imports)		
Current account balance	-8.5	(-1.0)	Machinery and transport equipment	36.9	
Net international investment position	-50.9		Miscellaneous manufactured articles	13.2	
			Manufactured goods	12.6	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (aged 15 and over, %)	69.0	(57.5)	Unemployment rate, LFS (aged 15 and over, %)	3.3	(5.0)
Men	73.6	(65.4)	Youth (aged 15-24, %)	9.3	(10.9)
Women	64.6	(50.1)	Long-term unemployed (1 year and over, %)	0.4	(1.2)
Participation rate (aged 15 and over, %)	71.3	(60.9)	Tertiary educational attainment (aged 25-64, %)	39.8	(40.7)
Average hours worked per year	1,748	(1,752)	Gross domestic expenditure on R&D (% of GDP, 2019, OECD: 2020)	1.4	(2.9)
ENVIRONMENT					
Total primary energy supply per capita (toe)	3.7	(3.8)	CO2 emissions from fuel combustion per capita (tonnes)	5.5	(7.8)
Renewables (%)	44.1	(12.0)	Water abstractions per capita (1 000 m³, 2014)	2.2	
Exposure to air pollution (more than 10 µg/m³ of PM 2.5, % of population, 2019)	0.0	(61.7)	Municipal waste per capita (tonnes, 2018, OECD: 2020)	0.8	(0.5)
SOCIETY					
Income inequality (Gini coefficient, 2020, OECD: latest available)	0.320	(0.316)	Education outcomes (PISA 2022 score)		
Relative poverty rate (%, 2020)	12.4	(11.8)	Reading	501	(476)
Median disposable household income (000 USD PPP, 2020)	31.8	(26.6)	Mathematics	479	(472)
Public and private spending (% of GDP)			Science	504	(485)
Health care	11.2	(9.2)	Share of women in parliament (%)	50.4	(32.5)
Pensions (2021, OECD: 2019)	5.2	(9.5)	Net official development assistance (% of GNI, 2017)	0.2	(0.4)
Education (% of GNI, 2021)	7.4	(4.4)			

* The year is indicated in parenthesis if it deviates from the year in the main title of this table. Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exist for at least 80% of member countries.
Source: Calculations based on data extracted from databases of the following organisations: OECD, International Energy Agency, International Labour Organisation, International Monetary Fund, United Nations, World Bank.



Executive summary

The economy is rebalancing

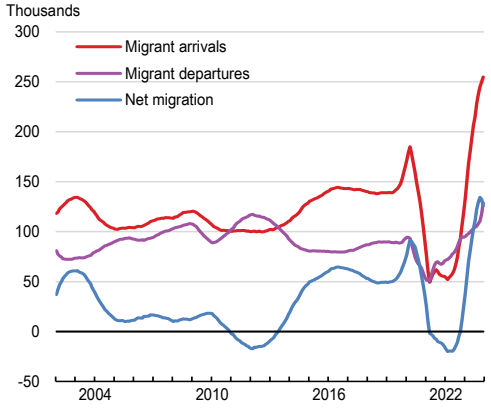
Interest rates have risen markedly, and growth is expected to be slow in 2024, before picking up in 2025. Monetary policy will need to remain restrictive coupled with further fiscal consolidation to help curb inflation and restore fiscal space.

Economic growth has stalled, despite high population growth. As a result GDP per capita has fallen. Inflation is declining. After a strong domestic demand-led recovery from the pandemic, the economy slowed, with higher interest rates weighing on housing construction, and inflation undermining purchasing power and consumption. Weak growth has helped to reduce inflation, with a rising unemployment rate and declining vacancies.

Imbalances are unwinding. Rapid domestic demand growth and a shut-off in inbound tourism increased the current account deficit sharply to one of the highest in the OECD. With slower GDP and imports growth plus an increase in tourist arrivals, the current account deficit is shrinking. However, it remains high and in part structural due to the high fiscal deficit.

Figure 1. Net inward migration has surged

International migration, rolling year ended



Source: Statistics New Zealand.

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Growth is projected to be slow in 2024, before picking up in 2025, but risks originating offshore are high (Table 1). High net inward migration can be expected to continue to contribute to growth (Figure 1). Disinflation will restore modest real income growth and support consumption and GDP growth in 2025. Beyond uncertainty related to how fast inflation will decline and when interest rates can fall, offshore risks, including an extended slowdown in China and wars in Europe and the Middle East overshadow the outlook.

Table 1. Slow growth is expected in 2024

Annual growth rates, %, unless specified

	2022	2023	2024	2025
Gross domestic product	2.2	0.6	0.8	1.9
Private consumption	3.3	0.3	0.2	1.9
Gross fixed capital formation	3.4	-1.1	-5.5	1.2
Exports	-0.2	10.0	4.2	3.3
Imports	4.6	-0.3	-3.5	1.4
Unemployment rate (%)	3.3	3.7	4.7	4.8
Headline CPI inflation	7.2	5.7	3.2	2.4
Current account balance (% of GDP)	-8.5	-6.9	-5.8	-5.3
General government budget balance (% of GDP)	-3.2	-3.2	-3.7	-3.4

Source: OECD Economic Outlook 115.

Monetary policy has been tightened significantly since late 2021. This has led to a marked increase in financing costs and has slowed economic activity and inflation, but inflation is likely to be persistent. Unemployment remains low while high net inwards migration is pushing domestic demand higher than the RBNZ anticipated. Monetary policy needs to remain data dependent: when inflation will reach the central bank's target range is uncertain and there is a risk of further negative global shocks.

Better control of government spending is needed to keep fiscal consolidation on track. The pandemic and spending overruns led to a permanent increase in the government spending to GDP ratio, resulting in a substantial deterioration of New Zealand's fiscal position. The government should set operating allowances and tax policies that will gradually reduce the fiscal deficit to reach budget balance. This would better align fiscal policy with monetary policy efforts to restrain inflation, strengthen public debt sustainability, and restore fiscal space to finance ageing-related expenditures and the green transition.

Raising competition and productivity

Productivity growth is key to sustain living standards in a context of population ageing.

Like elsewhere, productivity has slowed in New Zealand since the 2008 Global Financial Crisis and labour productivity remains weak compared to other OECD countries (Table 2).

Table 2. Productivity growth has declined

	Labour productivity growth (%)	
	1998-2007	2010-2019
OECD (median)	1.6	0.9
United States	2.3	0.8
Australia	1.4	1.2
Austria	2.1	0.7
Finland	2.7	0.9
New Zealand	**1.3**	**0.6**

Source: OECD (2023), Compendium of Productivity Indicators.

Insufficient competition is an important factor underpinning low productivity, with the limited number of competitors in New Zealand's small market leading to market concentration. As a result, large firms in New Zealand often face weaker pressures to innovate, seek efficiencies, and provide better services and lower prices to consumers. While markups and profitability are generally high, some sectors have recorded particularly sizeable profits recently.

Ensuring competition policy is in line with best international practices is important for offsetting these handicaps. Efforts have been made to improve competition in New Zealand in recent years. Through market studies of the Commerce Commission and other inquiries, the role of anti-competitive factors has been better understood and partly addressed by new legislation and business codes. Some impediments to competition in network industries have been removed as well.

Yet, more can and should be done to further improve competition outcomes. In some sectors, market concentration can be so high that regulation will not suffice to improve competition enough, and structural solutions such as break-ups, although as a measure of last resort, could be warranted. New Zealand would also benefit from adapting its competition regulations to the new challenges of market power in digital markets.

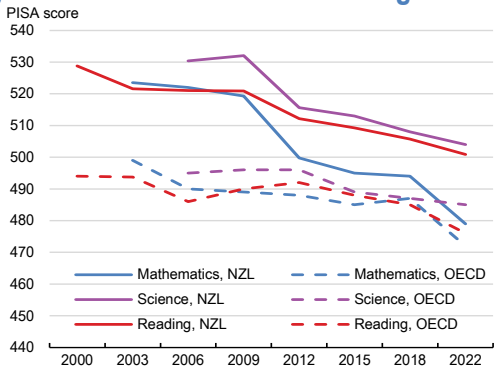
While overall the regulatory landscape is business-friendly, entry by domestic and foreign firms could be eased. Among other reforms, SME access to public procurement contracts can be further facilitated and the FDI regime, which is still one of the most restrictive in the OECD, should be eased.

Towards higher quality and more equality of opportunity in education

Achievement in school education is declining. The OECD PISA and other international and domestic tests consistently show that results have fallen markedly (Figure 2). **Inequality remains high and attendance has dropped. There is an urgent need to improve the curriculum, reform teacher education and strengthen support to teachers and schools to deliver better education outcomes.**

Results are falling. Between 2009 and 2022, New Zealand's average score in the OECD PISA test fell by the equivalent of approximately two years of education in mathematics, 18 months in science and one year in reading. OECD research shows aggregate productivity may fall by nearly 4% as a result.

Figure 2. PISA results are declining



Source: OECD, PISA database.

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The devolved school system has many strengths and should be retained but teachers are left unaccompanied to put policy into action and over-stretched. Only general advice on what to teach in the national curriculum and insufficient coverage of core subjects, such as mathematics and science, in initial teacher education has led to highly variable learning outcomes between and especially within schools. What is missing is a stronger web of vertical and horizontal support, which international experience shows is necessary for a devolved system to perform well.

Stronger support to school leaders and teachers and more effort to spread best practice would help schools deliver better outcomes. A national curriculum that more fully spells out knowledge requirements, revamped initial teacher training with a stronger focus on

core subjects, greater regional support from the Ministry of Education and enhancing evidence-based efforts to spread best practices between schools and teachers are all needed.

Inequalities in opportunity are wide. Māori and Pasifika children account for 25% and 13% of enrolments and their learning outcomes remain far below the New Zealand and OECD averages. Lower socio-economic backgrounds, reduced teacher expectations and a weak sense of belonging contribute to these gaps. New Zealand, however, is an international leader in increasing the cultural relevance and involvement of family and community in education. Experience in New Zealand and abroad suggest this pays off in both better achievement and wellbeing.

Increasing attendance, which remains below pre-Covid levels overall and even lower for disadvantaged groups, is a pre-requisite for improving equity. This requires reducing bullying, which is high in New Zealand, and improving parent and child attitudes to attending school every day and ensuring school meets the needs of all children. Transferring close family and community involvement practices from the Māori to English medium pathways would also help improve a sense of belonging and attendance. Greater early childhood education and care participation by children from lower socio-economic backgrounds is a powerful lever to improve equity but this should be accompanied by improving the quality of the system.

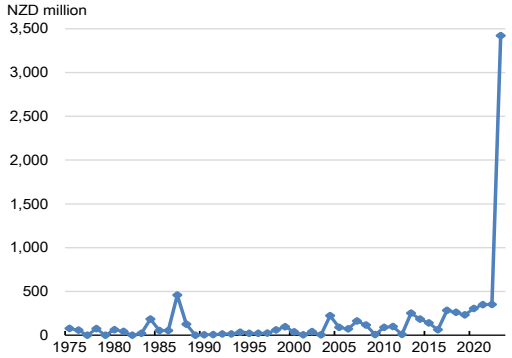
Adapting to climate change while reducing emissions

Insurance cover should remain broad while incentivising investments in resilience. Reforms to land-use planning and a long-term energy strategy are needed to help New Zealand adapt to climate change. The green transition needs a more rigorous cost-benefit assessment of emission reduction options.

Climate change will bring more frequent extreme weather events to New Zealand as the early 2023 storms and cyclone demonstrated, with high losses (Figure 3). Insurance premiums may become too high for some properties or coverage may be withdrawn. The insurance market should be monitored and reformed if necessary to ensure that current high coverage against climate-related damage continues.

Figure 3. The North Island weather events in 2023 were extremely costly

Private insurance covered losses due to weather events[1]



1. 2022 prices, calculated using CPI.

Source: Insurance Council of New Zealand; OECD calculations.

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The planning system has not coped well with urban expansion to accommodate a rapidly growing population and climate change will add further pressure. Local government will need extra revenue to pay for more resilient infrastructure, and the planning system needs a more spatial approach and fewer legal appeal rights more in line with international norms.

Over 80% of New Zealand's electricity generation is renewable, but its dependence on hydroelectricity makes it vulnerable to droughts that will become more frequent. Although individual projects are well planned and justified, a long-term energy strategy combining emissions reduction and energy security is needed.

The plan to reduce emissions is heavily reliant on forest offsets and their treatment in the Emissions Trading Scheme (ETS) has shortcomings. The ETS should be reviewed and reformed in a way that gives clarity to the market and takes account of the problems in offsetting emissions from long-lived gases like CO_2 using exotic forest offsets.

Agriculture accounts for 48% of New Zealand's emissions but a lack of information and viable techniques are barriers to reducing agricultural emissions. On-farm measurement of emissions needs to be improved in preparation for introducing the pricing of agricultural emissions, while maintaining strong support for R&D of gross emissions reduction technologies.

Main findings and key recommendations

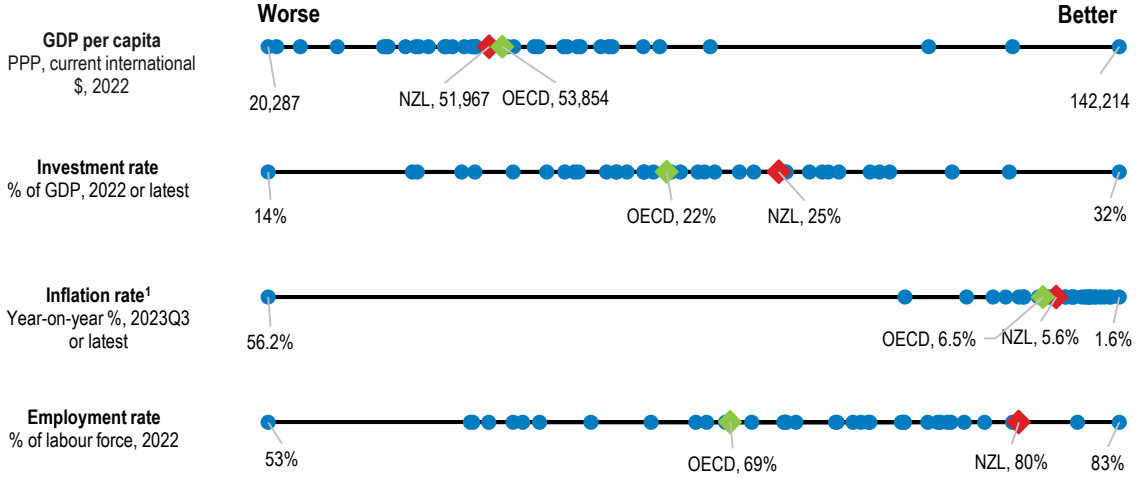
Main findings	Key recommendations
Macroeconomic developments and policy challenges	
Monetary policy is slowing the economy down, but disinflation is expected to be gradual. The effect of tighter monetary policy has not been fully passed to mortgage borrowers yet.	Maintain restrictive monetary policy until inflation approaches the target.
Government spending has risen as a share of GDP over the past five years. The fiscal balance has moved into substantial deficit and public debt has risen and will continue to rise with no change in policy.	Steadily reduce the fiscal deficit to reach a budget balance. Set operating allowances and tax policies that will produce gradual fiscal consolidation and stick to them.
Government expenditure increased by more than initially planned	Consider reinforcing the fiscal framework by adding a numerical operating expenditure target to all the main fiscal documents.
There are doubts about the cost of political party policy proposals.	Consider introducing an independent fiscal institution reporting to Parliament to cost policies.
Boosting competition and productivity	
The policy framework has become more sophisticated, adding more sector-specific analysis, regulatory tools and institutions to broad economy-wide competition laws. Low regulatory barriers to entry will not always be sufficient to ensure vigorous competition in New Zealand's small and distant market.	Retain market studies and adopt a strategy of gradual escalation of intervention, from reducing barriers to entry to light-handed regulatory approaches and structural solutions such as break-up of dominant players.
New Zealand is lagging behind other OECD countries in recognizing and addressing the challenges that digital markets pose to competition.	Ensure the NZCC has the tools and capability it needs to address digital platforms' market power and the associated risks to competition. Consider alignment of laws with Australia to promote a single digital market.
Improving achievement and inclusion in education	
The 2007 New Zealand national curriculum currently in place for years 1-13 for all subjects provides only high-level guidance. The high level of discretion at school level leads to high variability in what is taught. Teachers are not provided with enough materials on how to implement the curriculum.	Establish a more detailed national curriculum that specifies by subject the learning outcomes, competencies, core concepts and knowledge children should have acquired by years of education and provide high-quality assessment and teaching materials.
The Ministry of Education does not appear yet to have the capacity, especially at the local level, to provide the support schools need to implement national policies. Lack of support is increasing stress and inducing distrust of national reforms.	Continue to build further Ministry of Education capacity to support schools, and expand regional offices including reinstating specialist subject advisors, in priority for the primary and intermediate levels.
A sizeable proportion of teachers do not feel fully prepared in core teaching areas (content of subjects, pedagogy, teaching cross-curricular skills). Primary teachers are insufficiently prepared to teach mathematics and science.	Include more subject content and pedagogy in initial teacher education programmes, especially for mathematics and science. Incentivise this by changing teacher standards accordingly.
The return from participation in high quality early childhood education and care (ECEC) is very high, especially for children from lower socio-economic backgrounds, who tend to participate less in it. There are some indications of quality issues in the ECEC system.	Review the ECEC system with the objective of raising quality and removing barriers to more equal access to high quality ECEC. Consider extending the length of "year" 0, which is not a full school year currently, and adapt its content to ensure a smooth transition into school.
Achievement of Māori children is higher in the Kaupapa Māori and Māori medium education pathway in part thanks to high engagement of family and community with school.	Spread best practice from the Kaupapa Māori and Māori medium pathway to the English medium pathway in building school-family linkages that support children's achievements and wellbeing.
Adapting to a warmer climate and reducing emissions	
Planning, investment and accurate insurance pricing by the Earthquake Commission and the private insurance industry requires detailed data about what is known about the risk of climate-related hazards.	Ensure resourcing is appropriate for improving climate projections, hazard and vulnerability databases and modelling. Construct and maintain a national individual insurance claims database.
Household and firm decisions that affect their vulnerability to climate change-related hazards depend on the availability and price of insurance. Some properties at risk of sea-level rise or floodplain flooding may eventually become uninsurable by the private sector alone.	Monitor the price and availability of insurance for climate related disasters, and, if required, stand ready with options for reform of the market, considering the balance of public and private, optional and mandatory insurance coverage, the nature of risks and household disadvantage.
The planning system has not delivered the core objective of sustainable management of resources required by the Resource Management Act.	Use spatial planning at national and local level more, reduce legal appeal rights, and offer more data and modelling support to local government.
New Zealand's reduction plan is heavily reliant on carbon removals from forests. There are no limits on forestry units in the ETS, which is unique internationally. ETS pricing fails to adequately reflect the respective duration of carbon storage of native versus exotic forests, and risks such as fires.	Develop and implement a plan for reforming the treatment of forest removals in New Zealand's emissions reduction strategy that gives clarity to the market, considering the wider costs and benefits of exotic and native forests and their potential to offset gross emissions.
Agricultural emissions pricing has been delayed. Cost, a lack of information as well a lack of viable techniques for reducing emissions are barriers to increasing on-farm GHG efficiency and introducing pricing of agricultural emissions.	Improve on-farm emissions measurement in preparation for introducing agricultural emissions pricing. Maintain strong support for research and joint ventures to develop gross emissions reductions technologies.

1 Rebalancing towards more inclusive and sustainable growth

The New Zealand economy bounced back quickly following the Covid-19 recession, but the rapid expansion outran capacity. Overheating, exacerbated by the global energy and food price surge arising from Russia's invasion of Ukraine, pushed up inflation and the current account deficit (Figure 1.1). Swift and sizeable tightening of monetary policy is helping to rebalance the economy, labour shortages are abating, and inflation and the current account deficit are declining. Like in many OECD countries, the fiscal position has deteriorated and long-term spending pressures from ageing loom. High net inward migration is putting a floor under aggregate growth, has helped to resolve recent labour shortages, and contributes to the skill-mix and cultural richness of New Zealand.

However, the economy has not grown as fast as the population, and GDP per capita fell 3.1% in the year to December 2023. Ensuring higher sustainable and inclusive gains in income per capita will be challenging. The return to the pre-Covid trend of fast population growth will aggravate the country's infrastructure and housing deficits and put pressure on healthcare and education. Extreme weather events in early 2023 are a reminder that climate change will further increase these infrastructure needs. Economic policy needs to continue rebalancing the economy, with a view to steadily rebuild fiscal buffers and address structural weaknesses (Table 1.1).

Figure 1.1. Economic indicators



1. Indicator reversed so that the right side of the scale corresponds to a better outcome. While deflation or zero inflation is not desirable in general, lower inflation remains a better outcome in the current inflationary context.
Source: World Bank; OECD Database on consumer price indices; OECD Database on labour market statistics; OECD calculations.

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The gap in income per capita mainly stems from lower labour productivity due to both lower capital stock per worker and multi-factor productivity than in higher-income OECD countries, reflecting high market concentration, limited competition and low business investment in innovation. Improving the competition framework will stimulate business entry and dynamism and foster innovation. New Zealand's small market

size and distance from major economies make this challenging. Competition regulators should continue to address anticompetitive factors through best practice regulations and market studies and adapt regulations to new developments in digital and labour markets. The overall competition and regulatory policy framework has become more comprehensive, helping to tackle competition problems better, but it needs further updating.

Table 1.1. Illustrative impact on GDP per capita of structural reforms

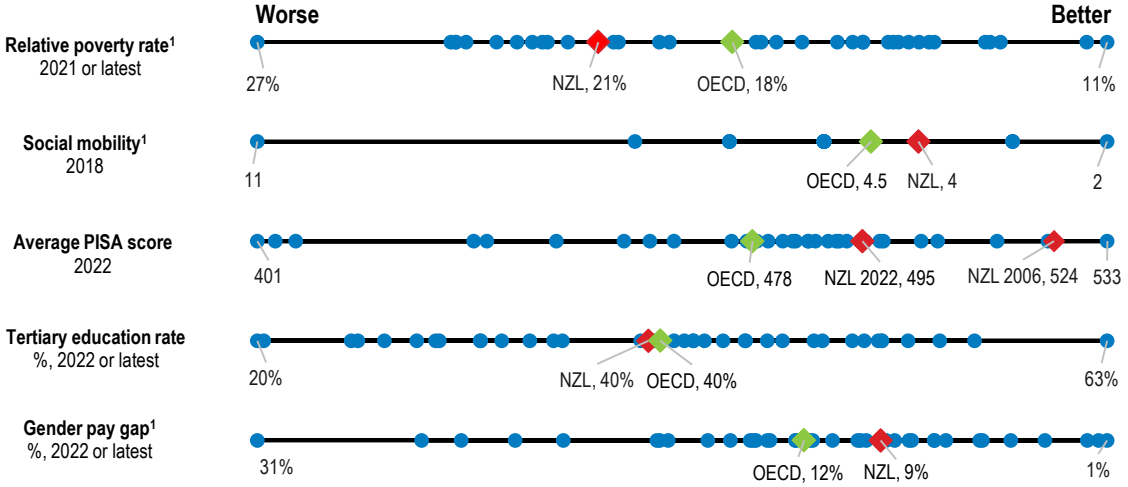
Difference in level of GDP per capita 10 years after reform and in the long run, % of GDP

	10 years	Long run
Competition reforms		
Increase competition in network sectors (energy, communications, transports)	0.6	1.5
Education		
Improve PISA scores by 30 points (offset the decline since 2006)	n.a.[1]	3.7
Total	**0.6**	**5.2**

1. Not applicable as the effect of education reforms on productivity and GDP is slow, and unlikely to be significant over a 10-year horizon.
Source: OECD estimates, based on the Economics Department's Long-Term Model.

Relative poverty is higher than the OECD average and may worsen given the trend erosion of school education outcomes over the past 20 years (Figure 1.2). Like in most countries recent PISA results fell in part because of Covid-19 disruptions. However, correcting for sampling bias, New Zealand's fell by more than the OECD average. Māori and Pasifika, disproportionally from low socio-economic backgrounds, continue to score well below New Zealand and OECD averages. Outcomes are too variable, especially within schools, creating a drag on productivity and posing a threat to inclusion. Outcomes for girls tend to be worse than for boys in maths and science and this later flows into the gender pay gap via their career choices. More policy action is required to offset the disadvantages of children from lower socio-economic backgrounds and create equality of opportunity for boys and girls.

Figure 1.2. Inclusiveness indicators



1. Indicator reversed so that the right side of the scale corresponds to a better outcome. The relative poverty rate is the share of people earning less than 60% of the median income, after taxes and transfers. Social mobility is the expected number of generations for children belonging to a family at the bottom 10% of the income distribution to reach average income. The PISA score is the average for mathematics, science and reading.
Source: OECD Income Distribution Database; OECD (2018), A Broken Social Elevator? How to Promote Social Mobility, OECD Publishing, Paris; OECD PISA database; OECD Education at a glance database; OECD calculations.

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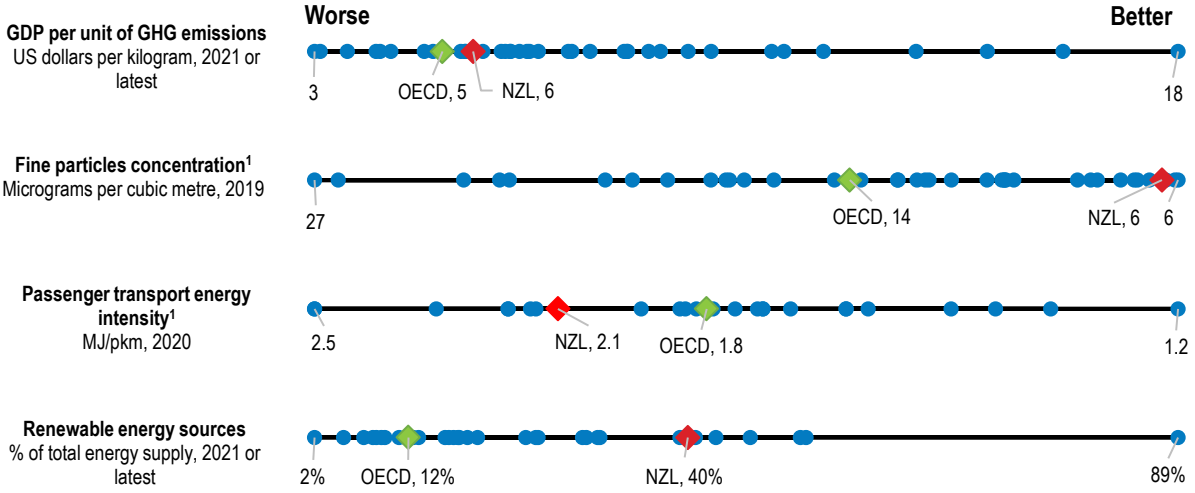
An ongoing challenge is reducing emissions, while also adapting to climate-change related extreme weather. A high share of hydro-electricity generation helps to limit greenhouse gas (GHG) emissions but

exposes supply to drought. Transport is energy inefficient (Figure 1.3). Greater investment in low-emissions technology is needed in transport, agriculture and economy-wide. A large part of the plan to reach net zero emissions relies on planting more forests but their treatment in the Emissions Trading Scheme suffers from shortcomings. The approach to the green transition has been too ad hoc and needs a more rigorous cost-benefit assessment of emissions reductions options. Adaptation will be crucial to limit climate-related damage to New Zealand's coastal cities and agricultural and horticultural production, while maintaining a secure energy supply.

Figure 1.3. Sustainability indicators



1. Indicator reversed so that the right side of the scale corresponds to a better outcome.
GDP per unit is the production-based CO2 productivity. Fine particles concentration is the mean population exposure to PM2.5.
Source: OECD Green Growth Indicators Database: International Energy Agency; OECD calculations.

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Against this background, the main messages of this Survey are:

- Fiscal and monetary policies need to work together to fight remaining inflationary pressures. Public spending has been higher than planned in recent years and the government needs to set and stick to operating allowances and tax policies that gradually reduce the fiscal deficit to reach budget balance. Monetary policy will need to remain restrictive while inflationary pressures persist.
- Productivity remains substantially below the OECD frontier, partly due to insufficient competition. Market concentration should be addressed through facilitating entry, effective regulations, antitrust enforcement and, as a last resort, break-ups. These tools can be made more effective through an extension of the Commerce Commission's powers, continued market studies together with more competition policy analysis from a wider perspective. Competition jurisprudence and the business environment need to become more competition friendly.
- Results have fallen markedly in primary and secondary education over the past 20 years and inequality remains wide. Raising education achievement for all requires lifting attendance from early childhood education onwards, especially of lower socio-economic groups; increasing focus on core subjects and teaching practice in teacher education; and providing a more detailed, knowledge-rich national curriculum.
- A more systematic approach should be taken to reducing emissions and adapting New Zealand to climate change related extreme weather. This requires reviewing the treatment of forest removals in the Emissions Trading System, finding new funding for local government to build more resilient infrastructure, ensuring insurance remains comprehensive and a long-term energy strategy drawing on a cost-benefit based comparison of all emission reduction options.

2 Macroeconomic developments and policy challenges

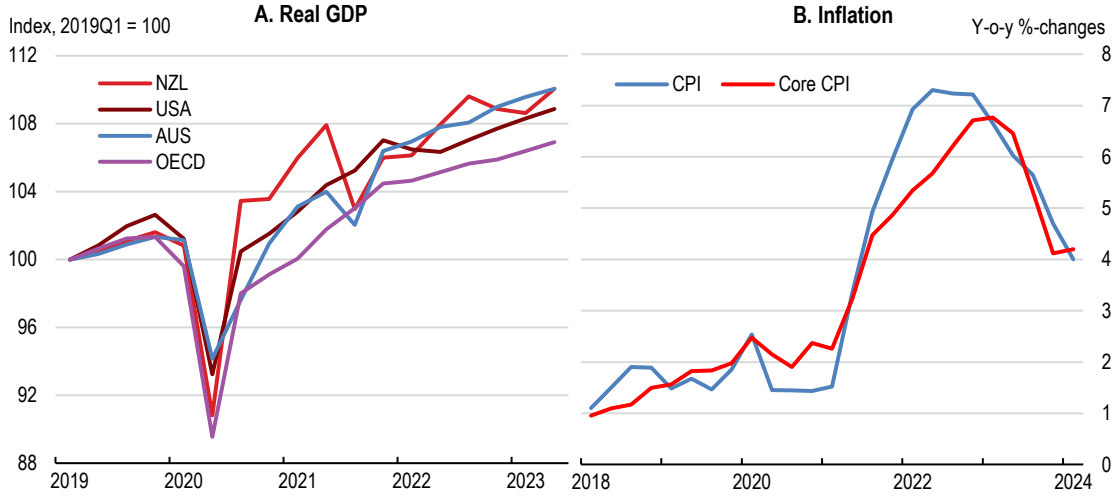
Charles Dennery
David Haugh
Axel Purwin

After a strong recovery from the pandemic, the New Zealand economy has slowed, with higher interest rates weighing on housing construction, and inflation undermining purchasing power and consumption. Monetary policy has tightened significantly since late 2021 and inflation has fallen. Better control of government spending is needed to keep fiscal consolidation on track in the short run and restore fiscal space for ageing-related expenditures and the green transition in the long run. New Zealand also faces an investment gap in addressing the needs of a rapidly growing population.

2.1. The economy is rebalancing

The New Zealand economy bounced back quickly following the deep Covid-19 recession (Figure 2.1, Panel A). By late-2022 the economy was already 8% larger than just prior to the pandemic, but the rapid expansion came with over-stretch and growth has stalled since. Excess demand, along with rising imports prices as demand for durable goods surged globally, and the shut-off of inbound tourism to New Zealand due to Covid-19 border controls, pushed the current account deficit to a peak of 8.8% of GDP. The unemployment rate fell quickly to a trough of 3.2%, its lowest level in 40 years. As a result of excess demand and pandemic-induced supply chain tensions first, and later aggravated by Russia's war of aggression against Ukraine, inflation began to rise quickly from mid-2021 (Box 2.1). In response, the Reserve Bank of New Zealand (RBNZ) raised the policy interest rate by 525 basis points to 5.5% between late 2021 and mid-2023.

Figure 2.1. Growth has slowed down and inflation is declining



Source: OECD Economic Outlook (database); OECD Prices and Purchasing Power Parities (database).

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Box 2.1. The role of supply and demand factors during the recent inflationary cycle

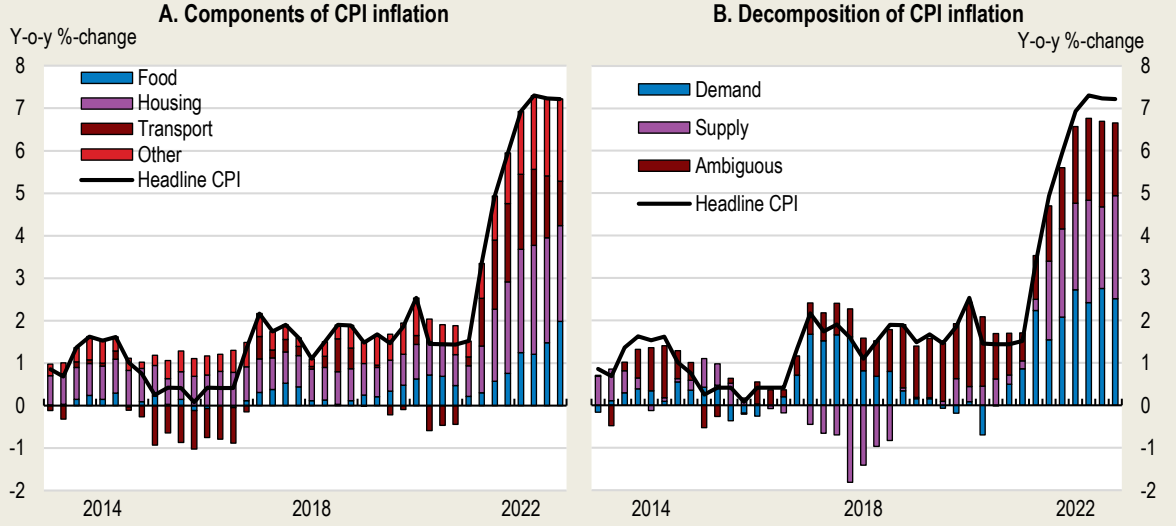
Following the methodology of Shapiro (2022), central banks and policy institutions around the world have estimated the role of supply and demand factors in accounting for the surge of inflation since the Covid pandemic (OECD, 2022). The pandemic disrupted labour supply and supply chains around the world, while the reopening of economies and macroeconomic stimulus boosted demand and Russia's war of aggression against Ukraine further stressed global food and energy markets. A similar exercise has been done for New Zealand (The Treasury, 2023). Overall, roughly a third of price increases in New Zealand can be attributed to supply factors, one third to demand factors, and one third cannot be precisely attributed (Figure 2.2).

The share of the explained inflation that can be attributed to supply factors is somewhat lower in New Zealand than in the United States or Australia but higher than in Canada or the United Kingdom. But the recovery of consumption and investment after the pandemic, helped by fiscal and monetary stimulus, has played a significant role in increasing inflation. While macroeconomic stimulus was warranted to limit the contraction of the economy during the pandemic, its effect was likely more inflationary than elsewhere. In particular, the RBNZ, with a tighter policy starting point, had more scope to cut interest rates and loosen its stance than other central banks so the stimulus was higher.

In addition, some of the domestic supply shocks faced by New Zealand over the past three years were more pronounced than elsewhere. The supply for new homes was severely disrupted in 2021 due to a

shortage of labour and materials and could not match population growth; this is visible in supply factors (Figure 2.3, Panel A). Labour shortages, natural disasters and poor growth conditions were also more severe in New Zealand, limiting domestic food production and contributing to supply-led inflation (Panel B).

Figure 2.2. Supply and demand factors can both explain about one third of the rise in inflation



Note: Education and health are removed from quarterly household consumption expenditure, which means that not all of CPI inflation can be explained by the model. This is reflected by the bars not adding up to the headline CPI in Panel B.
Source: New Zealand Treasury (The Treasury, 2023).

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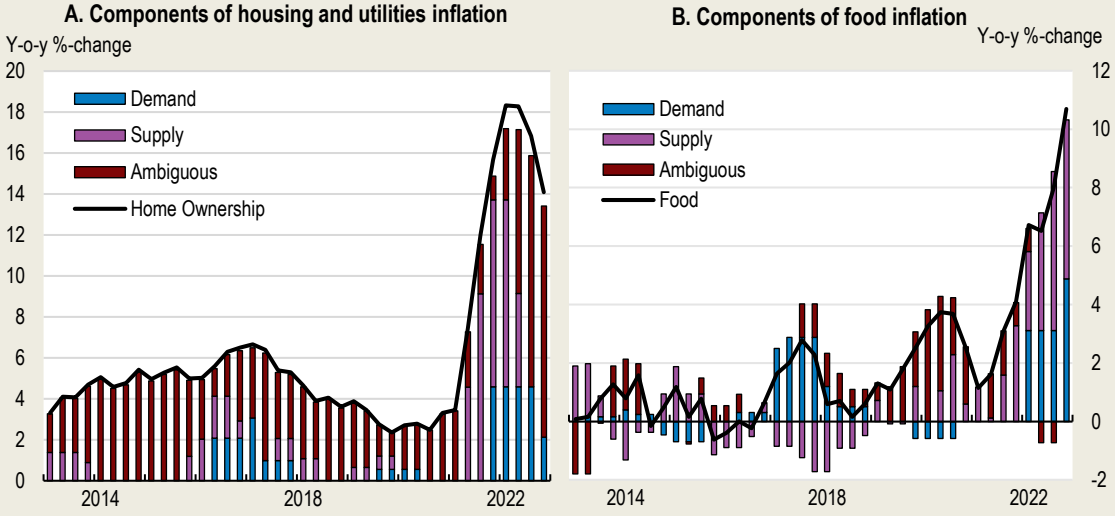
Figure 2.3. Supply factors account for a significant share of food and housing inflation



Source: New Zealand Treasury (The Treasury, 2023).

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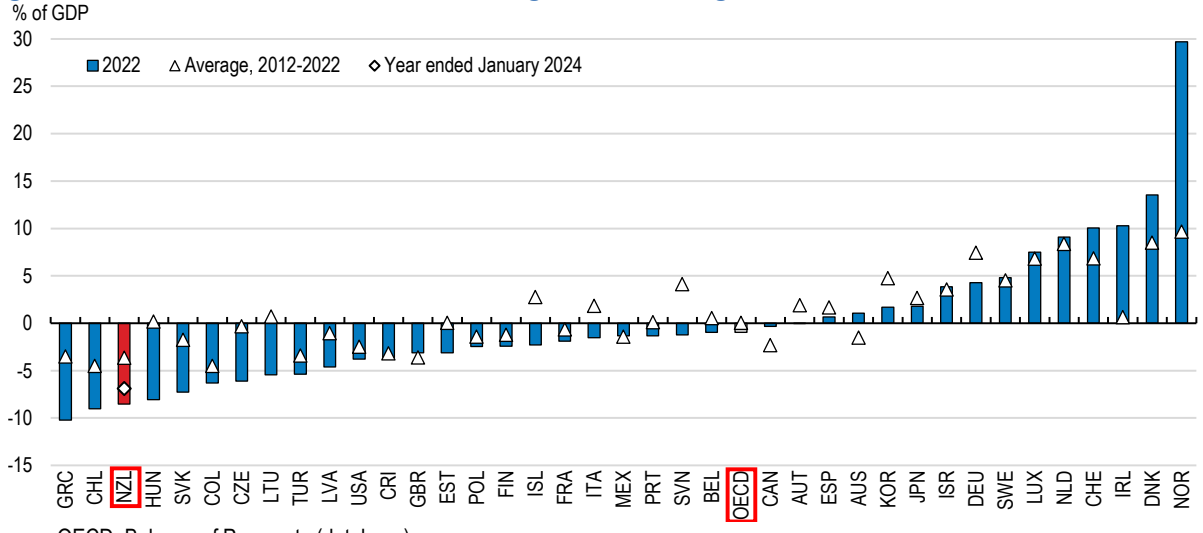
This rapid tightening of monetary policy, declining household real incomes, along with a cooling of global growth and international merchandise trade, slowed growth in New Zealand, which declined from a peak of over 6% in 2021 to 0.6% by 2023 (Table 2.1) despite a rapidly rising population due to high net inward migration. As a result, GDP per capita fell 3.1% in the year to 2023Q4 and national disposable income per capita, which better measures the purchasing power of New Zealand residents by nearly 5%. Higher interest rates have weighed on the housing market and contributed – along with low population growth in 2020 and 2021 – to a contraction in housing construction in the course of -2023. With activity slowing, consumer price inflation fell from a peak of 7.2% to 4% in the first quarter of 2024. Core inflation is sticker

but has also started to ease, helped by fading labour market tensions and cost pressures, to around 4.2% (Figure 2.1, Panel B).

Imbalances are partially cyclical and are unwinding. With slowing GDP and imports plus an increase in international tourist arrivals, the current account deficit shrank from a recent peak of 8.8% of GDP to 6.9% in 2023Q4. This remains above the long-run average for New Zealand and still one of the highest in the OECD (Figure 2.4). A further decline appears in prospect. How fast this occurs depends mainly on the ongoing recovery in services exports, and especially tourist arrivals, which were around 76% of their pre-Covid levels in the year to February 2024. All else equal a lift in tourist arrivals to pre-Covid levels would reduce the deficit by around 0.7 percentage points of GDP. The ongoing re-establishment of flights to New Zealand will help support tourist arrivals. More uncertain is how much and how fast tourism from China will recover given weak growth there but it showed signs of picking up in early 2024. However, part of the current account deficit widening is structural, and the deficit is likely to remain higher than the long-run average until the government shrinks its deficit further.

Figure 2.4. The current account deficit is high but declining



Source: OECD, Balance of Payments (database).

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2.1.1. Labour market shortages are easing

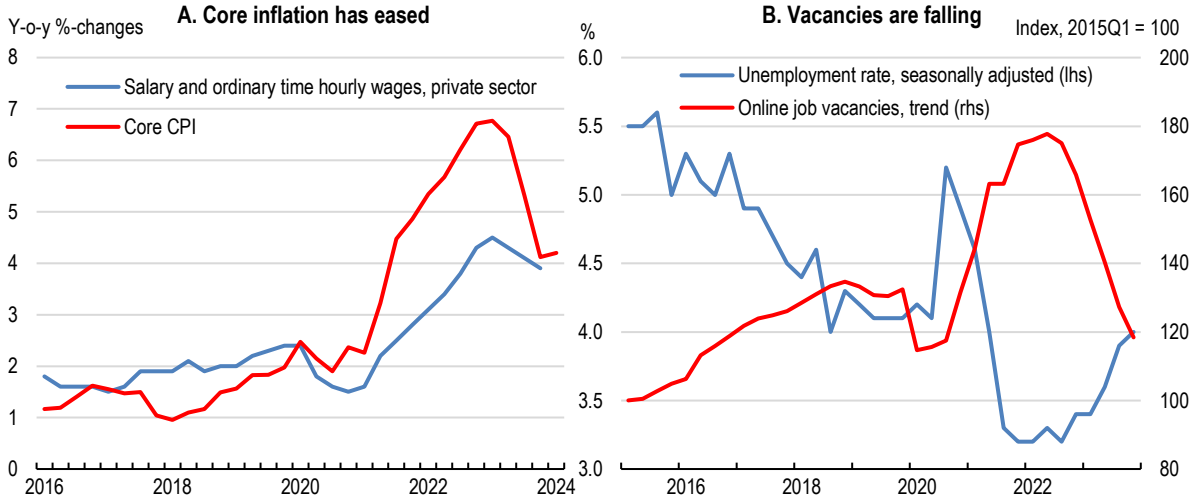
Strong GDP growth and over two years of Covid-19 border control restrictions led to a tight labour market with high skills shortages from mid-2020 to mid-2023. Strong employment growth helped quickly push the unemployment rate lower, attract more people into the labour market and increase the participation rate to 72.4%, a record high. However, this was not enough to offset almost no inward migration and labour costs rose sharply, though real wages did not (Figure 2.5).

The increase in vacancies and wage pressures helped increase the employment rate for men and women, both through lower unemployment and higher labour force participation. Overall, the recovery post Covid-19 was favourable to women and ethnic minorities in the labour market. Between March 2020 and March 2023, the employment rate of males increased from 72.8% to 74.0%, but it rose even faster for women, from 62.8% to 65.2%, shrinking the employment gap between men and women. The gender pay gap declined from 9.3% in 2020 to 8.6% in 2023. The employment rate also increased more for Māori and Pasifika workers, contributing to a reduction of the employment gap with Europeans.

With the almost full re-opening of the border from mid-2022, employment expanded through mid-2023 as employers filled a large stock of vacancies partly with migrant arrivals. However, the backlog of vacancies is fading quickly. Labour demand is weakening, vacancies are declining and employment growth slowed

sharply from the first to the second half of 2023. The unemployment rate has risen from the 3.2% trough to 4.0%. Annual wage growth as measured by the Labour Cost Index eased from 4.5% in 2022Q3 to 3.9% at the end of 2023. However, to help ensure inflation falls to the middle of the RBNZ's 1-3% target, nominal wage growth will need to fall to around 2.5% to ensure real wage growth is around 0.5%, consistent with New Zealand's productivity growth.

Figure 2.5. Core and wage inflation are normalising, along with labour market tightness



Source: Statistics New Zealand; OECD Prices and Purchasing Power Parities (database); and Ministry of Business, Innovation and Employment.

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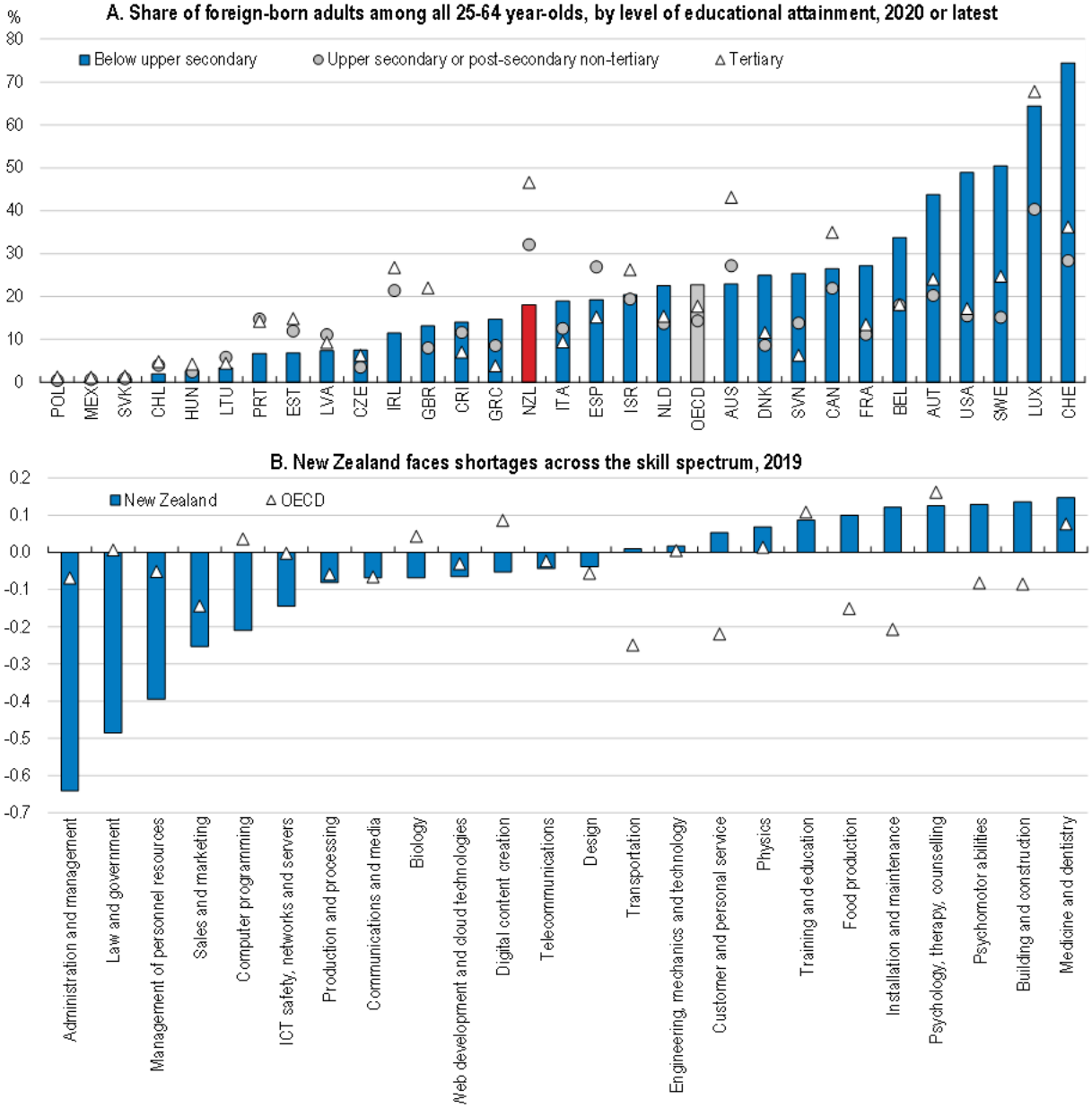
Skill shortages have also declined significantly according to the QSBO business survey but in some fields, they are, as in many OECD countries, more structural. New Zealand faces medium-term skill shortages across the skill spectrum in many different industries (Figure 2.6). In some cases (e.g., education, health, care and science roles), this is partly due to insufficient students entering higher education in these fields, which is in part because they haven't acquired the pre-requisite competencies in mathematics and science at school (Chapter 4). New Zealand has long relied on partly filling these gaps through inward migration of foreign skilled labour and is second among OECD countries after Luxembourg for the share of foreigners with secondary or tertiary qualifications.

While the recent surge in immigration has helped to address a fraction of New Zealand's skill needs, skill shortages and vacancies are a global phenomenon, and New Zealand will not be able to address structural skill shortages only by attracting skilled migrants from other countries, especially in fields like health where international competition from Australia and other advanced OECD countries is fierce. Indeed, skilled work visa schemes have in the past attracted many low skilled arrivals (OECD, 2019) and this appears to be continuing. Of the long-term migrant arrivals in the year to September 2023 with an occupation classification, only 21% (versus a 25% average over 2009-23) appear to be in the two higher skill levels, ANSCO 1 and 2, which include ICT managers, health professionals and teachers. This could nevertheless partly reflect a catch-up of unmet demand for low skills when the borders were closed due to Covid.

More needs to be done to increase local skills supply. Improving primary and secondary education (Chapter 4) is necessary to build the pre-requisite skills, including in mathematics and science, for entering tertiary level studies in health, science, teaching and other occupations in shortage. It is also important that the choices of young people and tertiary education providers are well informed about the skills and occupations that are in demand in the labour market (OECD, 2017). Further improving and widening access to vocational training, work-based training, as well as lifelong learning opportunities, and support to displaced workers would help increase the skills of all New Zealanders and speed up occupation transitions (NZPC, 2019; NZPC, 2020). It is also important for increasing the labour force participation and

inclusion of young people from lower socioeconomic backgrounds. There is also scope to make more use of the skills already available in New Zealand. Other countries that face skills shortages have increasingly relied on tasks delegation, labour-augmenting artificial intelligence, as well as short-term contracting for some professionals; New Zealand could benefit from further expanding these practices.

Figure 2.6. Skilled immigration in New Zealand is insufficient to address skill shortages



1. The OECD Skills for Jobs indicator captures skills shortages and surpluses. Positive values indicate skills shortages while negative values point to skills surpluses. The larger the absolute value, the larger the imbalance. Results are presented on a scale that ranges between -1 and +1. The maximum value reflects the strongest shortage observed across OECD countries and skills dimensions.
Source: Education at a Glance database and OECD Skills for Jobs database.

StatLink https://stat.link/sjw52v

As in other OECD countries, shortages of healthcare and childcare professionals have become more acute in New Zealand, especially for general practitioners at the local level (Gorman and Horn, 2023). To make the most of the existing health workforce, there is some scope for overhauling the healthcare organisation, by delegating more tasks to professionals with more limited training (Gorman, 2009). Specialist nurses in

New Zealand have gained new responsibilities in aged care and for prescribing diabetes drugs; a more systematic review is likely to highlight new tasks to substitute (Carryer and Adams, 2017). A thorough review of occupational licensing rules is probably warranted in this regard. Artificial intelligence and remote medical diagnostics by specialists are likely to help in this task delegation locally. Finally, the same principle of task delegation can probably be envisioned to boost the supply of childcare services in nurseries and kindergartens, but this warrants further investigation as part of a wider review of childcare (Chapter 4) as there can be a trade-off between availability and quality. Making childcare more readily available and affordable is one of the keys keeping mothers in the workforce and addressing the child penalty in terms of career and wages.

Task delegation and labour-augmenting AI are also likely to help address likely future shortages of particular skills in professions like architects, engineers, lawyers, accountants and IT workers. Sometimes this might require a change in the law to specify that a certain task does not need to be carried out entirely by a professional but only to be supervised by her. Legislation might also have to adapt to the growing role of AI and generative AI in professional services: while some safeguards are necessary to preserve confidentiality and maintain trust, AI has already started to disrupt these industries and increase labour productivity.

2.1.2. Modest economic growth is projected

The end of Covid-19 controls saw demand rise far above the economy's productive capacity. The slowing of growth since is reducing excess demand as evidenced by an easing in labour market shortages and wage growth. Demand is expected to fall below the economy's sustainable capacity to supply in 2024 (i.e., the output gap will become negative), as needed to help bring down inflation. Although inflation is coming down, it remains above the RBNZ's 1 to 3% target range, and services inflation is persistent, calling for continued restrictive monetary policy coupled with fiscal consolidation.

Against this backdrop, GDP growth is projected to be slow in 2024 but to pick up in 2025 as disinflation helps to restore modest real household income and consumption growth (Table 2.1). A growing shortage of housing and rising house prices and rents are expected to eventually stimulate housing construction, while higher growth in demand from trading partners, and especially the recovery in tourist arrivals will help to boost exports. Inflation is projected to continue easing gradually in line with the end of supply chain tensions, weaker demand, higher unemployment, and more modest nominal wage increases.

Table 2.1. Macroeconomic indicators and projections

Annual percentage changes unless specified, volume (2009/10 prices)

	2020	2021	2022	2023	2024	2025
	Current prices (NZD billion)					
Gross domestic product (GDP)	**323**	**5.9**	**2.2**	**0.6**	**0.8**	**1.9**
Private consumption	182	7.4	3.3	0.3	0.2	1.9
Government consumption	65	7.8	4.9	-1.1	0.1	0.3
Gross fixed capital formation	74	12.0	3.4	-1.1	-5.5	1.2
Housing	24	8.6	-1.0	-4.4	-3.6	1.6
Business	32	16.8	11.7	-1.4	-5.1	2.8
Government	18	7.9	-6.4	4.9	4.8	2.5
Final domestic demand	321	8.5	3.6	-0.3	-1.2	1.4
Stockbuilding[1]	-0.8	1.4	-0.3	-1.3	-0.4	0.0
Total domestic demand	320	9.9	3.3	-1.5	-1.5	1.4
Exports of goods and services	77	-2.7	-0.2	10.0	4.2	3.3
Imports of goods and services	74	14.8	4.6	-0.3	-3.5	1.4
Net exports[1]	0	-4.0	-1.2	2.5	2.0	0.4
Other indicators (growth rates, unless specified)						

Real GDI		5.9	1.0	0.3	0.1	1.9
Potential GDP		2.6	2.5	2.4	2.1	2.0
Output gap[2]		1.1	0.9	-0.8	-2.1	-2.1
Employment		2.2	1.7	3.1	1.0	1.4
Working-age population (15-74)		0.3	0.2	0.8	0.8	0.8
Unemployment rate[3]		3.8	3.3	3.7	4.7	4.8
GDP deflator		3.0	5.6	5.7	2.2	2.4
Consumer price index		3.9	7.2	5.7	3.2	2.4
Core consumer prices[4]		3.7	6.0	5.6	3.6	2.4
Household saving ratio, net[5]		2.7	-2.7	-4.5	-4.0	-4.9
Terms of trade		-1.7	-3.1	-3.1	-2.6	1.1
Trade balance[6, 7]		-3.4	-5.9	-3.9	-2.5	-2.0
Current account balance[6,7]		-5.7	-8.5	-6.9	-5.8	-5.3
General government fiscal balance[6]		-4.1	-3.2	-3.2	-3.7	-3.4
General government gross debt[6, 8]		48.5	52.6	55.9	59.2	61.8
General government net debt[6, 8]		9.1	11.8	15.2	18.4	21.0
Three-month money market rate, average		0.5	2.8	5.5	5.6	4.8
Ten-year government bond yield, average		1.8	3.6	4.6	4.6	4.3

1. Contribution to changes in real GDP. 2. As a percentage of potential GDP. 3. As a percentage of the labour force. 4. Consumer price index excluding food and energy. 5. As a percentage of household disposable income. 6. As a percentage of GDP. 7. Goods and services. 8. National Accounts basis excluding unfunded liabilities of government-employee pension funds.
Source: OECD Economic Outlook No. 115.

2.1.3. Risks originating offshore cloud the outlook

The international trading environment for small open economies has deteriorated, with a breakdown in multilateral trade negotiations, rising restrictions on trade and a trend slowdown in global trade growth (OECD, 2023b). An extended slowdown in China, New Zealand's largest export market, presents an important risk to New Zealand's main exports and overall growth. Growing geopolitical tensions and the spread of conflict in Europe and the Middle East present a high risk of negative shocks that would push New Zealand's inflation higher and growth lower. In addition, natural disaster risks arising from earthquakes or climate-change related extreme weather remain high. Policy can only partially mitigate these risks (Table 2.2). On the upside, stronger tourism growth could spark a more vigorous export-led recovery.

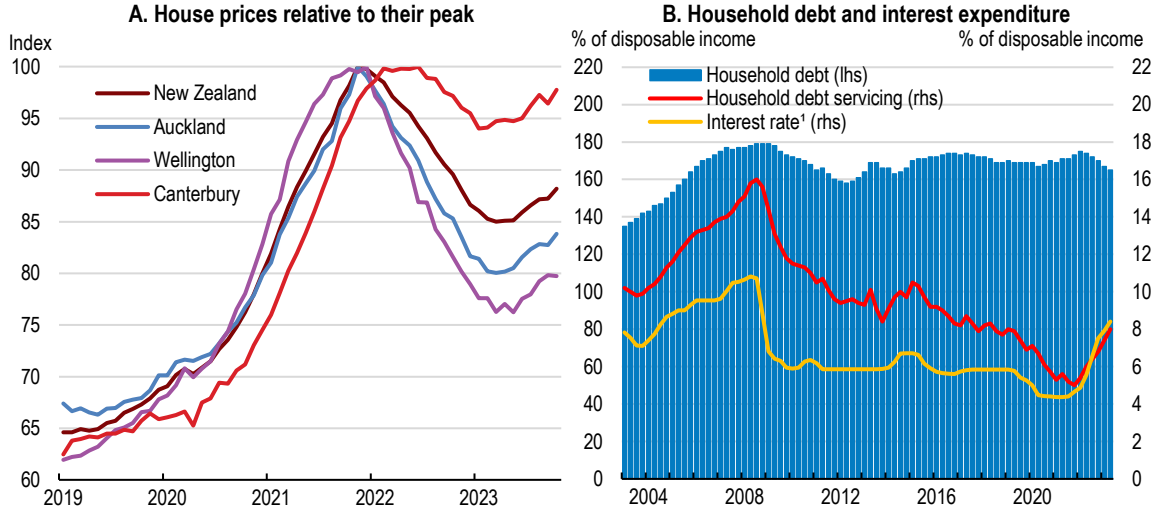
Table 2.2. Events that could lead to major changes in the outlook

Risks	Possible outcomes	Possible policy response options
Geopolitical tensions and intensification of wars impart further negative shocks to global growth and spikes in gas, oil and food prices, and increase trade restrictions	Lower export volumes and GDP growth. Higher energy prices and inflation.	Accelerate the green transition, while improving energy security. Provide narrowly targeted means-tested payments to low-income households. Diversify export markets by deepening economic cooperation and free trade agreements.
Natural disasters arising from earthquakes and climate extreme weather.	Lower GDP growth, higher inflation and significant loss of life and property.	Increase the use of data and information on natural hazard risk in land use planning. Ensure insurance premiums reflect natural hazard risks. Provide local government with new revenue sources to build more resilient infrastructure.
Pandemic of a highly transmissible and deadly virus.	Border closure, lower GDP, higher inflation, significant loss of life and illness.	Stockpile and ensure multiple sourcing arrangements for essential products and equipment.

2.2. Financial stability risks appear to be contained but need to be monitored

After increasing by more than 40% in 2020 and 2021, house prices have fallen by around 15% between 2021Q4 and 2023Q1 as increased interest rates have reduced the purchasing power of homebuyers, but with a marked variation in declines between the different urban areas (Figure 2.7, Panel A). Prices have stabilised and partly rebounded since, at least in nominal terms, and will likely be supported by positive net immigration. The improvement in affordability from the decline in household debt has been offset by rising interest rates and household debt servicing is rising (Panel B). Affordability is low especially for renters compared to the OECD average (OECD, 2022a). Expanding the supply of housing remains a priority to better align house prices and rents with debt servicing and rental payment capacity.

Figure 2.7. House prices have seen a marked correction and household debt has fallen somewhat



1. Weighted averages of floating mortgage rates for new customers. Quarterly average of monthly values.

Source: The Reserve Bank of New Zealand; Real Estate Institute of New Zealand.

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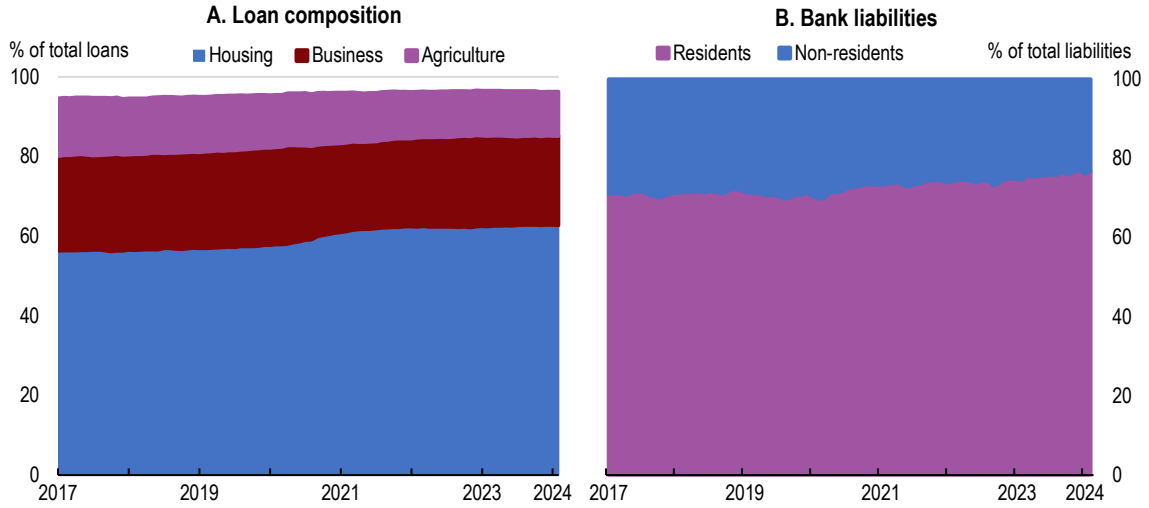
However, higher interest rates have not fully been passed through to borrowers yet, and there is a risk that prices could fall again, with significant negative effects for the economy and eventually financial stability. Debt servicing obligations have increased but remain well below 2007-08 Global Financial Crisis levels. So far, debt repayment capacity has not been severely impaired – partly because mortgage terms can sometimes be extended or temporarily switched to interest only payments when interest rates increase to limit the rise in monthly payments – but a sharp economic downturn and increase in unemployment would test this repayment capacity further especially given high household debt (165 % of disposable income in July 2023). Banks are reporting that arrears have been mostly associated with illness or unemployment, rather than an inability to service higher interest rates (RBNZ, 2023b).

New Zealand banks have reduced the diversification of their loan book, with their exposure to the housing sector increasing during the pandemic (Figure 2.8, Panel A). At the same time their exposure to foreign funding has decreased (Panel B), cutting back their exposure to global economic and financial disruptions. Non-performing loan (NPL) ratios have increased since the end of 2022 and are expected to further increase over the next two years as an effect of higher interest rates and slower economic activity (Figure 2.9, Panel A). However, NPL ratios are expected to remain well below the levels observed after the Global Financial Crisis, and banks have increased loan provisions in anticipation of a rise in NPLs. The RBNZ's 2023 solvency stress test showed that the largest four banks were resilient to a severe "stagflation" scenario, combining high interest rates, inflation and high unemployment. Aggregate results indicate capital

ratios falling materially under this scenario but remaining well above the regulatory minimum for Tier 1 capital of 6% in New Zealand, which is in line with the international standard in the Basel III accords (Panel B).

Figure 2.8. Banks are more exposed to housing but less to foreign financing



Note: Other loans (neither housing nor business or agriculture) are not displayed in Panel A, hence the total does not add up to 100%.
Source: The Reserve Bank of New Zealand.

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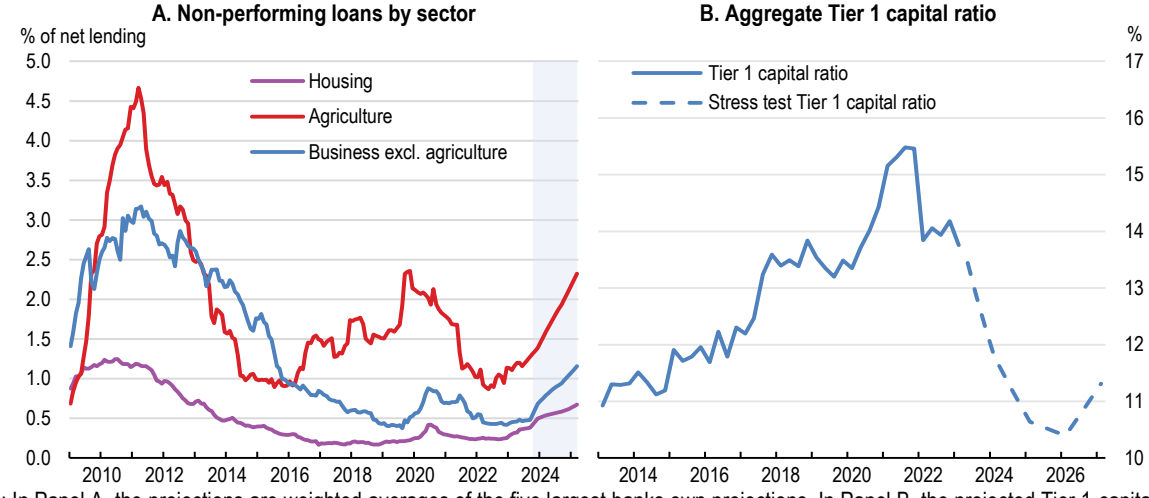
The severe weather events in 2023 have led to high claims (Chapter 5) and an increase in reinsurance costs for insurers. However, insurers have generally been able to obtain additional cover and are passing on higher reinsurance costs to policyholders. Life insurers' profitability has also been reduced by investment losses due to rising interest rates over the past two years but their solvency ratios remain above regulatory requirements.

Figure 2.9. Stress testing suggests non-performing loans will not put banks into distress



Note: In Panel A, the projections are weighted averages of the five largest banks own projections. In Panel B, the projected Tier 1 capital ratio is based on the 2023 Solvency Stress Test carried out by the RBNZ.
Source: The Reserve Bank of New Zealand (RBNZ, 2023b).

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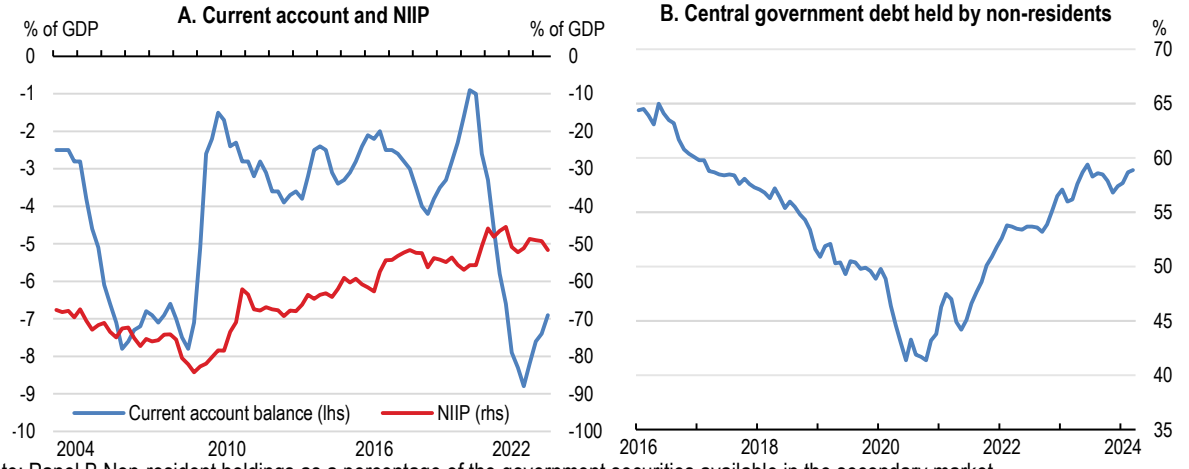
New Zealand's financial supervisory and prudential landscape has seen significant improvements in 2023. The Deposit Takers Act, passed in July 2023, gives additional powers to the RBNZ, with new requirements on company directors, greater inspection powers and an improved penalty framework. It also unifies the

regulatory regime for all deposit-taking institutions, bank and non-bank, with a more robust monitoring system, a framework for managing and resolving distressed institutions, and a deposit compensation scheme of up to NZD 100 000 per depositor, per institution. This deposit insurance scheme, which was recommended in past OECD Economic Surveys, is expected to go live in 2025 and is a big improvement on the current absence of such insurance. Additionally, banks' minimum total capital requirement was increased from 8% to 9% in July and banks are progressing towards the new capital requirements applicable in 2028.

The large current account deficit and negative net international investment position (NIIP) also carry financial stability risks (Figure 2.10, Panel A). The key one is a loss of investor confidence and sudden stop of capital inflows, which would lead to a sharp depreciation of the currency. The high share of government debt held by non-residents (58% of the secondary market) makes it more vulnerable to a loss of confidence due to a ratings downgrade (Panel B). New Zealand has run current account deficits of about 4% of GDP over the past 30 years, reflecting its long-standing structural saving-investment imbalance and generating a negative NIIP of -50% of GDP in 2022. While sizable, this negative NIIP has reduced substantially over the past 15 years due to a cumulation of lower debt servicing outflows as a result of lower interest rates and revaluation gains. Risk is also mitigated by external NIIP liabilities being mainly denominated in New Zealand dollars and having a net foreign currency asset position, so that a nominal depreciation of the New Zealand dollar tends to strengthen the external balance sheet, all else equal. The banking sector has a net foreign currency liability position, but it is fully hedged (IMF, 2023).

Figure 2.10. New Zealand remains reliant on external funding



Note: Panel B Non-resident holdings as a percentage of the government securities available in the secondary market.
Source: Stats NZ; The Reserve Bank of New Zealand.

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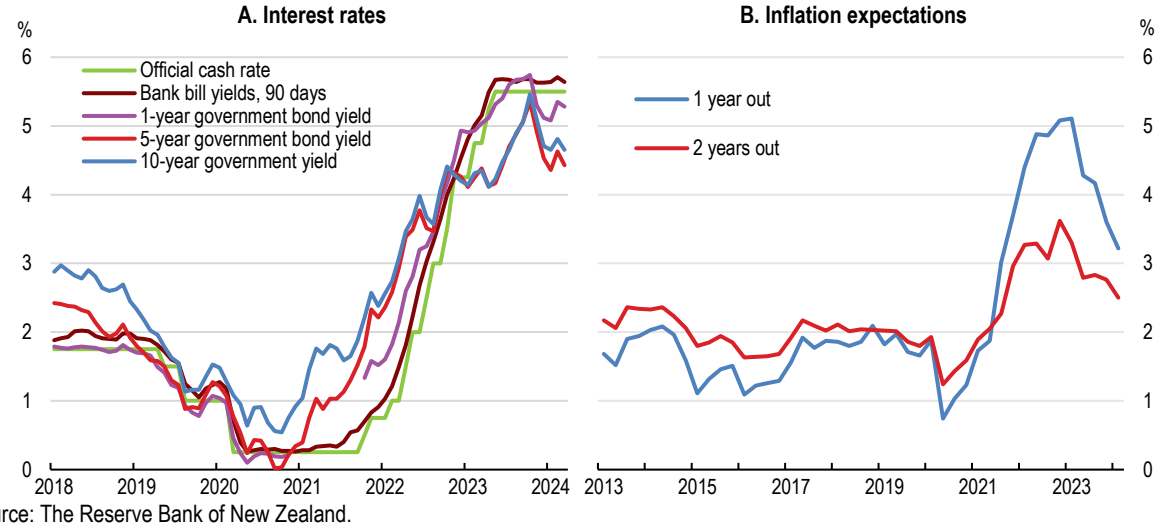
2.3. Monetary policy will remain tight for an extended period

The significant tightening of monetary policy since the end of 2021 has led to a marked increase in financing costs for banks, non-financial corporations and the government (Figure 2.11, Panel A), and inflation expectations have started to normalise (Panel B). The tightening of monetary policy has slowed economic activity and inflation including via higher mortgage rates. Due to large increases in interest rates elsewhere, exchange rate movements have been relatively small and therefore contributing very little to changes in inflation. Global developments, including a reduction in supply-chain bottlenecks, have eased electronic goods prices. However, services inflation is persistent, in part due to faster rising rents and a tight labour market, which makes it difficult to achieve faster disinflation. This persistence in inflation limits

the scope for lowering the official cash rate in 2024 and it should remain constant at 5.5% until there is clear evidence that inflation will fall to the middle of the RBNZ's target range of 1-3%.

Figure 2.11. Interest rates have increased markedly and inflation expectations are normalising



Source: The Reserve Bank of New Zealand.

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2.3.1. Monetary policy faces challenging waters

Monetary policy needs to keep inflation on track towards the RBNZ's target. This is challenging: services inflation is persistent and the timing and size of the contractionary effect of increased interest rates is uncertain. Transmission lags mean higher interest rates will continue to impact consumption throughout 2024 but the exact timing and magnitudes are difficult to anticipate. Rapid population growth and large swings in productivity during and post Covid-19 make it harder to project the economy's productive capacity. The RBNZ's task is also made harder by less timely and frequent data to base its policy decisions on than in the rest of the OECD and the costs of a policy mistake far outweigh the cost of more timely statistics (Box 2.2).

The adjustment of the variable- or adjustable-rate mortgages will continue into 2024 and policy should adapt if these effects are materially weaker or stronger than the RBNZ was anticipating. Disruptions in the funding market caused by a negative global shock can be partially addressed with macroprudential tools. Nevertheless, the monetary policy stance may have to adapt quickly to a slowdown. Conversely, further monetary tightening would be warranted if inflationary pressures remain even more persistent than expected due to for example more pressure in housing markets or further delays in fiscal consolidation.

Box 2.2. Improving the timeliness of New Zealand's macroeconomic statistics

Timely and reliable macroeconomic statistics are crucial for the RBNZ in setting monetary policy and for the government in making budget and other key policy decisions. New Zealand's official data agency, StatsNZ produces a wide range of high-quality statistics in line with international standards. However, key macroeconomic statistics including the unemployment rate and the CPI inflation rate are produced less frequently than in other OECD countries and GDP is released with one of the largest lags in the OECD.

New Zealand is, together with Australia, the only OECD country which does not produce a CPI index monthly, meaning the RBNZ has older information to base its monetary policy decisions on than most other central banks. Instead, StatsNZ releases quarterly inflation estimates. In addition, unlike most

OECD countries, StatsNZ reviews expenditure weights in the CPI basket only every third year. In November 2023, however, StatsNZ started releasing monthly price indices for accommodation services, domestic and international airfares, petrol and diesel and alcoholic beverages and tobacco. These new series are combined with the existing monthly price indices for food and rents into a Selected Price Index (SPI), which accounts for around 44% of household spending. Taking into account goods and services that change price annually (such as tuition fees and council rates), the SPI, which goes back to 2017 (or even further for some prices), corresponds to roughly half of the CPI basket. Except for petrol data, the SPI uses the same sources, methodological treatment and quality adjustments as the quarterly CPI.

New Zealand is also the sole OECD country that does not produce a monthly unemployment rate series. StatsNZ does, however, publish other timely labour market data, such as monthly employment indicators (filled jobs and gross earnings) and monthly, experimental, data on employment stocks and flows.

StatsNZ is aware of these issues and has come up with innovative solutions but they are only partial. Macroeconomic statistics should be given higher priority given their fundamental importance for fiscal and monetary policy. Older and less frequent statistics increase the risk of costly policy mistakes. StatsNZ in consultation with the Treasury and RBNZ should develop a programme to upgrade macroeconomic statistics with costings.

Source: Statistics New Zealand.

2.3.2. The mandate of the RBNZ has been clarified and narrowed

The 2022 Review and Assessment of the Formulation and Implementation of Monetary Policy looked at the conduct of monetary policy in 2017-22. It found that overall the Monetary Policy Committee (MPC) had been agile in reacting to the unprecedented Covid shock, and that the inflation and employment objectives had not been in conflict over the review period (RBNZ, 2022). The review also rightly assessed that in hindsight, monetary policy should have been tightened earlier as demand was already high and inflationary, but such a tightening would not have prevented inflation overshooting the target given the global and supply-side shocks that occurred. However, the MPC did not fully anticipate the effects of massive, innovative and unprecedented fiscal policies employed to support the economy during the pandemic. This was further compounded by higher-than-expected public spending. Furthermore, while alternative monetary policy tools (asset purchases and forward guidance) proved efficient at stimulating economic activity during the pandemic, they likely added to inflation later.

Coordination around alternative monetary tools works well. Institutional arrangements between the RBNZ and the Treasury for asset purchases are transparent and allowed the RBNZ to maintain independence over monetary policy (Box 2.3). However, with the benefit of hindsight, the overall macroeconomic policy response to the pandemic stabilised output and employment well but contributed to high inflation. It may be difficult to do better when making decisions under such uncertainty. Nevertheless, to prepare for future crises, further work should go into how to coordinate macroeconomic policy, and notably the assignment of fiscal and monetary policies in response to destabilising events (Buckle, 2023). This work should consider the implications of novel and/or large fiscal policy responses to a crisis for monetary policy and vice versa, as well as implications for central bank independence and the government's financial position.

The MPC remit did include a dual mandate of promoting price stability and maximum sustainable employment and required the MPC to assess the effect of its monetary policy decisions on house prices. The statutory review of the monetary policy Remit and Charter, finished in June 2023, concluded that New Zealand's inflation targeting framework remains appropriate. While this review did not advocate an end of the dual mandate, it did recommend inflation targeting as the primary objective, with employment becoming a secondary target. The previous government did not enshrine this hierarchy in the new June 2023 remit but the new government legislated a return to a single inflation target, and amended the remit accordingly, in December 2023. The new remit also requires that, when inflation lies outside the 1-3% range, the MPC

explains why and provides a timeframe for inflation normalisation. The single inflation mandate reduces the risk of overshooting the inflation target in the face of negative supply shocks (e.g., the recent global energy price shock) when employment and inflation considerations pull in different directions. The effect of the new reporting requirements is likely to be modest as the RBNZ was already publishing economic projections including a path for inflation in the context of its quarterly monetary policy statements.

Additionally, the new remit has narrowed the list of secondary elements for the RBNZ to consider while achieving its primary objective. The MPC shall now have regard to financial stability and seek to avoid unnecessary instability in output, employment, interest rates and the exchange rate. As such, employment considerations have, rightly, not been fully discarded. Nevertheless, New Zealand should for the moment avoid further changes to the RBNZ's mandate or secondary objectives. New Zealand is somewhat an outlier among OECD economies with respect to the frequency of changes in the MPC remit and further changes if any should occur in the context of the five-yearly statutory reviews of the charter and remit of the RBNZ.

Box 2.3. Fiscal consequences of alternative monetary policy tools and institutional arrangements

The RBNZ's Large Scale Asset Purchase programme, with amounted to around NZD 55 billion between March 2020 and July 2021, helped support the economy during the COVID-19 pandemic. The RBNZ predominantly purchased government bonds in the secondary market by paying settlement cash (i.e., the electronic cash held in accounts with the RBNZ to settle payments between commercial banks and also the government). As such, government debt to the private sector (at fixed interest rate) was replaced by central bank debt (at the floating OCR), changing the Crown's (State's) interest rate exposure as a result in its consolidated accounts. While initially lower than the bonds interest rate at the time of purchase – generating a positive interest margin – the OCR soon surpassed it. As a result, the RBNZ realises operating losses – as the OCR it pays is higher than the interest rate it receives from the government – and the market value of the bond portfolio has also decreased, resulting in accounting losses. As with other forms of fiscal or quasi-fiscal stimulus, its effectiveness must be assessed against the cost of inaction, in a counterfactual without asset purchases, with a sharper contraction and lower tax revenues as result (IMF, 2023). While these accounting losses do not necessarily need to be realised immediately if the bonds are held until maturity with gradual operating losses, this would prevent the RBNZ from actively unwinding its asset purchases which requires it to sell the bonds, at a loss. To circumvent this problem, interest risk losses and losses on sales are indemnified by the Crown via the Letter of Indemnity agreed between the Minister of Finance and the Governor of the RBNZ in August 2020. The indemnity has no net impact on the consolidated accounts of the State as the RBNZ's losses are met by the Crown.

This institutional setup has the advantage of maintaining the RBNZ's ability to conduct monetary policy without facing consequences for its balance sheet and the need for emergency recapitalisation or going into negative equity for a certain period. Only a few other central banks have explicit indemnity agreements that allow compensation for losses related to certain quantitative easing policies (notably the Bank of England and the Bank of Canada) but it is considered international best practice, along with other additional governance arrangements (Hooley et al., 2023; Bell et al., 2023). These recommended arrangements, which are largely present in New Zealand, include:

- Clear central bank mandates authorising crisis interventions, to promote accountability. Enhancing central bank governance for specific interventions can help to manage the costs and risks of crisis interventions.
- Extra external oversight mechanisms, monitoring and data-sharing arrangements. The additional risks to the public sector balance sheet from central bank crisis interventions provide a case for more oversight – subject to the need to retain central bank operational autonomy for monetary policy.

- Giving the fiscal authority a say in the design and implementation of central bank operations that have quasi-fiscal components with an explicit government backstop. As well as coordination on specific interventions, countries may benefit from a comprehensive sovereign asset liability management framework to better manage the fiscal risks from crisis interventions.
- Subject to monetary policy priorities, winding down central bank holdings of 'crisis assets' promptly after conditions normalise. This can help to mitigate risks and enhance transparency. Depending on the composition of central bank crisis asset purchases, transferring private sector assets to the government's balance sheet for their gradual liquidation, or the gradual conversion of central bank holdings of government securities into short-term bills, are two methods to do this.

2.4. Fiscal policy should be gradually tightened

Recent large fiscal deficits have contributed to excess demand and the unsustainably high current account deficit. The discretionary increase in expenditure in the previous government's 2023 Budget (partly due to the North Island Weather Events) has worked against monetary policy efforts to reduce inflation by contributing to an increase in demand in the 2023/24 financial year. More of the macroeconomic policy tightening ought to come from fiscal policy in 2024. The government should gradually tighten fiscal policy in the 2024 Budget. This would contribute to the rebalancing of the economy and reduce the burden on monetary policy, allowing interest rates to fall sooner than otherwise. The government has announced in the Budget Policy Statement 2024, released in March 2024, that the new operating allowance for the 2024 Budget will be less than NZD 3.5 billion. It is key for fiscal policy credibility that, absent a further large negative shock, the government does not deviate from the new operating allowances as set out in Budget 2024.

2.4.1. Spending slippage has played an important role in the deterioration in public finances

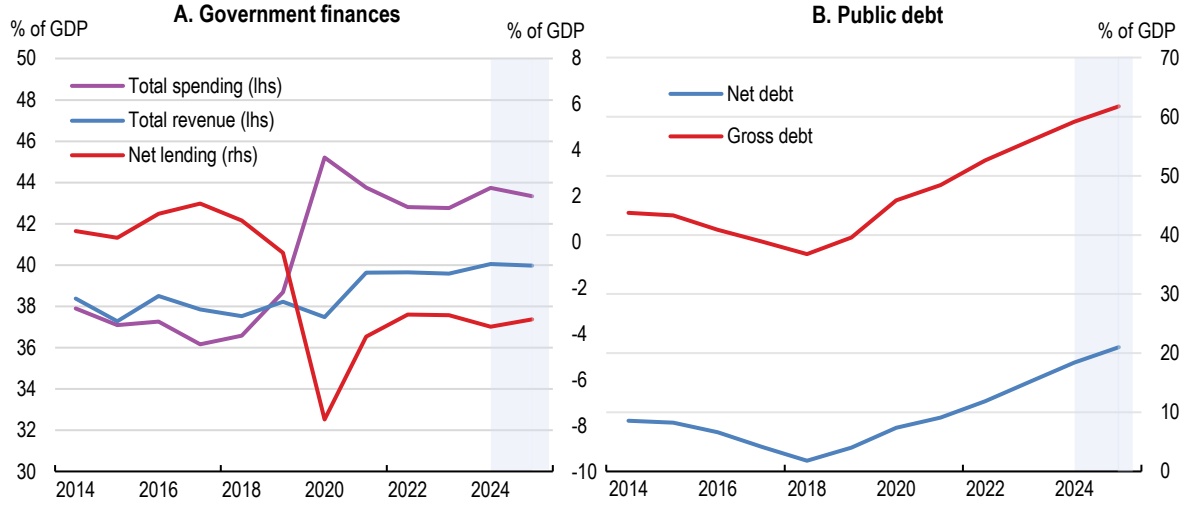
As in many OECD countries, the medium-term fiscal position has deteriorated significantly in recent years. The general government fiscal balance is estimated to have declined from a surplus averaging 0.9% of GDP between 2014 and 2018 to a deficit averaging 3.7% of GDP between 2019 and 2023. Gross general government public debt, although still low compared to 113% of GDP in the OECD area, rose quickly to 56% of GDP by 2023 (Figure 2.12). A massive policy response to shield households and firms from the worst effects of the Covid-19 pandemic, the 2022 global energy and food price shock caused by Russia's war against Ukraine and the costs of extreme weather events in 2023 played a large role in the deterioration.

However, although it has declined from its Covid-19 peak in 2020, total general government spending has taken a step change up and was around 6 percentage points of GDP higher in 2023 than in 2018. Structural changes to spending and notably the decision to index welfare payments to wages instead of the CPI from April 2020 increased expenditure growth. This is expected to be reversed by legislation introduced in February 2024 to re-index the main benefits back to the CPI. Increasing government expenditure is a political decision, but the increase is also partly due to government spending exceeding the new expenditure allowances set after Covid-19 had already struck (Figure 2.13). The spending slippage against allowances in 2020 (not shown) can be explained by Covid-19 but shocks in the following years do not explain important increases in expenditure as they occurred after the slippage.

Expenditure slippage occurred in part due to additional expenditure to cover extensive governance reform programmes in health, education, water, and other sectors, as well as initial work on investment programmes. Expenditure slippage is sometimes justified as a "one-off" but a repetition of "one-offs" can quickly contribute to a permanently higher trend increase in expenditure. This carries with it risks of undermining policy credibility and contributing to macroeconomic imbalances and higher government debt.

Slippage arose in two main ways. First, the government increased the annual spending allowances set down at the beginning of the three-year parliamentary term. For example, at the beginning of the term in February 2021, the government set the new operating allowance (i.e., the permitted total increase in new spending initiatives) at NZD 2.625 billion per annum for the four budgets 2021-24. Subsequently, the Budget Policy Statement (BPS) 2022, released in December 2021 before Russia's invasion of Ukraine, showed the government would increase the new operating allowance to NZD 6 billion and NZD 4 billion for the 2022 (financial year ending June 2023) and 2023 budgets respectively. In Budget 2022 (released May 2022) the government kept spending for 2022 within the allowance set in the BPS, spending NZD 5.9 billion, but it increased the allowance for Budget 2023 further to NZD 4.5 billion. New allowances were partly increased because nominal GDP growth was expected to be higher than it turned out to be. This led to an over-estimation in revenue and therefore spending that would be in line with the operating balance target, highlighting the vulnerability of a balance target to economic forecasting errors.

Figure 2.12. There has been a permanent step-up in government spending and public debt is rising



Source: OECD, Economic Outlook (database).

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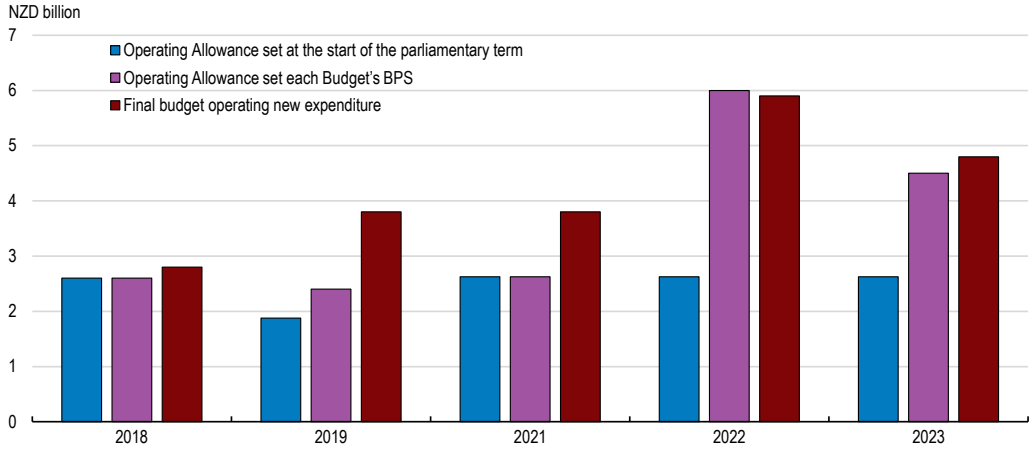
Figure 2.13. Government spending has been higher than planned



Source: New Zealand Treasury and OECD calculations.

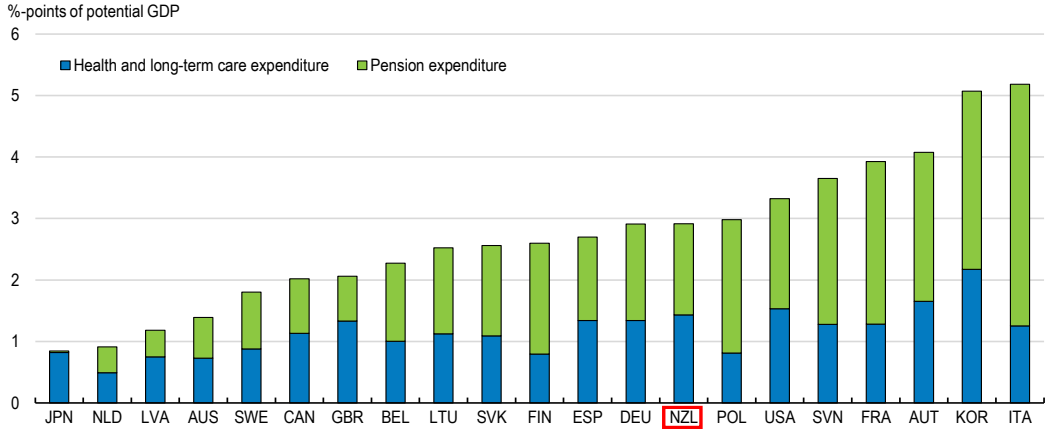
StatLink https://stat.link/nb6zki

The second type of slippage occurred between the announcement of the operating allowance for the next financial year in the BPS (December) and the subsequent Budget (May). For example, the 2021 BPS (released December 2020) announced the operating allowance for Budget 2021 at NZD 2.625 billion but by Budget 2021 (released in May 2021) it had been increased to NZD 3.8 billion.

2.4.2. Ageing-related spending will put pressure on government finances

On top of the increase in baseline government expenditure, an expected rise of nearly 3% of GDP in ageing-related health and pension expenditure by 2040 will also need to be tackled (Figure 2.14). If public expenditure, the population and the economy continue to grow at historical rates, and absent policy changes or individual responses, net public debt will continue to rise unsustainably (New Zealand Treasury, 2021). Sustained spending slippage would increase debt further but reforms to raise labour productivity and average hours worked would help limit the increase (Figure 2.15).

Figure 2.14. Ageing-related costs are set to rise considerably



Source: Guillemette and Château (2023).

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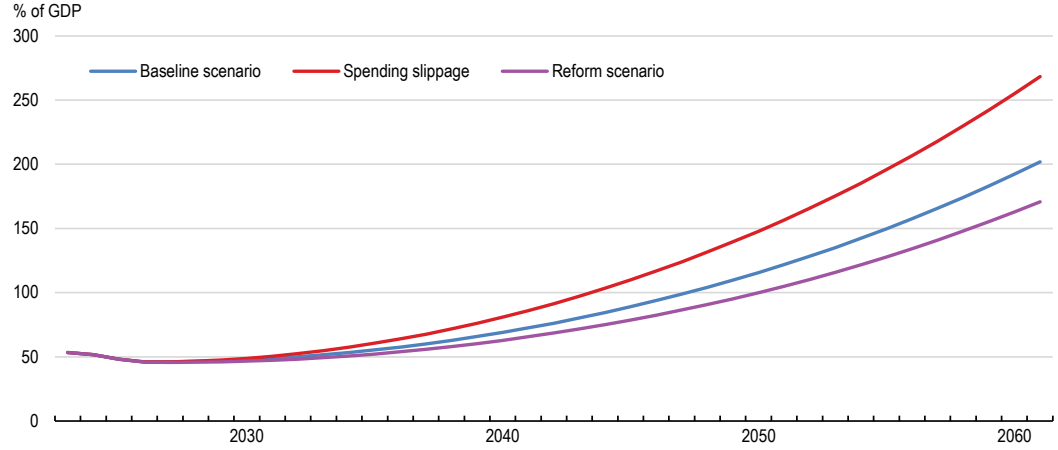
Figure 2.15. Without policy change public debt will rise markedly

Gross sovereign debt, % of GDP



Note: The baseline scenario corresponds to the case where government spending grows at the historical trend rate. In the spending slippage scenario the new operating allowance for 2025/26 increases from NZD 2 billion to NZD 4.5 billion and its annual growth rate doubles to 4%. In the reform scenario labour productivity increases from 1% to 1.5% per annum and average weekly hours rise from 33.7 to 34.7.
Source: OECD computation based on information in NZ Treasury (2021), Statement on the Long-term Fiscal Outlook and Long-term Insights Briefing.

StatLink https://stat.link/df6wp1

Beyond the immediate need to contribute to reducing imbalances in the economy, it is important that the government continues to steadily reduce the fiscal deficit as planned to limit the rise in public debt and thereby increase the fiscal buffer available for the next negative shock. On the revenue side, any tax cuts should be fully funded by offsetting revenue or expenditure measures. Raising revenues should be first achieved through broadening the tax base and reducing distortions before raising rates of existing taxes. There is a need to reduce distortions to household choice of asset allocation. Shares, land and owner-occupied residential property are tax-favoured. Most capital gains from shares, owner-occupied residential property and land are not taxed. To ensure the tax system is not overly distorting saving and supporting broader growth, capital gains taxation reform should be done as part a wider review of tax settings for saving. New Zealand's tax settings remain an outlier in some respects in international comparison and notably in offering no tax deduction for contributions and in taxing the returns pension funds earn while they are invested, and prior to withdrawal at progressive rates (OECD, 2018). This likely distorts saving away from national private pension saving. Foreign savings are not a perfect substitute for national savings. Even in a country relatively open to international capital flows like New Zealand, low national savings likely constrains investment (David et al., 2020). This is particularly the case for New Zealand's significant infrastructure and long-lived capital investments needs, for which pension savings is well suited as a funding source given its long-term nature.

On the spending side, ageing-related expenditure is rising quickly and pensions are starting to be a major driver of new expenditure. Many of the reforms needed to sustainably tackle ageing-related expenditure need to be introduced gradually (e.g., increasing the retirement age) and take a long time to have an effect (e.g., reforms to raise productivity). This argues for acting now despite the relatively benign outlook for public debt until 2030. There are some areas where targeted new spending would be justified (education for example, see chapter 4 of this Survey), but more fiscal room must be found before these spending priorities can be addressed. Others are small enough that re-prioritisation of current expenditure would allow them despite the overall necessity to reduce the deficit (Table 2.3). There is no silver bullet for increasing revenues or containing spending, but the medium-to-long run fiscal balance will remain a pressing challenge for the years ahead. Additionally, expenditure consolidation plans need to be mindful about unintended consequences of spending rules. For example, setting unrealistic fixed headcount targets for Government agencies can at times lead to excessive hiring of consultants and temporary workers, which can be costly and counterproductive.

Table 2.3. Illustrative impact of selected proposed reforms on the budget balance

Recommendation	Sign and size
Set operating allowances and tax policies that will produce gradual fiscal consolidation and stick to them.	+large
Broaden the range of revenue tools for councils, including user charges and better land value capture. Introduce an incremental land-value tax on the owners of land on the city fringe or within the city boundary that is rezoned.	+ medium
Increase the frequency of relevant macroeconomic indicators such as the consumer price index	-small
Construct and maintain a national individual insurance claims database.	-small
Consider introducing an independent fiscal institution reporting to Parliament to cost policies.	-small
Better prepare new teachers by making at least the first year of teaching registration a more formal post-graduate education year in pilot schools	-small
Support horizontal spreading of best practices by setting up a government-funded education excellence fund.	-small
Continue to build further Ministry of Education capacity to support schools, and expand regional offices including reinstating specialist subject advisors, in priority for the primary and intermediate levels	-small
Consider extending the length of year 0 (through earlier entry or later exit) and adapt its content, to ensure a smooth transition into school.	-medium

Note: the impacts reported are on the central plus local government fiscal balance.
Source: OECD

2.4.3. The fiscal framework needs to be strengthened

New Zealand's principles-based fiscal framework is closely aligned with the OECD's principles on budgetary governance (OECD, 2015). It has many strengths, notably flexibility and transparency with legislated requirements for regular statements of the government's short-term intentions and long-term objectives and economic and fiscal reporting including long-term fiscal statements on whether the objectives are in line with responsible fiscal management. However, the experience over the past five years with spending slippage, as well as debates and uncertainties about the costings of political party promises, suggest that the framework has shortcomings.

This spending slippage shows that a framework that focuses fiscal targets on the operating balance and debt but not expenditure is insufficient. In addition, despite the existing framework's focus on transparency, the spending slippage was not well explained. For example, the over NZD 3 billion increase in the allowance for Budget 2022 announced in BPS 2022 was explained as a "one-off" to cover the restructuring of the health services and pressing health needs, while the increase for Budget 2023 of NZD 1.4 billion was not explained at all in the BPS. Inaccuracies in the cost of the major political party proposals risk sub-optimal policy and further fiscal slippage, especially as these costings are presently often provided by consultants, who do not always have access to all the necessary fiscal information.

Fiscal rules, although not legislated, are already a part of government fiscal strategy in New Zealand. However, a further refinement of the use of fiscal rules and an independent fiscal institution (IFI) in New Zealand could complement the current framework and help to deal with both these weaknesses. Research has found both fiscal rules (Nerlich and Reuter, 2013; Fall et al., 2015) and IFIs (Debrun et al., 2009; Debrun and Kinda, 2017; Beetsma et al., 2019; Martins and Correia, 2020) can improve fiscal performance with lower deficits, less optimistic forecasts and less pro-cyclical fiscal policy and that IFIs help with greater compliance with fiscal rules. The main causal mechanism appears to be that they both improve transparency, allowing parliament, civil society, and the media to better hold the executive to account.

The Public Finance Act 1989 requires the government to set out annually a strategy with its long-term objectives for fiscal policy, including total expenditure and the balance between total operating expenses and revenues. Governments have adopted fiscal rules and numerical targets as part of these strategies but have been focused on net debt and the operating balance. This focus has not prevented spending slippage. This is in part because positive revenue surprises, due to the economy performing better than expected, have at times been used to increase spending beyond what was planned, a practice that operating balance and net debt targets do not constrain.

Within the current public finance framework, one option to better counter spending slippage would be for the government to set out in all the main fiscal documents a fiscal target for discretionary expenditure growth and not only for the operating balance. This would retain the flexibility and government ownership advantages of the current principles-based framework but would have an additional accountability advantage as the government has more control over expenditure than over the operating balance. This would give the Treasury a more transparent technical yardstick to measure and report on fiscal performance, which in turn would provide Parliament and the public more information to hold the government to account.

A proposal to introduce an IFI was made in New Zealand before the Covid pandemic (Kopits, 2019). A range of submissions from international institutions to individuals generally agreed with the proposal but some were sceptical about how much value it would add to the existing framework. There were also a variety of views about the functions of the IFI and especially whether it should cost political parties' policies. Most submissions were in favour of the IFI being an Officer of Parliament although some pointed out this imposed some constraints (The Treasury, 2019).

IFIs are present in around 80% of OECD countries. The functions of these institutions vary across countries and often include the assessments of budgetary plans, long-term sustainability and the evaluation or

provision of macroeconomic and budgetary forecasts (von Trapp et al., 2016). An IFI would complement the current fiscal framework by providing a voice for fiscal sustainability independent of the executive, as well as strengthening the support to parliament in its role in balancing the power of the executive. The mandate of the IFI matters for its effectiveness. IFIs tasked with assessing budget forecasts and monitoring fiscal rules are on average successful in delivering more accurate forecasts and stronger fiscal rule compliance (Debrun and Kinda, 2017). An IFI should be informed by international experience (Box 2.4). However, a New Zealand IFI should be home built and tailored to New Zealand's needs and institutional constraints (Kopits, 2019). Given the extra costs involved in setting up an IFI with these macroeconomic and fiscal monitoring functions and, the limited availability of experts in fiscal policy in New Zealand, and the duplication of Treasury functions, it would be preferable to first test the approach of a greater focus on expenditure monitored by the Treasury discussed above.

By contrast, constant doubts about the costs of major policy proposals with significant implications for the fiscal position argue for introducing an IFI as there appears to be a genuine gap in the policy framework. This is not a function the Treasury can fulfil without compromising its independence from politics. Internationally some IFIs cost party political policy proposals. If a New Zealand IFI was given this costing function it could help the democratic process by switching the debate from the veracity of the costings, where it has been focussed in the two past parliamentary elections, to the merits of the policy itself. Independent, expert costing would also reduce the risk of fiscal sustainability being undermined by large errors in these costings.

Box 2.4. Independent fiscal institutions: international experience

According to the OECD Principles for Independent Fiscal Institutions (IFIs), their leadership's term should optimally be independent of the electoral cycle; IFIs should be precluded from any normative policy-making responsibilities; and the leadership should be selected strictly on merit and technical competence (OECD, 2014). Experiences of OECD countries with IFIs have been varied. For example, in the United Kingdom, the IFI was created due to sharp increases in public debt and concerns over excessively optimistic fiscal forecasts (Chote and Wren-Lewis, 2013). The Irish case is a good example of how IFIs can raise public awareness of long-term fiscal challenges and strengthen fiscal management (OECD, 2017a). Established in 2012, the Irish Fiscal Advisory Council (IFAC) is mandated to independently assess the government's fiscal stance and budgetary forecasts, endorse the official macroeconomic forecasts prepared by the Department of Finance and monitor compliance with budgetary rules. The Council is made up of five members – including its Chair – appointed by the Minister of Finance among recognised domestic and international experts in macroeconomic and fiscal matters. The Council, whose members' four-year mandate is renewable up to three consecutive terms, has an annual budget of around EUR 0.8 million, and a six-person full-time Secretariat. Over the years, IFAC has become central to the national debate on public finances, particularly by stressing the need to ensure fiscal sustainability in the face of systemic challenges, such as population ageing, climate change and the digital transition. IFAC's reports and recommendations have gradually made inroads in the policy sphere. The authorities adopted a spending rule in 2021 and enhanced transparency via the adoption of strengthened medium- and long-term budgetary frameworks.

There is notable diversity in the type of costing work undertaken by IFIs. The US Congressional Budget Office has 270 staff, mostly economists or policy analysts, and costs virtually every bill reported by congressional committees (between 500 and 700 annually). Given its limited resources the Canadian Parliamentary Budget Office with about 40 staff undertakes, along with its other functions, selective policy costings based on materiality. A project or request is considered material if it can reasonably be expected to have a substantive impact on the government's finances, or the economy. The Australian Parliamentary Budget Office with about 45 staff, along with its other functions, carries out costings on request by parliamentarians, and also publishes a post-election report including costings of election commitments of the major political parties and, on request, commitments by minor ones. Several institutions also have a role in scrutinising policy costings. For example, the UK Office for Budget

Responsibility (OBR) with 45 staff, along with other functions, scrutinises and endorses as "reasonable", or not, costings of budget measures produced by government departments. If the UK OBR disagrees with a government costing, it incorporates its own preferred costing in its published forecasts. While the National Audit Office of Finland, which has a team of about 8 in the Independent Fiscal Institution division, does not have a role in ex ante costings, it may evaluate cost assessments of government programmes. Analytical staff in IFIs vary between one and 10 in smaller European countries.

Source: von Trapp, L. and S. Nicol (2017), *Designing effective independent fiscal institutions*; OECD (2021) *OECD Review of Finland's Independent Fiscal Institutions*; OECD (2024), *OECD Economic Survey of Japan*.; Australia Parliamentary Budget Office;

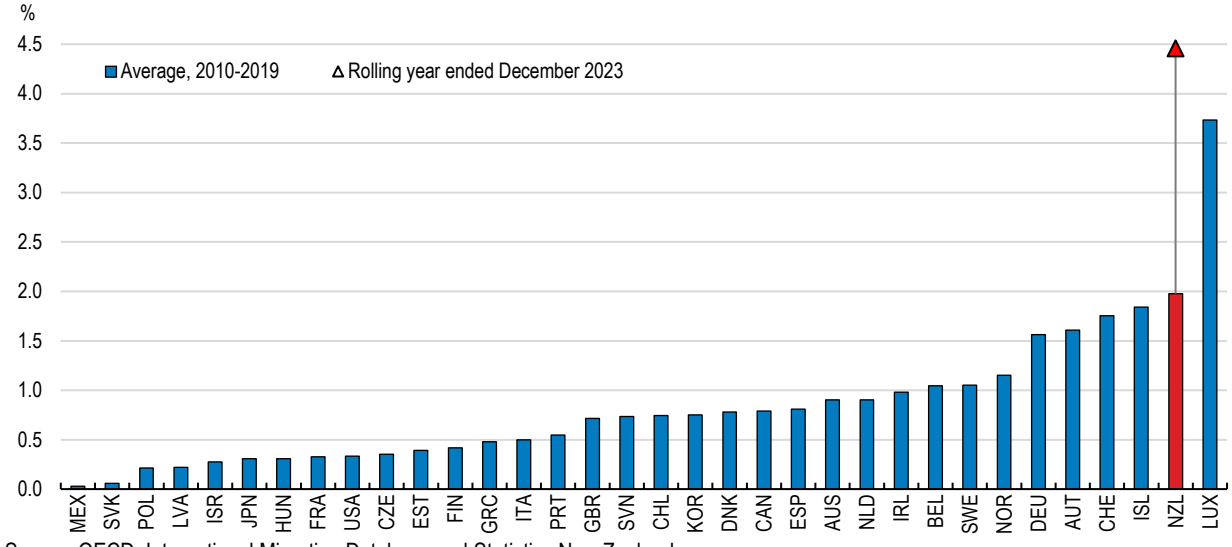
The OECD principles on IFIs (OECD, 2014) and international research also suggest certain IFI design features that would increase its effectiveness. These include independence, appropriate resourcing commensurate with its mandate, having access to all the information required to carry out its mandate, and that the IFI leadership is visible in the media and effective in public debate (Debrun and Kumar, 2009; Debrun and Kinder, 2017; Martins and Correia, 2020). The latter is more likely if the IFI Chair or Parliamentary Officer is respected across the political spectrum for their independence and expertise in fiscal policy and public finance. The OECD IFI principles also highlight the importance of IFI accountability to parliament regardless of its institutional reporting lines.

2.5. Investment has fallen behind the needs created by high net inward migration

High net inward migration of over 126 000 (2.4% of the population) in 2023 is the result of very high arrivals of non-New Zealand citizens (4.5% of the population) (Figure 2.16) combined with increasing departures of locals. The ensuing strong population growth is supporting consumption and GDP and has helped to ease labour shortages but it is also slowing the decline in inflation in the short-term as immigration adds to housing demand (NZPC, 2021; RBNZ, 2023a).

Figure 2.16. The inflow of foreign migrants is high by New Zealand and international standards

Inflow of foreign migrants as a share of population



Source: OECD, International Migration Database and Statistics New Zealand.

StatLink https://stat.link/knozmh

The surge in net migration is likely partly a temporary release of pent-up demand to migrate to New Zealand following the lifting of most Covid-19 border controls by end-July 2022. It may also reflect the interaction between changes to visa settings, employer behaviour, and the profile of labour demand across all skill

levels when the border reopened. The main temporary work visa is the Accredited Employer Work Visa (AEWV). It was introduced in July 2022 to replace the Essential Skills Work Visa, with the aim of encouraging more highly skilled migrants to come to New Zealand. The new visa made the system employer-led and came with increased documentation and verification requirements for employers to be accredited (which the Essential Skills Work Visa had not previously required). It also changed the requirements on proving whether the job could not be filled in New Zealand (the job test). In practice, checking by Immigration New Zealand that requirements were met was more limited than it should have been (Public Service Commission, 2024)

A key feature of the AEWV was the requirement that the job offered the median wage or above, as a way of discouraging the incidence of low-skilled temporary migration. Exceptions were permitted in defined sectors where a longer transition path to paying the median wage to migrants was agreed (Sector Agreements). Further changes were introduced in 2023, including extending the maximum duration of the AEWV from three to five years, with the proviso that it cannot no longer be renewed. This change was designed to reduce the risk of temporary migrant workers settling in New Zealand without meeting the residence requirements. The AEWV has been abused by employers and immigration consultants with some migrants being fired soon after arriving in New Zealand or being housed in crowded unsanitary conditions and a review of its operation was launched in August 2023. As of mid-February 2024, Immigration New Zealand had received 2107 complaints against accredited employers and had over 170 active investigations underway. A review into the implementation of this visa found shortcomings in the operation of the visa including insufficient resourcing to process applications within the required deadlines, leading to instructions to reduce application checking (Public Service Commission, 2024). It will be especially important to make the employer accreditation and job testing processes more rigorous.

Net inward migration was already high in the decade leading up to Covid-19. It boosted aggregate growth and government revenue, benefited individual firms facing a labour shortage with no proven overall negative effects on the employment and wages of New Zealanders although the available evidence indicates it has been negative for some, notably welfare beneficiaries outside Auckland during certain periods of time (OECD, 2019; MBIE, 2018). However, the recent rate of net immigration has been far higher than experienced in the past. While immigrants have filled many job vacancies, high population growth has not been matched by an equivalent investment in housing and physical capital to maintain productivity, and the supply of skilled professionals (notably in health and education) has also failed to follow the needs of a growing population.

If the speed of inward migration exceeds the absorptive capacity of the economy to provide the new migrants with quality housing, infrastructure and capital, it can exert a drag on the capital-to-labour ratio, which is already low in international comparison, and be negative for overall economic performance and wellbeing and slow productivity growth (NZPC, 2021). There is mounting evidence that this is happening with investment in infrastructure, housing and government services failing to keep pace with high population growth over a long period spanning several governments. As a result, there is a substantial infrastructure deficit, contributing to growing traffic congestion, particularly in Auckland, housing shortages contributing to high housing prices and rents, amongst the highest relative to incomes in the OECD, and overcrowding, a shortage of GPs due to not expanding places at medical schools, and schools and teachers not being resourced sufficiently to face new pressures such as integrating recent migrants with little knowledge of English. Indeed, rental housing shortages have contributed to an annual increase of 5.1% in rents for new tenancies in March 2024.

Making investment more responsive to high net inward migration requires removing several structural impediments. Barriers to housing supply include weak competition in building materials (Chapter 3) and excessively tight supply of space to build (Chapter 5). The planning system has also failed to cope well with past demands for new infrastructure and housing created by population growth. New developments are “hotter and harder” than traditional suburbs and more vulnerable to climate change. Several reforms,

including to council funding, are required to ensure these investments are of higher quality, more affordable and adapted to a warmer climate with more extreme weather (Chapter 5).

However, even more responsive investment is unlikely to keep pace with very high net inward migration. Importantly, the level and type of net inward migration seems to be out of line with New Zealand labour market needs. Covid-19 labour shortages are dissipating and unemployment is rising and as discussed above around 80% of current immigrants are not formally classified as high-skilled (i.e., they are doing jobs in classified in Skill Levels 3-5). A caveat is that this figure includes highly skilled trades staff for whom firms persistently report the highest and rising levels of severe recruitment difficulties in the New Zealand labour market. However, it also includes low-skilled workforces that have grown rapidly over recent years (construction, hospitality), but where there will now be fewer vacancies as the labour market cools.

New Zealand should consider strengthening the AEWV regime to reinforce the original goal of the immigration 'rebalance' towards a higher share of high-skilled migration including tradespeople who remain in demand. To reduce the share of low-skilled migrants and encourage higher-skilled migration, Australia and Sweden both increased the minimum salary required for work permits in 2023 and created priority processing for high-skilled labour. Sweden has also set up a streamlined work permit service dedicated to recruiting high-skilled labour from outside the European Union. Australia has launched a marketing campaign targeting skilled workers overseas in key occupations and prioritised processing for skilled visa applications in healthcare and teaching occupations (OECD, 2023a).

The main tool being employed to ensure the AEWV attracts high skilled migrants is a requirement that the job offer must pay the median wage. However, this wage floor doesn't seem high enough as evidenced by the large share of low-skilled immigrants arriving under the programme. To help keep new migration more in line with the genuine skill needs, most of which are in high-skill categories, the government should increase the minimum wage required to obtain a work visa, as recommended in the 2019 *OECD Economic Survey of New Zealand* (OECD, 2019). This would also help ensure that migrants are the more experienced and able to contribute more to New Zealand even if they are in lower skill categories. The government could also prioritise processing of work permits for high-skilled health and education workers that have not already been prioritised straight to a residence status pathway through the new Green List that was introduced at the same time as the AEWV.

Strengthening the job testing process in the AEWV including introducing effective elements of pre Covid-19 settings for work visas would also help. In a welcome move in this direction the government announced in early April 2024 more requirements at the employer accreditation and job check stages. The government should monitor the effectiveness of these changes and further tighten them if employer abuse complaints do not fall markedly. It also announced measures to rebalance migration towards high skilled by introducing requirements for applicants to lower paid positions (i.e., below 2 times the median wage) and those not on the Green-List to show evidence of skills and qualifications above certain thresholds, including at least 3 years relevant work experience or a relevant qualification at level 4 or above of the New Zealand Qualifications and Credential Framework. In addition, the maximum continuous stay on an AEWV has been reduced from 5 to 3 years for lower skilled job categories (ANZSCO 4 and 5) that pay less than 1.5 times the median wage and that are not on the Green List. It will also be necessary to meet an English language requirement for migrants applying for ANZSCO Level 4 and 5 roles. The government should also consider operating a variable band or guide path on total non-citizen total work visa issuance. This could operate via a variable points system, depending on the net migration of New Zealand citizens.

2.6. Lifting productivity growth remains the key to sustainably improving living standards

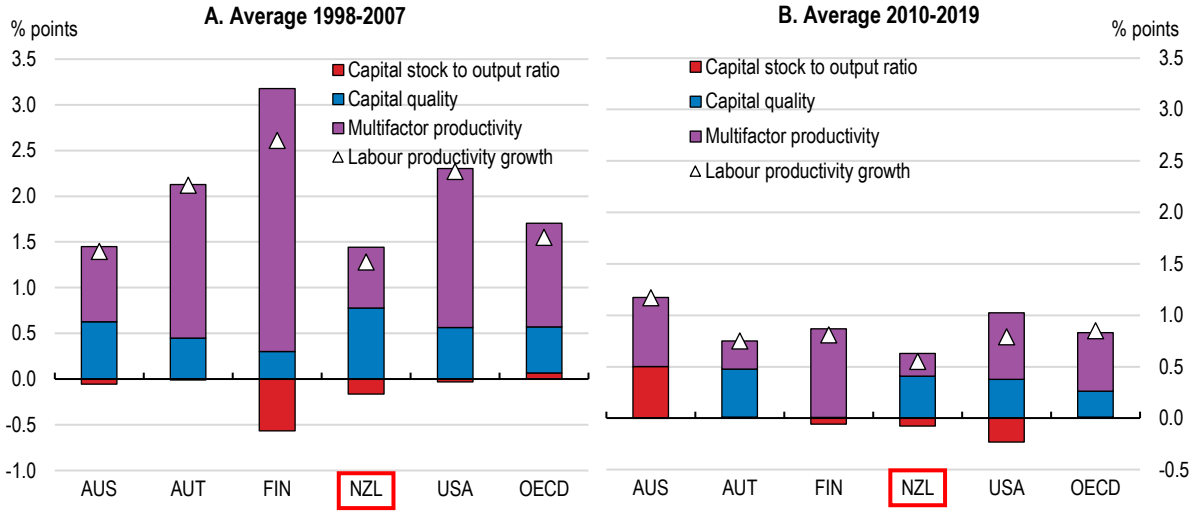
Prospects for sustainable economic performance beyond the expected cyclical improvement in growth as purchasing power improves depend mainly on lifting productivity performance and a cost-effective transition

to a low-emissions economy. New Zealand's per capita growth has been stronger in the past 20 years than previously, allowing some catch-up in income levels to higher-income OECD countries. However, this has largely been due to greater labour utilisation and improved terms of trade (Galt, 2023). The still large gap in income per capita is due to lower labour productivity (GDP per hour worked) level and slower productivity growth than in higher-income OECD countries (Figure 2.17) and especially weak multifactor productivity growth (OECD, 2017). In this context, the abolition of the Productivity Commission represents a loss of high-quality policy advice on one of New Zealand's key economic problems. Some of this loss should be mitigated by the Treasury and MBIE and the new Ministry for Regulation fulfilling some of these functions.

Closing the productivity gap requires acting on a broad front including: reinvigorating competition and reducing regulatory barriers (Chapter 3); fostering greater digitalisation (2022 *OECD Economic Survey of New Zealand*); increasing innovation, including through greater fiscal support for R&D and industry-research institute collaboration (2017 Survey); adopting lower-emissions technologies in the agricultural, transport and manufacturing sectors (Chapter 5), improving the planning system to capture more benefits from agglomeration (2017 Survey), facilitating investment in infrastructure (2017 Survey), improving achievement of all children whatever their background in school education (Chapter 4) and keeping immigration to a level consistent with New Zealand's absorptive capacity in order to maintain a growing capital-to-labour ratio (NZPC, 2021).

Figure 2.17. Productivity growth declined markedly after the Global Financial Crisis

Contribution to annualised labour productivity growth



Source: OECD (2023), Compendium of Productivity Indicators.

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Income inequality is slightly above the OECD average in New Zealand and despite progress, Māori and Pasifika continue to lag on many economic and social indicators. The outlook for reducing inequality and increasing aggregate productivity is not bright unless more progress is made in improving education opportunities for Māori and Pasifika children, who account for 25% and 13% of school enrolments, to reach their full potential (Chapter 4). This requires improving the living conditions of low-income families. In international comparison, rental housing affordability is particularly low (OECD, 2022), the majority of low-income households spend more than 40% of their income on rent and vulnerable groups often experience overcrowding, low-quality housing (notably damp and cold) and homelessness (2019 Survey). Strongly rising rents due to rapid population growth will aggravate these problems so increasing the supply of higher-quality rental housing for low-income families, which is associated with better education and health outcomes, should be a social policy priority. Mental distress is higher amongst youth, Māori and Pasifika and youth suicide rates are high in international comparison, calling for more support in this area as well (2019 Survey).

Findings and recommendations

FINDINGS	RECOMMENDATIONS (key ones in bold)
Monetary policy and financial stability	
Monetary policy is slowing the economy down, but disinflation is expected to be gradual. The effect of tighter monetary policy has not been fully passed to mortgage borrowers yet.	**Maintain restrictive monetary policy until inflation approaches the target.**
The frequency of key macroeconomic statistics is low in international comparison	Increase the frequency of important macroeconomic indicators such as the consumer price index
Ambitious reforms are being implemented including the Deposit Takers Act 2023 and deposit insurance and a gradual increase in banks' capital requirements.	Implement the Deposit Takers Act 2023 and the increase in banks' capital requirements as planned over the next few years.
Institutional arrangements between the RBNZ and the Treasury for asset purchases are transparent and allow the RBNZ to wind them down. However, inflation did end up far above the RBNZ's target and there is room to improve the assignment of fiscal and monetary policies in response to destabilising events.	To prepare for future crises and better inform the assignment of fiscal and monetary policies, the RBNZ and the Treasury should work together on developing a common understanding of the consequences of novel and large fiscal interventions during crises for monetary policy and vice versa.
The new Government has implemented a return to a single inflation mandate, with financial stability and the volatility of output, employment, interest rates and exchange rates as secondary considerations. New Zealand is an outlier in the frequency of legislative changes to the central bank remit.	Promote greater stability over time of the RBNZ charter and remit.
Fiscal policy	
Government spending rose has risen as a share of GDP over the past five years. The fiscal balance has moved into substantial deficit and public debt has risen and will continue to rise with no change in policy.	**Steadily reduce the fiscal deficit to reach a budget balance.** **Set operating allowances and tax policies that will produce gradual fiscal consolidation and stick to them.**
Government expenditure increased by more than initially planned.	**Consider reinforcing the fiscal framework by adding a numerical operating expenditure target to all the main fiscal documents.**
There are doubts about the cost of political party policy proposals.	**Consider introducing an independent fiscal institution reporting to Parliament to cost policies.**
Immigration and the labour market	
High net inward migration has helped to reduce labour shortages but is starting to put pressure on New Zealand's infrastructure and housing market again, slowing the rebalancing of the economy. There are significant number of complaints of employer abuse of migrants. Skill shortages are rife mainly in high-skilled occupations including tradespeople but around 75-80% of work visas are issued to medium and low skilled migrants.	Increase the threshold that wages must exceed to obtain a work visa. Monitor the effectiveness of changes to strengthen the employer accreditation and job testing process for the Accredited Employer Work Visa and further tighten if employer abuse complaints do not drop markedly.
In a highly competitive global market New Zealand cannot fill all its skill shortages by attracting migrants.	Increase local skills supply through widening access to vocational and in-work training as well as life-long learning. Carry out regulatory reforms to permit greater tasks delegation and labour-augmenting artificial intelligence.

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3 Revamping competition

Charles Dennery

New Zealand's productivity level remains markedly below the OECD frontier. Insufficient competition is an important contributor to this performance, as the relatively small number of competitors in New Zealand's small market contributes to market concentration. Ensuring competition policy is best in class is important for offsetting these geographic handicaps, foster innovation and support higher living standards. This chapter reviews the competition landscape and the recent reforms in several concentrated markets and network sectors and provides recommendations for additional sectoral reforms or inquiries. It also provides recommendations for improving the overall regulatory landscape, including the prerogatives of the Commerce Commission and other government regulators and regulations on business entry and conduct. Finally, it addresses the question of competition enforcement in digital and labour markets, where New Zealand faces some of the same challenges that other OECD economies have had to tackle.

3.1. Introduction

International experience shows that competition is one of the most important drivers of long-term growth in productivity (Nickell, 1996) and living standards (Nicoletti, Scarpetta and Lane, 2003). Since policy reforms in the mid-1980s and the gradual privatisation of numerous state-owned enterprises (SOEs), ensuring robust competition in New Zealand's markets has been given a pivotal role for lifting innovation, firm performance and economic growth, while lowering prices. An initially very "light-handed" approach to regulating competition has evolved into a more complex system of economy-wide competition rules.

Size and geographic remoteness may reduce New Zealand's per capita GDP by up to 10% (Boulhol and de Serres, 2010). Entering the New Zealand market often proves unprofitable for foreign firms, as the small market size is not enough to offset the effect of distance. Conversely, for domestic firms, the limited size of the home market and the difficulty to leap from a small market to compete abroad only allow for a few market players in many sectors. As a result, many markets in New Zealand are characterized by a limited number of large firms that often face weaker competitive pressures to innovate, seek efficiencies, and provide better services and lower prices to consumers. Ensuring market contestability ex ante and the free entry and exit of firms is key, but experience has shown that this is not always sufficient, and that ex post enforcement of antitrust and business conduct rules is often also warranted.

The recent bout of high inflation, accompanied by high profits in some sectors, has renewed interest in competition policy. At the same time, digitalisation and globalisation are bringing new challenges to competition policy, as digital markets and multinationals based overseas are often harder to regulate. This chapter starts with an overall assessment of the current state of competition, market contestability and the competition policy and regulatory framework in New Zealand. Building on recent market and price studies carried out by the Commerce Commission and other bodies, the chapter then studies the main factors that are hindering competition – notably in retail distribution and in network sectors – and provides sectoral recommendations for improvement as well as suggesting areas for further investigation. Finally, the chapter analyses options for improving the wider legislative and regulatory framework for promoting competition in New Zealand, with recommendations to foster enforcement and competitive entry.

3.2. Despite great strides, policy settings can be made more pro-competitive

Competition and regulatory enforcement are primarily carried out by the NZ Commerce Commission (NZCC) complemented by sector-specific regulators (e.g., the Electricity Authority for electricity markets) with specific regulations or codes of conduct. The NZCC is responsible for enforcing the Commerce Act 1986, which contains provisions on restrictive trade practices as well as mergers and acquisitions. Some sectors (typically natural monopolies or former state-owned enterprises) are directly regulated by the NZCC or subject to information disclosure requirements under part 4 of the Commerce Act (electricity lines and gas pipelines, as well as the three largest airports) or other sectoral legislation. Under the Telecommunications Act 2001 and the Dairy Industry Restructuring Act 2001, the NZCC is also responsible for regulating the wholesale and retail telecommunications market and the domestic dairy sector.

The enactment of the Commerce Act in 1986, along with the gradual privatisation of numerous state-owned enterprises in the 1980s and 1990s, was the result of a decisive policy push towards pro-competition market liberalisation. The Commerce Act 1986 replaced a series of ad-hoc price control and anti-profiteering rules in different sectors. The Government took a much more "light-handed" approach by allowing network sectors to run like private businesses and relying on competition rather than price regulations to discipline market forces. Over time, while the Government did not move back to more direct involvement in the economy, experience showed that low regulatory barriers are not always enough to stimulate market entry and prevent oligopolies from forming. As a result, this initially very light-handed approach to regulating competition has evolved into a more comprehensive system of economy-wide competition rules and sector-specific regulators and regulation to encourage or substitute for competition.

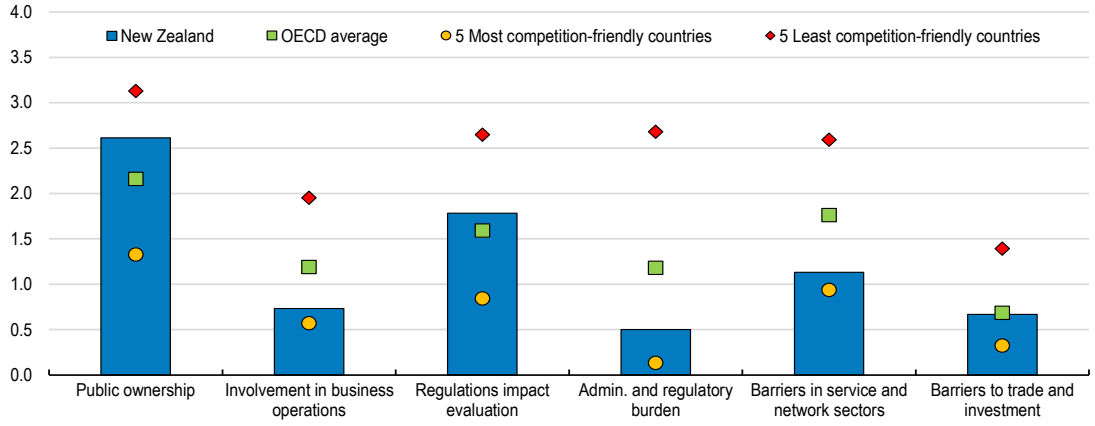
This more comprehensive approach appears to have paid off, and important policy strides have been made to overcome the tyranny of size and distance poses for robust competition. The NZCC, sector regulators and other public sector agencies are strongly committed to delivering competitive conditions. Despite ongoing issues, great progress has been made for example in network industries, such as telecommunications and electricity. However, competition in other important markets including retail distribution and banking needs to be improved, and New Zealand is falling behind other OECD economies in tackling competition issues arising from digitalisation – as highlighted in the previous *Economic Survey of New Zealand* (OECD, 2022a).

3.2.1. Regulatory barriers are uneven in New Zealand

The ease of doing business for domestic and foreign entrant firms is a powerful driver of market contestability and hence the effectiveness of competition ex ante; conversely, excessively restrictive rules can prevent entry and entrench the dominant position of incumbents, thus calling for stronger ex post antitrust enforcement. The OECD's 2018 Product Market Regulation (PMR) indicators paint a mixed picture of regulatory barriers to competition in New Zealand (Figure 3.1). While the administrative burden on new firms and startups is one of the lowest among OECD countries, New Zealand is not at the frontier of international best practice in regulating the involvement of stakeholders (notably lobbying), and the New Zealand's foreign investment screening regime remains one of the most restrictive in the OECD according to the OECD's FDI Regulatory Restrictiveness Index.

Figure 3.1. Economy-wide PMR indicators, breakdown by major components, 2018

Index from 0 (most) to 6 (least) competition-friendly regulation



Note: All the averages include only OECD countries. Information refers to laws and regulation in force on 1 January 2018.
Source: OECD 2018 PMR database.

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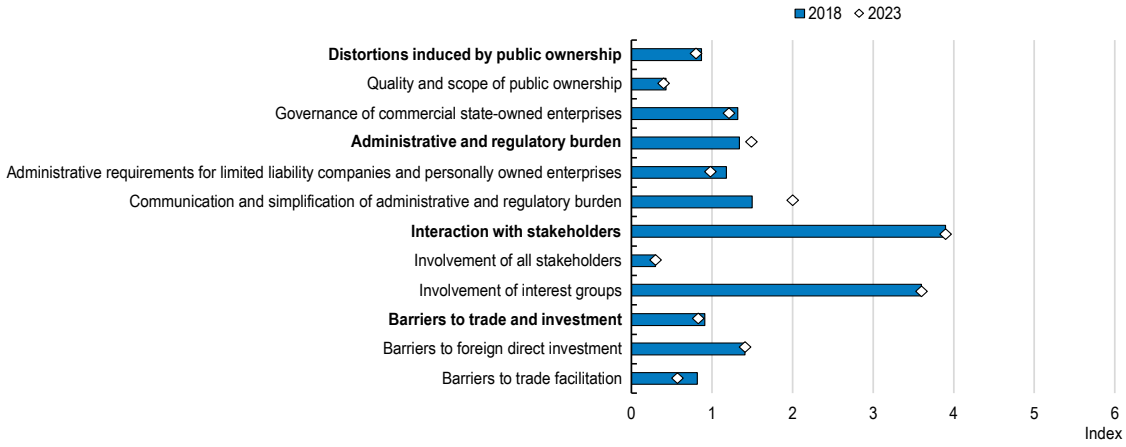
The OECD's 2023 PMR indicators provide a more granular summary of the regulatory landscape than the previous 2018 methodology. For example, while the State owns a share in a relatively high number of companies, the involvement of the Government in their business operations remains limited, as opposed to other countries where business and management decisions are often more politically influenced. As a result, New Zealand will appear closer to international best practice for SOEs in the new version of PMR indicators, with a finer methodology, to be released in June 2024 – though SOEs still carry other risks for competition. While the ranking of New Zealand among OECD peers is not yet available under the new methodology, New Zealand's evolution between 2018 and 2023 can already be assessed (Figure 3.2). Some of the reforms recommended in past surveys have been implemented, but many have not (Table 3.1).

Figure 3.2. The regulatory landscape in New Zealand displays a mixed picture

Selected PMR components and subcomponents for New Zealand, Index from 0 (most) to 6 (least) competition friendly



Source: OECD 2023 Product Market Regulation indicators for New Zealand.

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Table 3.1. Past OECD recommendations on market contestability and actions taken

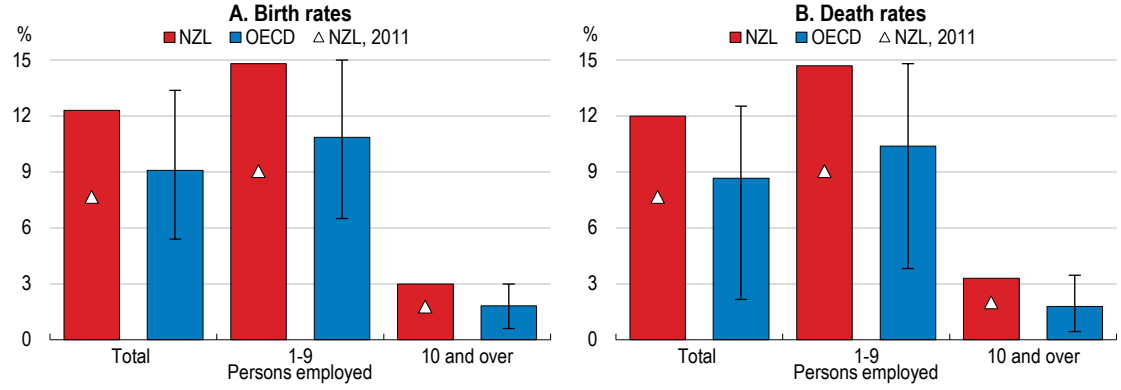
Recommendations in past Surveys	Actions taken since the previous *Survey*
Progressively narrow screening of foreign investment. Continue to reduce compliance costs and boost predictability for investors.	Since the partial streamlining in July 2021, no further action taken.
Move towards privatisation of SOEs and consider reducing local government ownership of port assets to bring more market discipline to the sector.	No action taken.

Business dynamism, the regulatory burden and access to public procurement

The OECD's 2023 PMR indicators paint a mixed picture regarding red tape in New Zealand. On the one hand, the administrative requirements for setting up and running limited liability companies and sole traders are low in international comparisons; as a result, business dynamism is vibrant, with high entry and exit rates by international standards (Figure 3.3).

Figure 3.3. Business entry and exit rates are high in international comparison

Birth and death rates of employer enterprises, 2020[1] or latest



1. 2019 for New Zealand death rates.

Source: OECD (2024), Structural and Demographic Business Statistics (database).

StatLink https://stat.link/uaz91j

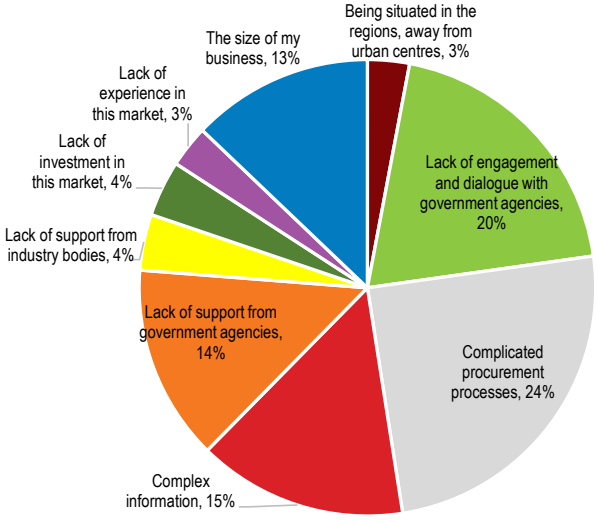
On the other hand, New Zealand is not close to the frontier of international best practice in terms of regulating lobbying and/or cooling off periods between the public and the private sector, which does not foster a level playing field; there is some scope to enhance lobbying and other regulations on public officials and ensure that they are applied evenly. Also, while the involvement of interested parties in public decisions does bring certain advantages in terms of local democracy or social cohesion, it can nevertheless carry a risk of excessive politicisation, nimbyism, and inaction, or even regulatory capture. This is notably true for land use rules or other local regulations, which can compound barriers to entry locally (see below). As such, a review of the overall settings for impact assessments and stakeholder engagement is warranted.

New Zealand is characterised by a high share of the population working in micro, small and medium enterprises. This hints at a difficulty for these firms to grow into larger businesses. While this is probably partly due to the relatively small size and low density of the New Zealand market, more can be done to help them grow. The regulatory regime for insolvencies remains relatively restrictive in New Zealand, notably for small firms (André and Demmou, 2022; Adalet-McGowan and Andrews, 2018) and has seen little change over the past years. New Zealand's capital markets also remain relatively underdeveloped. Improving the insolvency framework, and more broadly the access to financing and capital, would help small firms grow into larger businesses.

Small businesses also face difficulties in winning government procurement contracts (Figure 3.4). Under Rule 17 of the Government Procurement Rules, "agencies must consider how they can create opportunities for New Zealand businesses […] including Māori, Pasifika and regional businesses, as well as social enterprises". According to a 2021 survey, only 51% of businesses with five employees or less, and 63% of those with six and 19 employees, felt that they can effectively bid for government contracts, as opposed to 80% of businesses with more than 50 employees (NZ Government Procurement, 2021). Poorly written tenders with complex information and processes, and limited conversation between agencies and businesses are some of the barriers felt when tendering for government contracts. Ensuring a level playing field in government procurement and improving the ability for large and small businesses to bid, increases competition and provides growth opportunities for local communities and new competitors. By helping small businesses have a viable business model, they are then better able to offer new products and services to households and businesses; this can also help them become more competitive on the export market.

Figure 3.4. Main factors that make it difficult for firms to effectively bid for government contracts

2021



Source: NZ Government Procurement Business Survey; Ministry of Business, Innovation and Employment (2021).

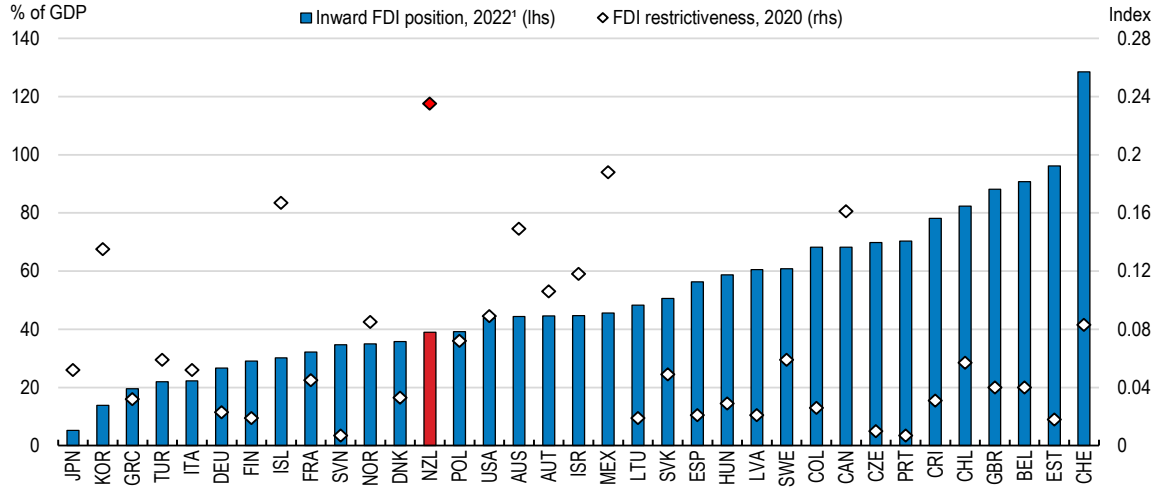
StatLink https://stat.link/g79p0y

There is potential to increase foreign direct investment

While geographical barriers to trade are high in New Zealand, New Zealand policy settings remain trade friendly. Tariffs are low in international comparison, and other trade costs remain reasonable compared to other islands or outside single markets like the European Union – especially given the need to impose tight biosecurity controls to protect New Zealand's native flora and fauna from introduced diseases and pests. Nevertheless, non-tariff barriers such as product standards remain prevalent in New Zealand, as in Australia. Like Australia (OECD, 2023a), New Zealand could improve efficiency, while meeting other policy goals, by further recognising standards of relevant foreign jurisdictions such as the European Union, where these exceed domestic requirements, to boost competition and lower prices.

Foreign direct investment (FDI) has historically been low in New Zealand, partly due to stringent controls on foreign ownership of core assets, natural resources and scenic reserves (Figure 3.5). The Overseas Investment Act (OI Act) 2005 sets out a consent regime for investments above a value threshold or in certain types of land. In the past, only few formal consent applications were rejected, but this partly resulted from investors withdrawing applications before a final decision was made (White & Case, 2023). An additional temporary screening for strategically important businesses was introduced during the pandemic and stabilised into a new national security and public order (NSPO) clearance regime in 2021. At the same time, the government decided to exclude lower-risk transactions from consent requirements. Consent under the OI Act is required for overseas persons seeking to directly or indirectly acquire a 25% or more interest in a sensitive New Zealand asset. Sensitive New Zealand assets include sensitive land, significant business assets (broadly assets worth more than NZD 100 million), and fishing quotas. The NZD 100 million monetary threshold is increased for investors from certain countries, and transactions involving foreign government investors are subject to heightened scrutiny. Under the NSPO regime, clearance is mandatory in some critical industries (intelligence, military, dual-use), and non-notified transactions can be called in for review before or after completion of the transaction. In addition to character screening (fines, convictions, etc.), the consent regime requires the net benefits (economic, environmental, etc.) of the transaction to be proportionate to the sensitivity of the land and the nature of the transaction. Depending on its complexity, a land application can take five to seven months (White & Case, 2023).

Figure 3.5. The inward FDI stock is small, especially for a small open economy



1. 2021 values for Australia, Belgium, Denmark, Finland, Greece, Korea, Latvia and Norway.
Source: OECD (2023) Foreign Direct Investment Statistics.

StatLink https://stat.link/hsq5u9

While New Zealand's focus on protecting natural resources from foreign ownership is unusual among OECD economies, it reflects fears that foreigners would acquire and export natural resources at a basic

level to be processed elsewhere, with little transformation and value added for New Zealand. On the one hand, the potential for additional efficiency gains through greater FDI is probably limited in primary agriculture and forestry activities – such as producing and processing dairy, growing and cutting logs – where New Zealand has a strong technical capacity. On the other hand, greater FDI in downstream processing and other industries could bring more benefits. The low level of FDI is likely in part due to the size of the domestic market and distance to other markets, as well as the very high effective rate of corporate taxation. The effects of the recent reforms on FDI should be monitored; if they have failed to increase investment, the government should streamline the procedures further – at least in sectors where national security is not at risk. This streamlining should focus on the specific sectors where FDI is likely to be particularly beneficial in terms of technology diffusion, expertise and access to foreign capital. In this regard an investigation into the influence of the regulatory system on FDI overall and in specific sectors of focus, as the OECD has recently carried out for Australia (OECD, 2018), Finland (OECD, 2021a) and Portugal (OECD, 2023b), could be beneficial.

State ownership remains high in New Zealand and SOE performance is mixed

High state-ownership in several key sectors carries risks for competition. By international comparison, the Crown and local authorities still own an unusually high share of the capital of New Zealand's network companies, through majority or minority voting rights in listed or non-listed companies. In part, this might reflect a cultural preference to keep the 'crown jewels' partly in public hands, or fear of foreign investors 'gaining control' of the economy and critical infrastructure – especially since savings have historically been low in New Zealand, making it dependent on foreign savings. It is also a product of history, with a high initial level of state ownership that was only partly reduced though privatisation, some privatised firms that had to be bailed out or recapitalised with public funds in the past, and the small size of New Zealand's capital markets making it harder to find suitable domestic private market alternatives to public ownership, given the reluctance towards foreign investment and control in different sectors.

These risks to competition are not classic ones of politically-driven inefficient monopoly companies. The public sector does not seem, overall, to be too involved in the day-to-day management of these companies, and their governance structure is often aligned with private sector practices, especially for listed firms. In companies where it holds a minority stake, the State does not enjoy special voting rights, or the ability to appoint the management directly. Overall, state ownership does not seem to be a tool for politicised decisions based on the desires of politicians or unions. State ownership has not led to inefficient corporate governance, so far, for publicly-listed firms, although some state-owned companies such as Solid Energy (formerly Coal Corporation) and New Zealand Rail have failed or had significant difficulties in the past. Nevertheless, several risks arise from significant state ownership, which makes guidelines and safeguards useful (OECD, 2015). SOEs remain more fragile to political interference, especially if one of these sectors were to become politicised again. The NZCC has a statutory duty to act independently and has acted against SOEs in the past. It adheres to the OECD's Recommendations on Competitive Neutrality (OECD, 2021b) to ensure there is no special treatment of SOEs in merger or other collaboration deals and could further explore how to minimize the distortions that SOEs are susceptible to cause in markets. It should also have a legal duty to advise Parliament on whether deals involving a SOE will substantially reduce competition, perhaps by making the Chair of the Commerce Commission an Officer of Parliament.

Avoiding politicisation and inefficient governance may prove more difficult for council-controlled-organisations and other local-owned assets where the links between councillors and the company could be particularly strong. The NZCC does regulate council-controlled-organisations such as electricity line businesses (see below) but does not specifically regulate ports. Of the country's eleven major ports, seven are 100% council-owned and four have mixed ownership with a majority council stake. Mixed-ownership ports have been more profitable than council-owned ports over the past eight years, and the profitability of Ports of Auckland declined markedly after its delisting in July 2005 (TDB Advisory, 2023). Consolidation and privatisation (in part or in full) may increase accountability, profitability and efficiency.

3.2.2. The competition policy framework has become more comprehensive

Competition policy must strike a balance between favouring firm entry ex ante and imposing sectoral regulations or more structural interventions ex post. Reducing regulatory barriers to entry and having a business-friendly environment is important, but the experience of the 1990s and 2000s in New Zealand shows that liberal entry rules can prove insufficient in the presence of natural barriers to entry (such as the size and scale of incumbents or entry costs). Like in many countries, high vertical and horizontal integration and local market concentration inhibit competition in numerous sectors. As in other countries, free entry of foreign and domestic firms is unlikely to suffice in bringing competition to natural monopolies such as energy, transport, and telecommunications; this also requires sectoral market regulations – ex ante or ex post – and antitrust enforcement. Many retail industries such as fuel, groceries, building supplies or financial services also remain highly concentrated in New Zealand, with high levels of profits; ensuring vibrant competition in these industries also needs ex post competitive oversight.

Competition authorities in New Zealand and abroad traditionally focused mostly on their judicial or quasi-judicial role of prosecuting cartel behaviour, anti-competitive agreements or abuse of dominance, as well as preventing mergers and acquisitions that may lead to excessive market shares. Conversely, market concentration which resulted merely from the growth of some firms and the exit of others, or high prices that resulted from a lack of competitive pressures, rather than cartel behaviour or abuse of a dominant position, was typically not illegal or regulated. As a result, competition was lower and prices higher than what could have been achieved with a broader focus beyond deliberately anti-competitive behaviour. This experience has led many policy makers and regulators to take a renewed interest in making competition work effectively, and they have appropriately gone beyond repressing illegal abuse of dominant positions to focus on the larger set of factors that can lead to excessive market concentration and a lack of effective competition.

In this regard, the New Zealand regulatory landscape has seen major changes in the past few years, with the NZCC gaining more oversight in a range of sectors. One major reform has been the rewriting of section 36 of the Commerce Act in 2022 (effective in April 2023). Previously, anticompetitive behaviours and the abuse of dominant position were illegal to the extent that they involved the taking advantage of market power for particular anti-competitive purposes. Now, in alignment with international standards, the NZCC is only required to show that conduct by a firm with substantial market power had the purpose, effect or likely effect, of substantially lessening competition in a market.

Since 2018, the NZCC is also empowered to conduct market studies into any market where the NZCC considers it to be in the public interest, notably if there are reasons to believe that competition may not be working effectively, but there is no reason to suspect that is due to a violation of competition law. The Minister of Commerce can initiate a market study or it can be self-initiated by the NZCC. Market studies have long been used in some OECD countries and increasingly so in the past decade. In the United Kingdom, the Competition and Markets Authority (CMA) gained a similar role under the Enterprise Act 2002 (now the Enterprise and Regulatory Reform Act 2013), and the Australian Competition and Consumer Commission (ACCC) conducts market studies under the Competition and Consumer Act 2010. The NZCC has carried out extensive market studies in different sectors (retail fuels, groceries, building supplies) and is currently assessing the market for personal banking services.

The NZCC is only required to assess the state of competition in the sector; recommendations are optional and non-binding on the Government. However, the NZCC has included recommendations in all studies so far, and the Government has enacted (or proposed) new legislation in the three sectors with completed market studies; these sectoral reforms have also tasked the NZCC with enforcing the new rules and improving competition in two of these sectors. This is perhaps not surprising as to date all four market studies have been initiated by the Minister. However, the NZCC does not have the power to perform market investigations – in contrast with competition authorities in the United Kingdom, Mexico, Iceland and Germany – with the power to determine and enforce structural or behavioural remedies. A test of the market studies process will come when the government's response to a NZCC-initiated study is debated in Parliament.

Market studies and other sectoral inquiries have identified some of the common anti-competitive factors discussed above (high market concentration or vertical integration, excessive use of land covenants locally, insufficient protection for customers or suppliers and the difficulty to move to a competitor, etc.). The extent of differentiation in products, services or business models also interacts with competition. Competition allows firms to differentiate and offer new innovative products to satisfy consumer preferences. At the same time, excessive product diversity and complexity can make it hard for customers to know and choose what is best for them. As such, regulations and market inefficiencies can lead to either too much or too little standardisation, compared to a competitive or efficient outcome. Both phenomena, too much standardisation (e.g., retail electricity offers until recently) and potentially excessive differentiation (e.g., grocery discounts and loyalty programmes) are present in New Zealand, although the former is more prevalent.

Competition authorities face a dilemma when addressing these market features, which are pervasive and risk being anticompetitive. One approach is to have a preventive prohibition in the Commerce Act and allow them on a case-by-case basis if the NZCC is satisfied of their innocuity. This might however be considered too heavy-handed and lead to excessive bureaucracy and oversight. So far, New Zealand has appropriately taken the alternative, more cautious approach of first identifying and analysing the sectors where lack of competition appears to be most egregious, and adapting the sectoral regulation through specific legislation, to impose restrictions on the anticompetitive factors that have been identified in this sector. The NZCC can also recommend cross-economy reviews are carried out as part of its recommendations following a market study and has done so in the case of restrictive land covenants, which led to the Ministry for Business, Innovation and Employment conducting a review in 2023. As the market studies process matures and more studies are completed, the NZCC and MBIE should keep reporting to the government periodically on cross-sector themes arising from the studies and opportunities for wider cross-economy reforms.

Perhaps more importantly, competition policy must strike a balance between favouring firm entry and imposing sectoral regulations or more structural interventions. Reducing regulatory barriers to entry and having a business-friendly environment is important (see above), but the experience of the 1990s and 2000s in New Zealand shows that liberal entry rules can prove insufficient in the presence of natural barriers to entry (such as the size and scale of incumbents or entry costs). If a light-handed approach is insufficient, this warrants efficient regulation or structural interventions to eliminate or reduce anticompetitive factors, or at least to mitigate their effect on competition. In theory, efficient regulation can help to mimic a competitive outcome, even in a non-competitive market, with possibly less market disruption than through vertical or horizontal breakups. However, in practice this often requires more complex regulations or codes of trading conduct to avoid the risk of larger players gaming the system and the regulations.

More significant structural interventions such as breakups may then sometimes be preferable, though they must be balanced against the likely ensuing fixed costs. One of the strengths of market studies is to go beyond the mere enforcement of existing statutes and consider the full range of policy options, including structural interventions. In some countries where the competition authority conducts market investigations, it can order structural interventions as a result. One notable example was the 2009 breakup of the British Airports Authority in the United Kingdom, mandated by the CMA (Sunderland, 2016). Nevertheless, markets are small in New Zealand, and structural interventions are likely to involve property rights and may require balancing the interests of competition against the risk of failing a business, or other considerations, including investor confidence. Furthermore, the implementation of structural separation can be complex in some sectors. Even in the absence of market investigation powers, a market study by the NZCC can provide a decisive impetus for government-led structural interventions. Market studies thus remain crucial.

International experience shows that limited local competition in a market can also be worsened by anti-competitive behaviour and rules in other markets. In New Zealand, as is seen in other OECD countries, abuse of the planning system and the terms of land management is prevalent in some sectors. In labour markets, non-compete clauses might compound competition issues, even if they are not always enforceable. In digital markets, regulators and policymakers in New Zealand and elsewhere are facing new challenges to protect consumers and businesses from exploitative practices, and foster growth and competition.

3.3. Using competition policy to offset the tyranny of size and distance

Because New Zealand's economy is small and remote, competition policy in New Zealand needs to be at the international frontier of best practice to counteract these disadvantages and improve the level of economic performance and long-term growth. Competition policy has a pivotal role to play in rooting out anti-competitive and cartel behaviours that are illegal, but also in addressing market concentration, which left to its own devices will deliver poorer quality goods and services at higher prices. This requires a forensic approach to regulation and competition as the source of insufficient competition varies markedly by sector and changes with global trends. In some sectors – notably network industries – regulation is necessary to ensure reasonable prices for consumers, while maintaining efficient incentives to firms to keep innovating and investing. In others, more structural solutions (i.e., the break-up of dominant players) may be the most efficient solution. This section discusses the acute market concentration challenges to competition that New Zealand's small market has created, as well as problems and recommendations in the network sectors, where fostering competition and preventing market dominance or its abuse is a perennial issue.

The evidence summarised below suggests there is a prima facie case for further analysis of barriers to competition in several key industries. These encompass dairy, retail electricity, ports, airports and relatedly airlines, domestically and on Trans-Tasman routes, and retail financial services. Varying indicators across industries suggest competition is too weak, including high prices and excessive profits by international standards, very high vertical integration, weak product innovation, poor corporate performance and stubbornly high market shares of incumbents. There is also a need to revisit competition issues in retail building supplies, retail fuel and groceries. The issues are complex and an assessment of the competition policy framework in light of these three market studies findings is warranted. The Treasury and MBIE should jointly review the policy framework for market studies to evaluate how it serves New Zealand's overall economic performance and consumer welfare. The review could consider whether the framework should be more directive and require, for example, regular NZCC evaluation reports on whether a markets study intervention or other interventions are working to raise competition. The review could also consider imposing an explicit escalation path from the light-handed regulatory approach, that is currently being employed in these sectors, to heavier regulation and structural separation (i.e., break-up of dominant players) in the case the intervention is judged as not working, even if it remains a solution of last resort.

3.3.1. Bringing more competition to the retail, dairy and financial sectors

Market concentration and profitability remain high in New Zealand in the retail and financial sector, where economies of scale largely shield incumbents from the emergence of new players. This warrants extensive ex post investigations on the factors that are preventing entry or exacerbating market dominance. While profitability is not as high in the dairy sector, it remains very concentrated, which yields significant economies of scale in terms of productive efficiency and competitiveness abroad, but is likely to slow innovation in a sector that plays a very large role for the New Zealand domestic economy and foreign trade.

Market studies have revealed common factors behind a lack of competition in the retail sector

The market studies that the NZCC has conducted have highlighted a lack of competition in different retail sectors, notable fuels, residential building supplies and groceries. While there is no ex ante regulatory barriers that prevents the entry of new players, market concentration is high nationally and locally. The different market studies have documented the interaction of vertical integration and abuse of land use rules locally that prevents the emergence of new players and increases the market power of incumbents. While these market studies did not advocate a structural breakup of some of these oligopolies, they have suggested improvements aimed at easing market entry ex ante and limiting market dominance ex post.

Five companies import fuel into New Zealand, three of which are colloquially regarded as "the majors" in the downstream fuel industry. Since the country's only refinery's closure in 2022, they only import refined

fuel products, including petrol. The three majors supply more than 90% of the retail fuel, through their retail sites, those of their franchisee dealers and those of independent distributors. While 60% of petrol stations are not affiliated with the majors, they are often located outside of major metropolitan areas, and only sell about 20% of fuel volumes. Land use restrictions (covenants or regulations) likely compound this issue. In 2019, the NZCC's Fuel market study found that an active wholesale fuel market did not really exist in New Zealand (Commerce Commission, 2019). Based on the Study's recommendations, the Fuel Industry Act of 2020 increased transparency, through a terminal gate price regime and mandatory price boards at retail sites. It also included data disclosure rules, a dispute resolution scheme between suppliers and resellers, and regulations to reduce restrictive or dependent supply relationships. The study and new legislation, along with the rewriting of section 36 of the Commerce Act regarding the abuse of dominant position (see above) have improved competition. In July 2023, a 'regulatory backstop' was added, with the NZCC being able to investigate terminal gate prices and recommend that they are regulated if they are deemed excessive. The effect of the new legislation should be monitored, and remaining barriers to entry and expansion for independent retailers should be investigated (vertical integration and retailer access to supply, land use rules). If competition in fuels continues to be deemed inefficient, the Government might need to investigate the option of forcing some of the majors to exchange or divest from some of their assets.

Prices and profitability are high by international standards in the retail grocery sector (Commerce Commission, 2022a), along with limited product range and innovation. Two major retailers dominate the market through their portfolio of different brands. As a result, they can extract higher prices from consumers (oligopoly power), but also exert 'oligopsony power' on their suppliers, passing on costs and uncertainty to them, with the threat of removing products from shelves if suppliers disagree (OECD, 2022b). This oligopsony power, and the associated economies of scale also make it difficult for new competitors to have a good access to wholesale supplies. In response, the Grocery Industry Competition Act 2023 was enacted in June 2023. It introduces a new regulator role for the NZCC in the grocery sector and improves access to the wholesale market for independent retailers. A new Grocery Supply Code of Conduct sets standards for the relationship between major grocery retailers and their suppliers. While an increase in the price paid to suppliers can sometimes be detrimental to consumer prices in the short run, it can still be beneficial in the long run, if it allows for more innovation by suppliers and more entry from new retailers that can compete with incumbents, as the playing field has been levelled (OECD, 2022b).

It is unclear whether these reforms will be sufficient. Stronger measures, such as a break-up of the duopoly through a forced sell-up of brands or a separation of the wholesale and retail branches of these companies, as well as the upstream growers and manufacturers they own, could eventually prove warranted, but are intrusive and complex. A cost-benefit analysis commissioned by MBIE on the behalf of the Government found that the total effects of divesture were uncertain, possibly leading to net benefits or net losses (MBIE, 2023). This analysis should be furthered and refined and could be used in the absence of measurable improvement. Restrictive land covenants (when a retailer imposes restrictions when selling a physical site) and local land use rules also prevent new entrants from setting up stores in the most relevant locations. A specific prohibition on grocery-related land covenants has been added to section 28 of the Commerce Act in 2022; the NZCC should carry out an evaluation of this reform, and whether land use rules or other local regulations are acting as a barrier to entry in the sector, with potential avenues for reform. Besides, pricing strategies, promotions and loyalty programmes can make it difficult for consumers to compare prices; new regulations relating to unit pricing have been enacted in 2023 to make price comparison easier for consumers. A shift towards digital shopping – where New Zealand has room for progression as argued in the previous OECD Economic Survey (OECD, 2022a) – would probably reduce fixed costs for new competitors, but algorithms and buying habits may weaken product comparison (OECD, 2023c).

The residential buildings supplies sector is dominated by five major merchants, who compete for national customers like group home builders, and regional customers, often local builders. According to the NZCC's 2022 market study (Commerce Commission, 2022b), competition seems to be working overall at the national level, but is sometimes lacking at the local level, with fewer competing distributors in less

populated areas. Indeed, prices in New Zealand have been 20 to 30% higher than in Australia (NZ Productivity Commission, 2012a) pointing to competition issues. Market concentration in smaller markets is compounded by restrictive land covenants that prevent competitors from opening stores in the direct vicinity of an incumbent. Merchants also sometimes benefit from preferential rights to quote for certain housing developments, on land designated for residential building developments. While the NZCC identified vertical integration in some of the suppliers, it did not seem to have a major detrimental effect on competition from non-integrated merchants and suppliers, who have a good access to the market.

The market study identified two factors that limit the entry and use of new products. First, the regulatory environment incentivises designers, builders and building consent authorities (BCAs) to favour building products that they know and understand. It can be too slow, costly and uncertain to get new products approved; or, at least, this is how builders, designers and regulators often behave, and they prefer to stick with known products. Offsite manufacturing (OSM), where parts of a house are built remotely and assembled directly, is one such example where the regulatory environment has been slow to adapt, despite its potential for lowering costs and increasing supply (MacAskill et al., 2021). The market study also noted that the consenting and regulatory process was proving challenging for Māori consumers and businesses. Local authorities, regulators and suppliers can at times fail to understand their needs and aspirations, pushing them towards a 'one-size-fits-all' model that does not suit them. The report contained recommendations to facilitate the approval of building supplies, notably by creating clearer compliance pathways for a broad range of building supplies, to provide a faster and more uniform approach to new products; some of these recommendations remain to be actioned. It also suggested a government strategy regarding OSM. A broader strategy regarding consenting and regulations by local authorities may be warranted.

The second roadblock to the entry of new products is the tendency of established suppliers to pay quantity-based rebates to retail merchants, incentivising them to stick with existing products. Combined with the status quo bias of the whole regulatory system, this can lead to a lack of product variety for consumers and builders, and also limit the ability of new products to enter and compete in the market. The NZCC study recommended greater scrutiny of such rebates under the Commerce Act's new abuse of dominance provisions, in case of excessively anti-competitive effects. Similarly, it suggested a better monitoring of the use of land covenants, and exclusive leases that tend to hamper competition at the local level. Time will tell if this monitoring approach is sufficient to increase competition in an industry where prices remain high by international standards and market dominance egregious. More structural interventions may prove warranted, but would require significant political and policy support from the government. A fast-track process for foreign supplies approved abroad could also help to improve entry and competition.

Favouring the emergence of new players in the dairy industry

Dairy is a major industry in New Zealand – employing around 50 000 workers – and the largest export sector, accounting for about 28% of total export revenue. To boost industry performance, a "national champion", Fonterra, was created in 2001 by merging New Zealand's largest two dairy cooperatives, together with the export marketing arm of the New Zealand Dairy Board, whose export monopoly was removed. Fonterra, cooperatively owned by around 8 300 farmers-shareholders, remains by far the largest dairy processor in New Zealand, the country's largest company, and a major dairy exporter. Its share of the New Zealand farmers' milk market has fallen but it still collects and processes around 79% of New Zealand's raw milk. Local processing capability is important, giving Fonterra extensive market power, and it is regulated under the Dairy Industry Restructuring Act (DIRA) 2001.

Given Fonterra's market share, there is no workable, supply-and-demand market process to derive a competitive price that would be paid to farmers. To strengthen productive efficiency incentives, Fonterra is required to calculate a base milk price, that is, a reference price that a notionally efficient processor of Fonterra's size and scale could pay for farmers' milk. The base milk price is calculated in accordance with a Milk Price Manual which is maintained by Fonterra's Milk Price Group, which also manages the

calculation of the base milk price in accordance with the Manual. The Manual and calculation are monitored by the Commerce Commission to ensure consistency with the purpose of the Dairy Industry Restructuring Act. The Commerce Commission publishes its findings and since the 2022 amendments to DIRA, can issue binding directions on Fonterra's use of assumptions, inputs and processes, as well as on the disclosure of information pertaining to the Manual and the calculation. Fonterra is not required to pay the base milk price to farmers for their milk. It is free to set an actual farmgate milk price and terms of supply as it sees fit. The key regulatory requirement is that it must disclose the reasons for any difference between the notional base milk price and the actual farmgate milk price set by the Fonterra Board. The farmgate milk price paid by Fonterra largely determines the price other processors must pay to attract milk supply from farmers, because farmers are able to switch their milk supply to other dairy processors.

However, Fonterra's corporate performance has been mixed and growth forecasts made at the time of its creation have been missed by a large margin (Northington Partners, 2018). A lack of access to share capital (Barry and Pattullo, 2020) as well as past investment decisions appears to have constrained its business and overseas expansion into consumer products. Given its cooperative status, Fonterra's capital is owned by farmers, and they were originally obliged to hold one share for every kilogram of milk-solid sold to Fonterra. In 2022, Fonterra changed its capital structure to introduce more flexibility in shareholding requirements for farmers. Fonterra changed the shareholding requirement for milk supply so that farmers are now required to hold one share for every three kilograms of milk-solid (rather than, as before, one share per kilogram of milk-solid). This is intended to make entry to the cooperative and supply of milk to Fonterra less costly for farmers and to ensure a sustainable milk supply for the future. Farmers can also own shares that are not linked to supply (dry shares), up to four times their milk supply, entrants have a longer time to purchase the shares they need to own, and farmers retiring or moving to a competitor have more time to sell their shares. However, the size of the Fonterra Shareholders Fund – which allowed outside investors to buy economic rights similar to shares (dividend, ability to sell) but without voting rights – has been capped, reducing the buyer pool for farmers' dry shares. Taken together, these changes bring more flexibility for farmers looking to join or continue with Fonterra, while arguably making it less attractive for farmers to leave Fonterra because the value of their shares has been reduced due to less demand for the shares. The cooperative organisation remains, with the risk of insufficient access to outside capital markets to fund innovation.

Fonterra has also pulled back from international expansion and acquisition of milk access in other countries to concentrate on processing New Zealand milk with a focus on business-to-business export sales of ingredients. This has turned around its financial performance and appears more compatible with the cooperative structure and the expertise of the board, the majority of whom are farmer-shareholders. Indeed, Fonterra has proven successful at generating profits in part of the dairy value chain and especially in ingredients, and the cooperative model by and large serves its farmer-shareholders well. However, the experience over the past 20 years suggests that, irrespective of its capital structure, it is not realistic to expect a large dairy processor like Fonterra to substantially increase its presence in the fast-moving consumer goods markets. New Zealand will likely need to rely on other dairy processors and food companies, operating quite differently from Fonterra and most other existing dairy processors, for the industry to become more diverse and secure greater presence in the downstream parts of the dairy value chain. The government should give greater attention to independent players, notably when discussing international trade deals.

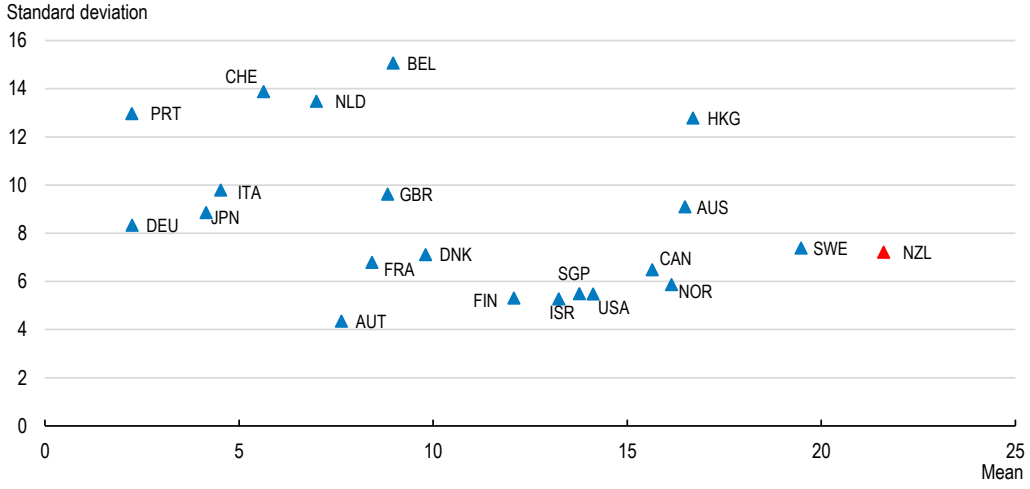
Experience shows that, when the government has deregulated and allowed more competition, the industry has grown. Since the 2001 reforms and disestablishment of the New Zealand Dairy Board, several new and sometimes very successful processing companies with varying business strategies have entered the market and Fonterra's market share has fallen albeit only to 79% after more than two decades. As part of DIRA, the Ministry for Primary Industries will conduct a statutory review of the dairy market in 2025, to determine whether the regulatory regime should be retained, repealed or amended. This review should be conducted in concert with the NZCC, notably to investigate what barriers are possibly preventing other companies from growing New Zealand's dairy revenues in areas where Fonterra cannot or will not.

Bank profitability is high in New Zealand

High bank profitability in international comparison suggests that there is a prima facie case to answer of a lack of competition in this industry. The New Zealand banking industry is dominated by four large Australian-owned banks who hold about 90% of total bank assets. In 2022, they recorded combined profits of about 3% of GDP – more than the electricity market, supermarkets and the construction sector together (in Australia, the four large Australian banks recorded profits of 1.2% of GDP in FY 2022/23). These four large New Zealand banks generated an average shareholder return of 15% over 2018-2022, compared to 7% for small New Zealand banks, 13% for large banks in Australia, and 11% for their counterparts overseas (RBNZ, 2023); the risk-adjusted return gap appears to be even higher. These high levels of profitability are unlikely to be explained solely by the riskiness of conducting a banking business in a small market like New Zealand, as the standard deviation of pre-tax returns is relatively low, suggesting low risk taking among banks (Figure 3.6). The fact that New Zealand banks are less engaged in investment banking can partly explain a lower level of risk but then their profits should be lower than overseas, too.

Figure 3.6. Large New Zealand banks are very profitable

Mean and standard deviation of pre-tax return on equity across selected countries, 2000-2021



Source: Reserve Bank of New Zealand (RBNZ, 2023).

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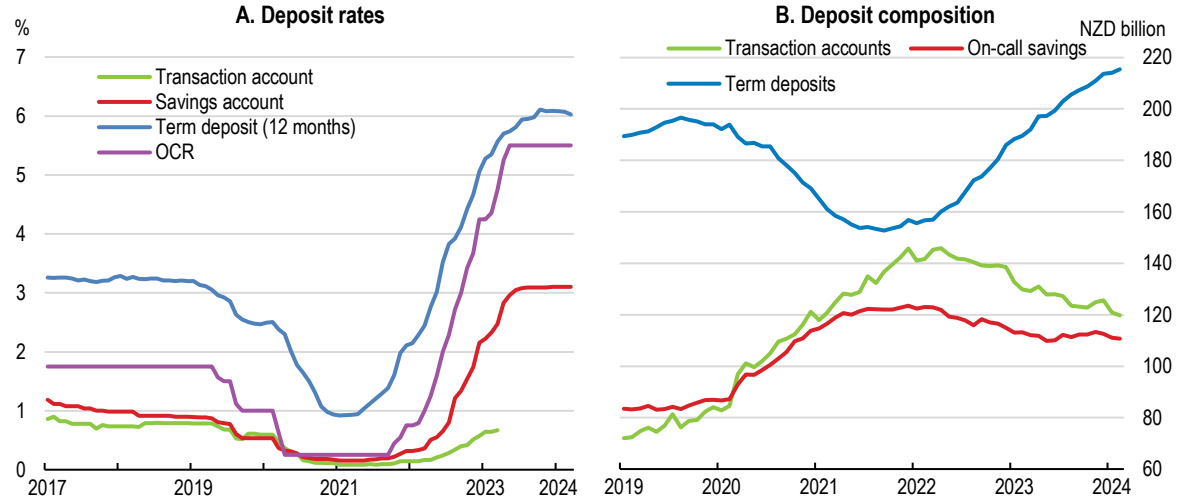
Transaction fees for retail payments are also very high. EFTPOS (electronic fund transfer at point of sale) is popular in New Zealand and allows for consumers to make free in-person contacted debit transactions; merchants typically pay to rent the equipment and a fixed network access fee for each terminal. This also covers 'scheme' debit cards that are swiped or inserted (switch-to-issuer card transaction), but not contactless and/or credit card payments (switch-to-acquirer transaction). For such payments, payment service providers in the Mastercard and Visa networks set interchange fees between the card issuing banks and merchant acquiring banks which are recovered through relatively high fees to merchants, that are then often passed on to consumers through payment surcharges: a 2022 Kantar survey conducted on behalf of the NZCC showed that 22% of surveyed merchant respondents impose a surcharge (Kantar, 2022). A 2016 study found fees to be significantly higher in New Zealand than in Australia or the European Union (MBIE, 2016). The MBIE study found that the absence of fees on EFTPOS and (non-contactless) debit card transactions in New Zealand was relatively unusual in international comparison. It might lead to inefficient cross-subsidisation by other activities of the card-issuing bank and by the non-free segment of the market.

Regulatory reforms have been introduced to mitigate some of these problems. The Retail Payment System Act 2022 requires the NZCC to monitor competition and efficiency in the retail payment system for the

long-term benefit of merchants and consumers. Designated payment networks may be subject to price, access or information disclosure regulation; currently Visa and Mastercard debit and credit networks are designated with pricing limits placed on interchange fees. The Commission can also issue standards to ensure surcharges reflect the actual cost of providing that payment option. By the NZCC's latest estimate, the interchange fee regulation introduced in November 2022 will save New Zealand's merchants around NZD 105 million annually. Businesses are encouraged to pass these savings through to customers, though this will require a better understanding of their payment related fees. Digital payment systems (such as payment apps or fintechs) could be a way to lower surcharges further, if they prove to be more cost-effective than the current payment infrastructure (OECD, 2020b). The Commission has started work to understand the barriers to their expansion and how new payment methods between bank accounts can be promoted.

However, a more thorough investigation of competition in banking services is warranted if one aims to improve competition, not just mitigate poor competition outcomes, and the NZCC is currently undertaking a competition study of the sector. High interest rates are one of the explanations for the substantial bank profits. The Official Cash Rate is at 5.50% since August 2023 – and was at high levels before –, but substantial amounts of deposits are held on 0%-interest transaction accounts, or savings accounts with low interest rates, allowing for a very significant lending margin (Figure 3.7). The low degree of variability in profits across banks should also be investigated: it seems to partly reflect the fact that they have had little incentives to differentiate from one another in the service they offer and/or the way they are funded. As noted by the draft NZCC report (Commerce Commission, 2024), the way they are funded in turn seems in part due to very strict prudential supervision by the Reserve Bank, which is efficient at preventing systemic risk, but possibly at the cost of weaker differentiation and innovation by limiting non-systemic risk. This warrants further investigation, and the NZCC's ongoing competition study is looking into some of these issues.

Figure 3.7. Banks make a significant margin on deposits



Note: the data for transaction account deposit rates only goes until March 2023.
Source: The Reserve Bank of New Zealand (RBNZ, 2023).

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Furthermore, the low level of digitalisation in New Zealand might prevent disruption by fintechs: if most customers need access to physical branches and a dedicated advisor, disruption can only go so far. Nevertheless, facilitating mortgage switching further, or digital savings accounts could prove beneficial. Banking was expected to be the first sector to apply a consumer data right (OECD, 2019a) under the draft CDR regime of the previous Government, aimed at enabling data portability and switching between firms (see next section). The CDR regime is likely to help third party fintechs in offering services to customers, including budgeting and comparison tools; the new Government plans to go forward in its implementation.

As noted in the previous *Economic Survey of New Zealand* (OECD, 2022a), and as illustrated by the experience in various countries, regulatory sandboxes can serve to promote fintech growth.

3.3.2. Making competition work in network sectors: transport, utilities and telecoms

Network sectors such as transport, utilities and telecommunications rely on infrastructure that is commonly considered to be a natural monopoly (high infrastructure costs and economies of scale). As such, these natural monopolies have historically been run as monopolies by government agencies or state-owned enterprises in New Zealand and other countries. Efficiency concerns have led New Zealand to corporatise and privatise (in part or in full) most of these assets over the past four decades while opening the sectors to competition. The large market size of previously public incumbents as well as natural barriers to entry are nevertheless a brake on competitive pressures. This calls for active oversight as well as sectoral regulation, because broad competition principles are unlikely to suffice. As in the oligopolistic markets discussed above, the interaction between market size and vertical integration deserves special attention.

New Zealand is highly reliant on air transport

Given New Zealand's geographic isolation and relatively low population density, efficient transport systems, both on domestic and foreign routes, are key to increase market size and help businesses grow, compete and innovate, at home and abroad (OECD, 2013). Competition in the transport sector not only drives down prices and trade costs for freight and passengers; it can also improve the speed and reliability of service. As in other countries, most infrastructures (ports, airports, rails, roads) enjoy a natural monopoly or considerable market power, nationally or locally: few businesses and consumers are potentially able and willing to substitute one port or airport with another, unless they are reasonably close to each other. Transport services (freight or passenger), on the other hand, feature more competition, though some actors enjoy a large degree of market dominance that needs to be regulated.

In 2012, the Productivity Commission examined New Zealand's international freight transport system and concluded that the sector is satisfactory overall, though certain areas could be improved (NZ Productivity Commission, 2012b). The Commission was satisfied with the performance of New Zealand's ports and airports, with variation across sites. However, the recent poor performance of New Zealand's largest container port, Auckland, due to an implementation failure of a major automation investment, illustrates the need for natural monopolies to be run efficiently. While Port of Tauranga has been able to compete and attract a fraction of Auckland's freight flows, competition alone cannot overcome all geographic obstacles, and the efficiency of ports requires good corporate governance of council subsidiaries and adequate planning.

One of the recommendations of this Productivity Commission inquiry was to remove the exemption of international shipping services – in particular rate-making agreements and capacity limitation – from normal competition law. Agreements that fix prices, or limit capacity with the intent of raising prices, used to be allowed in international shipping worldwide, but their net benefits have proved elusive. Following these recommendations and the example of many countries, the Commerce Act was amended in 2017 to limit the exception to certain liner shipping service agreements. The law also allows an exception for "collaborative activities" whose dominant purpose is not anti-competitive. Such agreements do not need to be registered with the Commerce Commission, though the NZCC can provide clearance for them. In November 2022 eight freight forwarding companies were warned – and two were fined – for illegal "cover pricing" behaviour (knowingly submitting uncompetitive bids to give the impression of more competition than there really is).

The three major airports (Auckland, Christchurch and Wellington) are subject to regulation by the Commerce Commission, through "information disclosure" on pricing and spending decisions. Overall, the threat of additional regulation in case of excessive returns has exerted effective discipline, though additional regulation – if needed – can only be imposed on the three airports together, not one by one. Whether this oversight should be extended to Queenstown airport, which also serves domestic as well as Trans-Tasman routes, should be investigated. Auckland is by far New Zealand's largest airport, and it plays

a dominant role as a connecting hub between New Zealand and the rest of the world. Auckland Airport's 2023-2027 prices have proved controversial; Auckland Airport justifies them by important investments needs in infrastructure. Currently, airports in NZ operate under the dual-till principle, where only aeronautical activities are directly regulated, while commercial activities (parking, shops) are run freely by the airport.

In contrast, under the single-till principle, airports are seen as a two-sided market (Malavolti, 2016) where the two activities are regulated together, to reflect the externalities that they enjoy (Czerny, Guiomard and Zhang, 2016): airport shops or parking would be less profitable outside of an airport. Airlines and airports have widely differing views on the two till systems. On the one hand, airlines tend to favour the single till model: they insist on externalities between the two activities, and the risk of 'gold-plating' if airports can charge prices based on full infrastructure costs (OECD, 2010). On the other hand, airports tend to downplay these externalities and insist that their commercial ventures are facing competition from outside the airport; according to them, single till leads to under-investment in infrastructure as airports do not have the right incentives to invest (ACI Europe, 2018). Nevertheless, there is also some scope for a 'hybrid till' model where externalities are partially accounted for, while keeping the operation of the activities separate with their own incentives. This could take the form of a well calibrated lump-sum subsidy between commercial and aeronautical (security, traffic control) activities. The feasibility of a hybrid till – or the scope of activities covered by the regulated till – should be investigated by the NZCC.

The degree of competitive pressures in air passenger transport is mixed (Table 3.2). Air New Zealand (Air NZ), the country's flag carrier, faces strong competition on large domestic routes from Jetstar, the low-cost arm of the Australian-based Qantas, but it enjoys a monopoly or market dominance on some smaller domestic routes. This domestic dominance is not unusual in comparison to other small countries that also feature one flag carrier and limited entry from low-cost carriers on smaller domestic routes with low profitability, though the limited availability of high-speed rail or road transport alternatives might make it more acute. New competitors have at times tried to enter the market for these smaller routes but have failed to stay. This exit was perhaps sometimes due to the small size of the market but predatory-like pricing from the incumbent may have also played a role. The same divide between smaller and larger routes holds for the Trans-Tasman market: while Air NZ faces competition from Qantas and Jetstar on the larger routes (in particular to Sydney, Brisbane or Melbourne), it is the only airline to offer direct flights from Auckland to Adelaide, Hobart or Perth. This reflects the commitment that Air NZ kept to these routes during the pandemic, and probably provides only a limited competitive advantage: a passenger from Christchurch to Adelaide or from Perth to Wellington needs to connect either in Auckland or in an Australian hub, with other competing airlines. Air New Zealand and Qantas entered a code-sharing agreement in 2018, but only on their respective domestic flights. Since Air NZ and Qantas were unlikely to enter each other's domestic market, this likely increases competition and flexibility on the Trans-Tasman leg by making it easier to bundle flights together.

Table 3.2. Number of daily flights by airlines on medium-large domestic routes and Trans-Tasman

	WLG	CHC	ZQN	DUD	PMR	HLZ	SYD	BNE	MEL	OOL
AKL	NZ (13-19) J (3-5)	NZ (13-16) J (3-6)	NZ (7-8) J (2-3)	NZ (3-4) J (1)	NZ (7-10)		Q (4-6), NZ (4-5) A (1), L (1), J (1-2)	Q (2-3), NZ (2-3) C (1), J (1)	Q (4), NZ (2-3) J (1-2)	NZ (1-2) J (1-2)
WLG		NZ (6-11) J (1-2)	NZ (2-3) J (1)	NZ (2-3)		NZ (4-6)	Q (2), NZ (1-2)	NZ (1)	Q (1), NZ (1)	J (1)
CHC			NZ (3-4)	NZ (5-7)	NZ (3-5)	NZ (3-5)	Q (1-2), NZ (1) E (1)	Q (1) NZ (1-2)	Q (1), J (1) NZ (1)	NZ (1) J (1)
ZQN							Q (1-2), NZ (1) J (1), V (1)	Q (1) V (1)	Q (1), NZ (1) J (1), V (1)	J (1)

Note: number of daily flights by Air New Zealand (NZ), Jetstar (J), Qantas (Q), China Airlines (C), AirAsia (A), Latam Airlines (L), Emirates (E), Virgin Australia (V) between Auckland (AKL), Wellington (WLG), Christchurch (CHC), Queenstown (ZQN), Dunedin (DUD), Palmerston North (PMR), Hamilton (HLZ), Sydney (SYD), Brisbane (BNE), Melbourne (MEL) and Gold Cost (OOL).
Source: www.flightsfrom.com

Increasing airline competition on Trans-Tasman routes is also a way to reduce the dominance of Auckland airport in New Zealand. The challenge is to bring new players into new routes starting from airports outside Auckland. While Christchurch, Wellington and Queenstown are directly connected to Sydney and the rest of Australia, the number of these Trans-Tasman connections remains limited or not evenly spread during the day, which can sometimes hinder connections in Sydney or other Australian airports. More Trans-Tasman flights from airports other than Auckland would make Sydney or Brisbane a more attractive hub alternative to Auckland for transcontinental travel and reduce Auckland's natural advantage.

Air NZ has a larger lead on competitors on other international routes, but this does not necessarily reflect a fundamental lack of competition. For most destinations served by Air NZ from Auckland Airport, there are alternative flights by an airline from that country and foreign airlines are re-expanding their flights to New Zealand post-Covid-19. In addition, even if loyalty programmes provide an incentive for New Zealand consumers to stick with one company for different destinations, airline alliances and code-sharing agreements can make foreign airlines almost as attractive. The effect of code-sharing agreements on competition is normally ambiguous, as it limits competition on the shared routes while improving it for other routes that can be bundled with the shared route. They may well be beneficial for Air NZ and New Zealand consumers on long haul routes by effectively expanding the Air NZ network globally. However, code-sharing agreements between Air NZ and Australian airlines are likely to reduce the probability that Australian airlines will fly and compete in New Zealand. Competition in Australia and New Zealand would be better served by ensuring there are no barriers to airlines from both countries flying on domestic routes in the other as envisaged by the Air Services Agreement 2002. The responsibility of approving airline code-sharing agreements could be transferred from the Minister of Transport to the NZCC.

Competition issues have also arisen in air cargo and other air travel related services calling for continued vigilance by the NZCC. In 2015 the NZCC issued a warning about how travel insurance was sold on an 'opt-out' instead of an 'opt-in' basis. Between 2008 and 2011, the NZCC prosecuted and fined a cartel of 13 international airlines for imposing cargo fuel surcharges. This prosecution was part of a larger international effort involving the European Union, the United States, Australia and Canada, among others.

Maintaining a level playing field between the different actors in the electricity market

New Zealand's electricity system can be decomposed into a competitive segment where generators and retailers compete to produce and sell electricity to households and businesses, and transmission and distribution where one operator (nationally or locally) manages the infrastructure (International Energy Agency, 2023). The larger generators were created in the late 1990s by breaking up the Electricity Corporation of New Zealand, the state-owned monopoly and corporatised successor of the NZ Electricity Department. These four larger generators have since been partially privatised and publicly listed, but the Crown still owns a 51% share in three of them. They are also active on the retail market as they were the incumbent retailers – hence their designation as "gentailers", or integrated generators-retailers. Since 2021 there is also a fifth large generation-only company created after it sold its retail arm. The four gentailers have kept a large share in electricity generation and retail, though independent retailers have had more success in entering the retail market. The Electricity Authority (EA), an independent Crown entity, was established in 2010 to operate the electricity market and promote competition and reliable supply for the long-term benefit of consumers. It replaced the previous Electricity Commission, with a clearer and narrower set of objectives.

High electricity prices in New Zealand over the past two decades have raised the suspicion that the large gentailers had been exercising unilateral market power. While the abnormality of profits has been disputed, high concentration has remained a cause of concern, which different reforms have tried to address. Electricity in New Zealand is sold by generators and bought by retailers and large consumers on a half-hourly spot market. Generators and retailers also engage in long-term supply contracts, and there is a hedge market for contracts for difference operated by the Australian Securities Exchange. The Electricity Authority has regularly introduced reforms to improve competition and efficiency in the market. Since

November 2022, spot prices became available with a half-hour delay, instead of at least two days after, as was the case previously. This will increase transparency and visibility for large energy users who will more easily adjust demand, and for smaller retailers when trading with larger gentailers; in the long run, it might also facilitate demand response from consumers choosing 'smart pricing' contracts.

The Electricity Authority implemented a new trading conduct rule in 2021, which requires generators to submit bids as if they were constantly facing competitive pressure; the maximum fine for firms breaching the code has been increased to NZD 2 million. A 2022 formal review of this reform noted positive changes in participants' conduct. This should, in theory, allow more entry from independent generators, as they will have better access to long-term contracts with larger retailers. Forcing some of the larger gentailers to divest from some of their generator assets or swap them could reduce further market concentration or its impact – especially at the local level where gentailers are often even more dominant. However, it might come at the cost of reduced risk diversification and other efficiency or transaction costs.

Transpower, a state-owned enterprise, operates the national grid. Its transmission revenues are regulated by the NZCC. A new grid pricing methodology was adopted by the EA and implemented in April 2023: Transpower will now recover transmission costs from customers as well as generators. In particular, the cost of North-South power transmission will be shared by North Island customers and South Island generators, instead of South Island generators only. This will put South Island generation (largely hydro and wind) on a more equal footing with the North Island, where generators rely more on fossil energy sources such as gas and coal.

New Zealand has 29 electricity distribution businesses (EDBs) that generally sell their services to retailers, who in turn manage the electricity supply agreements with end consumers. They are regulated by the NZCC via price-quality regulation and/or information disclosure. While distribution ownership was originally strictly separated from generation and retail to avoid vertical integration, this restriction has been partly removed to allow local EDBs to act as competitors in smaller remote areas. Most distributors are very small, and efficiency gains could be made through mergers, though this is complicated by the variety of ownership statuses (fully or partially private, consumer trusts, local authorities or municipalities). The allocation of the cost of network upgrades to new users is currently scrutinised by the Electricity Authority, as electrification and distributed generation will require significant upgrades.

Transparency efforts in the wholesale market have lowered the barriers to entry for independent retailers. In 2021, 43 retailers were active in the market, with a combined market share of 74% for the five larger retailers, down from 95% in 2003 (International Energy Agency, 2023). Gentailers and retailers have recently agreed on a voluntary memorandum of understanding. This voluntary code of conduct is likely to further improve the functioning of the electricity market, but independent retailers have complained about access to supply. If the voluntary code is judged as insufficient and competition appears to remain inefficient in the electricity market, this might call for a vertical separation of generators and retailers. The development of electricity storage might reinforce the need for such a remedy. Overall, the question of the effectiveness of competition in the wholesale market warrants further investigation.

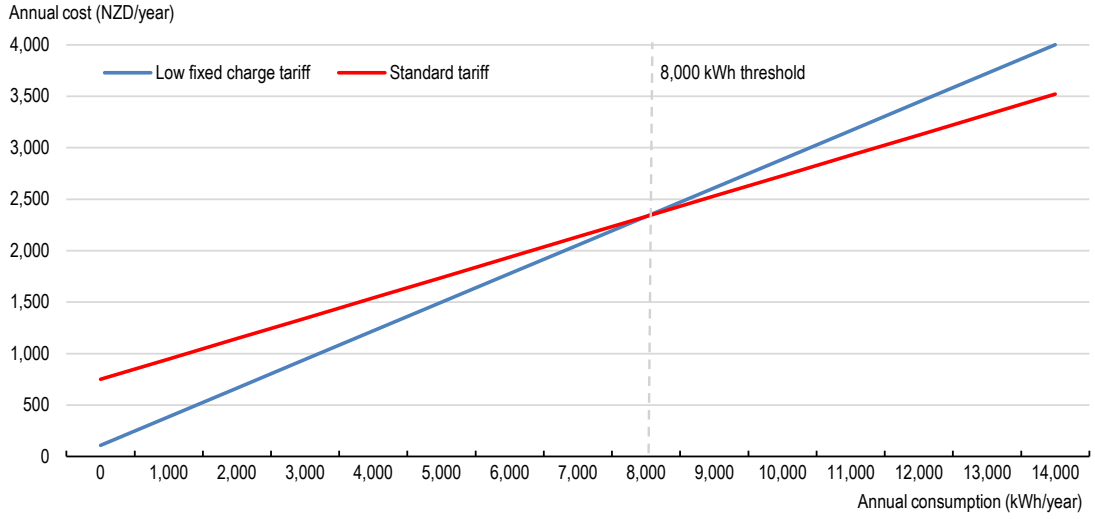
Progress has been made in improving retail competition but there is more to do. While the market share of the large gentailers in the retail market has decreased in the past two decades, consumer switching remains low: the 2019 Electricity Price Review estimated that between 23% and 42% of all consumers had never switched suppliers since 2002 when records began, and that consumers would on average save about NZD 240 each year by switching to the cheapest available plans (Electricity Price Review, 2019). Consumers that never switch not only lose by not having the best and cheapest plan available for them, but also because retailers tend to offer better deals to new customers that switch. Following the 2019 Electricity Price Review, "win back" deals – which historic gentailers tended to use to keep their customers by offering them a special discount if they joined back – have been outlawed.

The Electricity Authority also funds Powerswitch, the online tool of the consumer advocacy group Consumer NZ, where domestic consumers can compare electricity and gas deals and start the switching process. 75% of Powerswitch funding is provided by the EA, the rest coming from a NZD 50 "success" fee

per switch, levied on retailers. Not all retailers are listed on Powerswitch though, in part due to the difficulty of modelling the effect of complex pricing plans on consumers – for example when rates vary between peak and off-peak hours or if smart meters can restrict usage at different moments of the day. This is likely to become more prevalent in the future as 'smart pricing' gains ground. One partial solution would be to require, as in Australia, retailers to signal to consumers if they have other pricing plans better suited to their needs, or if they have conditional discounts in their plans (for example, discounts for paying on time or setting up a direct debit). To complement this requirement, the EA could provide a standard model of how different pricing plans affect a consumer that smaller retailers could use and adjust. The extent of consumer services that retailers are mandated to offer might also bring a limit to low-cost alternatives.

On the demand side of the market, following the Electricity Price Review, a 2022 reform will phase out the 'Low Fixed Charge Tariff' regulations over a period of five years. These regulations were introduced in 2004 to provide electricity plans with a discounted fixed charge but a higher rate per kWh. The regulation not only imposed retailers a cap on the fixed rate they could set; it also mandated that users consuming less than 8 000 kWh annually should be better off with the retailer low fixed charge offer than with the normal offer (Figure 3.8). As such, it imposed a sizable constraint on what retailers could offer.

Figure 3.8. Illustrative comparison between standard and low-use plans before the phase-out



Source: Ministry of Business, Innovation and Employment.

StatLink https://stat.link/xp63i7

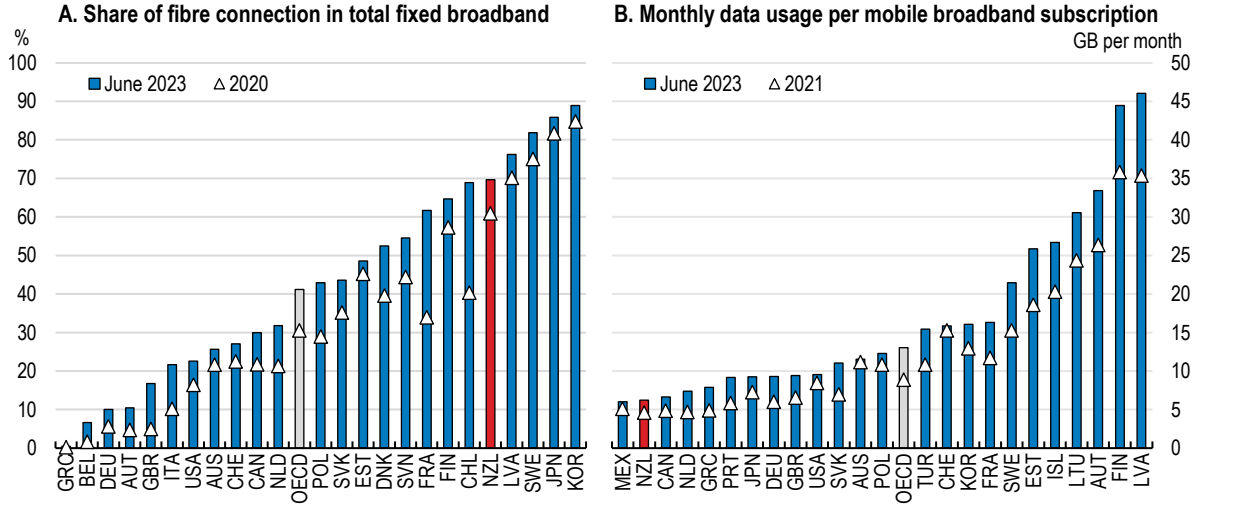
While they were supposed to benefit low-use households, they were poorly targeted, with unintended consequences. First, not all low-income families benefited, as larger families or poorly insulated homes ended up paying more, while smaller or more energy-efficient families were able to benefit. As this tariff structure proved highly popular – 68% of households were low users in 2021 and benefitted from the scheme – the cost of infrastructure still had to be recouped through a higher fixed charge for standard consumers and/or prices per kWh for everyone. This regulation encouraged consumers to underheat their house with potential health risk or rely on alternative heating such as gas; it also had the potential of slowing down the uptake of electric vehicles. Hence this attempt to screen between low- and high-use customers generated too many inefficiencies, and appropriately will be phased out over a period of five years, by increasing gradually the maximum low fixed tariff that retailers can set. This will remove an important barrier that prevented retailers from using smart meters to offer a much wider range of retail options including for EV users.

Mobile telecommunications remain expensive and underutilised

Fixed-line telephone and internet also follow a vertical wholesale-retail separation in New Zealand. Following 'local loop unbundling' in 2006, the network infrastructure division of Telecom New Zealand was split in 2011 and became Chorus; the rest of the company was renamed Spark New Zealand in 2014. Chorus owns most historic telephone copper lines, but it does not serve customers directly; instead it is required to allow multiple Telco operators to use them and provide phone and internet access to customers.

This split was a condition for Chorus' participation in the Government's 'Ultra-Fast Broadband' fibre network development. Chorus won about 70% of tenders for this public-private partnership, along with three local fibre companies. The rollout of the fibre network is subsidised by concessional financing from the Crown. Chorus is subject to price-quality regulations and information disclosures, while local fibre companies are subject to information disclosure only. This strong and successful government push towards optic fibre (OECD, 2022a) has allowed New Zealand to become a leader in the fibre coverage ratio (Figure 3.9) without duplicating costs as some other countries have done. This is an example where a well-regulated public-private partnership has not only delivered good prices and services on existing infrastructure (the copper network), but also enabled a strategic push towards innovation. The automatic deregulation and eventual decommissioning of the copper network once optic fibre is rolled out has been key to spurring consumers and businesses towards the superior alternative. This is also a case of a successful vertical breakup delivering efficiency and competition.

Figure 3.9. New Zealand is one of the leaders in fibre broadband but mobile data usage remains low



Source: OECD, Broadband Portal, http://www.oecd.org/digital/broadband/broadband-statistics/

StatLink https://stat.link/cgjrte

Competition in mobile phone services, however, appears to be behind the international frontier. Mobile phone services are dominated by Spark (ex-Telecom NZ, the original incumbent) and One NZ (ex-Vodafone), who each serve around 40% of the market; 2degrees is a distant third with around 20%, and mobile virtual network operators make up for a little over 1% of customers. All operators provide 5G access (covering 18% of the population), while 3G/4G coverage is 98% on average. This extensive coverage gives most New Zealanders a full choice in their provider; the annual switching rate is about 3–5%. The NZCC's 2022 Annual Telecommunication report found that post-paid charges – either SIM-only or bundled with a subsidised new device – were on average more expensive in New Zealand than in the OECD, while the opposite is true for pre-paid contracts (Commerce Commission, 2023). Mobile phone data usage is one of the lowest in the OECD (Figure 3.6). While it is possible that New Zealanders simply prefer to rely on Wi-Fi connectivity and good broadband (see above) instead of mobile data, there appears to be an excessive

use of market segmentation, low data limits and expiring data allowances. While the range of cheaper low-data contracts might suit some customers with little use, unlimited or high-data contracts remain relatively expensive; this is possibly an inefficient screening of users that tends to limit the full use of mobile digital innovation. The NZCC or MBIE should investigate the causes of the low mobile data usage in New Zealand and means to address it. For example, the regulator could consider requiring mobile operators to offer both pre-paid and monthly subscribers a higher quality standard monthly price offer of phone calls, text and data with higher data limits benchmarked against similar offers in other advanced OECD countries.

3.4. Adapting the regulatory framework to new challenges

Fostering competition in New Zealand markets not only requires specific efficient sectoral regulation and/or structural intervention. It would also benefit from a clearer and reinforced overall policy framework, including more central agency competition policy analysis with a wider perspective, as well as greater cooperation between competition policymakers, regulators and consumer protection agencies and sometimes greater coherence of legislation and case law. This is particularly true for digital markets, which require new and better regulations. Furthermore, the abolition of the Productivity Commission leaves an important gap in the analysis of the drivers of economic performance including competition. The Productivity Commission had a sectoral review role alongside its generalist functions. While the new Ministry for Regulation will look at the efficiency of regulation in different areas, it may turn out that this does not fully replace sectoral reviews with a broader competition and productivity perspective, in which case consideration should be given to whether more broadly scoped sector reviews should be reinstated. The Treasury, as the government's lead economic policy advisor, needs to re-expand its competition policy work and championing role for ensuring that overall competition and regulatory policy is boosting the overall growth performance of the New Zealand economy. Progress has been made on ex-post antitrust enforcement and some of the reforms recommended in past Economic Surveys have taken place (Table 3.3), but there is room for additional reforms. This section discusses the current competition policy framework, competition challenges and directions for future investigation and policy change.

Table 3.3. Past OECD recommendations on antitrust enforcement and actions taken

Recommendations in past Surveys (key ones in bold)	Actions taken since the previous *Survey*
Review the merits of refocusing competition law on the effects of potentially anti-competitive conduct, as opposed to its intent.	The Commerce Amendment Act 2022 amended the prohibition in section 36 of the Act to allow consideration of the effects of potentially anticompetitive conduct by firms with substantial market power.
Provide the Commerce Commission with the power and resources to undertake market studies.	After a market study of fuels (2019) and retail groceries (2022), the NZCC has conducted a study into residential building supplies (2022) and currently studies personal banking services. All the completed market studies have been followed by legislative reforms (or reviews in progress).
Expand the use of ex post evaluations of Commerce Commission decisions to assess performance.	The NZCC periodically reviews its merger decisions internally to improve decision-making processes, and additional resources have been allocated to strengthen effective evaluation. There may be a case for more independent ex-post evaluations.
Equip the NZ Commerce Commission with powers to order merger parties to apply for its clearance. Also endow it with the powers to halt integration between parties during its investigation and order merger parties based overseas to produce information for its investigation.	No action taken

3.4.1. Giving more power and a stronger mandate to the Commerce Commission

The NZ Commerce Commission (NZCC) is the main competition regulator and enforces the Commerce Act 1986, which contains provisions on restrictive trade practices as well as mergers and acquisitions. Restrictive trade practices include anticompetitive behaviour, coordinated behaviour and unilateral conduct.

The Act prohibits contracts, arrangements, or understandings that have the purpose, the effect or likely effect, of substantially lessening competition in a market. Agreements between likely competitors that relate to price fixing, restricting outputs, and allocating customers, suppliers or territories are per se prohibited. Unilateral conduct includes a person or business with substantial market power engaging in conduct that has the purpose, the effect or the likely effect, of substantially lessening competition in a market. Historically, some exemptions and carveouts were specifically provided in the Commerce Act, preventing the NZCC from regulating certain activities (notably international shipping, intellectual property, and labour contracts). Many of these exemptions have been appropriately removed or narrowed down in the past few years, though labour contracts are still exempt from normal competition law and subject to labour laws.

In addition to its enforcement functions, the NZCC is tasked with providing clearance or authorisation to business acquisitions or mergers as well as collaborative activities under a voluntary notification system. The NZCC must provide clearance to a business acquisition or merger if it is satisfied that the transaction would not be likely to substantially lessen competition in any New Zealand market. The same clearance applies to collaborative activities. A collaborative activity is defined as two or more people carrying on an enterprise, venture, or other activity in trade in cooperation. The collaboration must not be for the dominant purpose of lessening competition between the parties, and every cartel provision in the agreement must be reasonably necessary for the purpose of the collaboration. For the NZCC to grant clearance for a collaborative activity, it must be satisfied that the arrangement will not be likely to substantially lessen competition in a market. The NZCC can also authorise a business acquisition that is anticompetitive, or a restrictive trade practice, if it is satisfied that it would be likely to result in such a benefit to the public that it should be permitted. Cleared or authorised transactions are protected from legal action.

There is a strong case for extending the NZCC's powers in several domains. The regulatory framework and competition-related jurisprudence have an important influence on the impact the Commerce Commission can have. The applicable burden of proof that the NZCC is required to meet seems at times too high, but the NZCC would likely benefit from the ability to accept behavioural undertakings along with structural undertakings. Additionally, the Commerce Act provided explicit carveouts in the past where the NZCC cannot intervene (labour market aspects, intellectual property). Some of these carveouts have been narrowed down recently and narrowing other carveouts could also prove beneficial. This would allow the NZCC to support private complaints from firms or workers against unfair or anticompetitive business practices.

Revising merger control, the consumer benefit test and 'call-in' powers

Merger control has been the subject of intense international cooperation for the past two decades with substantial work carried by the OECD under the recommendations of its Council (OECD, 2005). Since the antitrust revolution in the United States (Bork, 1978), courts and antitrust authorities around the world have extensively relied on the "consumer benefit test" when assessing the impact of mergers and acquisition; as such, they were likely to be approved if they led to a net welfare gain for the consumer. Faced with the balance of decreasing competitive pressures but increased economies of scale passed on to consumers, courts have approved mergers somewhat easily. However, this approach and the consumer benefit test have been questioned in recent years. Alternative standards have been proposed (OECD, 2023e): a "total welfare" standard reflecting better consumers and producers – which the NZCC can already apply as part of its authorisation procedures (but not for clearance); a "citizen's welfare" standard that would also better take into account their interest as workers; or a "protecting competition" standard that would favour competition for its own sake, above and beyond social welfare to tackle corporate power.

These standards each have advantages and drawbacks in terms of predictability, ability to enhance total social welfare, administrative and political capacity to implement them, and the risk of making errors (OECD, 2023e). The consumer welfare standard is easy to implement and predictable but misses a range of welfare effects and might lead to underenforcement. The total and citizen welfare standards encompass more welfare effects but at the risk of using value judgements and unpredictability. Protecting competition

appears to be reasonably predictable but could lead to overenforcement and a lack of economic efficiency. While there is no unique solution for all countries and situations, the government should investigate whether New Zealand's competition legislation would be better served under alternative standards, or a different balance of the considerations behind these standards. In particular, the burden of proof for firms applying for having a merger or agreement approved based on public benefits could be set higher. Australia is currently conducting such a review on merger reform; maintaining alignment will be important.

During court proceedings regarding unnotified mergers and acquisitions – including injunctions to block the transaction – the burden of proof lies with the NZCC: it needs to convince the court of the anti-competition effects of the merger. However, anticompetitive impacts of mergers are often hard to assess in dynamic markets with complex business models; this requires a thorough scrutiny from the NZCC well in advance. As argued in the previous *OECD Economic Survey of New Zealand*, this provides a case for giving the NZCC a "call-in" power to order merger parties to apply for its clearance, whenever it sees a risk of substantially lessened competition (OECD, 2022a). Such a prerogative has been discussed in the United Kingdom and Germany, and Australia is currently considering it as one option for its new merger regime (Australian Treasury, 2023). This call-in power should be complemented with power to halt the integration of merger parties and require businesses to be run separately until the NZCC completes its investigation. The 2022 Survey also recommended to grant the NZCC the powers to order merger parties based overseas to produce information or documents for its investigations (OECD, 2022a).

The available remedies – for preliminary clearing or court injunctions – could also be amended regarding "killer acquisitions" (OECD, 2020d), where larger firms acquire nascent startups that pose a remote and future risk to their more traditional model, to close the activity rather than develop it. The Commerce Act could be amended to ensure that acquisitions that are likely to kill an economic activity would be made illegal, even without a significant effect on competition. As such, the acquirer could, through voluntary clearance or a court injunction, be forced to keep developing the acquired business, with subsequent monitoring by the NZCC. This would require giving the NZCC the power to accept behavioural undertakings, which it currently lacks. This would not prevent startups from being acquired by a larger firm – which is often a viable business model – but merely put restrictions on the acquirer subsequently. Such a restriction on 'destructive acquisitions' has notably been proposed in the EU and Australia (OECD, 2020d), and could also apply to traditional business lines and products. Additionally, the burden of the proof could be reversed in sectors that are already concentrated (OECD, 2020d): in the United States, market concentration creates a rebuttable presumption of anti-competitiveness, and merging parties must demonstrate the lack of anticompetitive effects (Hovenkamp and Shapiro, 2018).

Many mergers and acquisitions involve one or more multinationals with a presence in different markets, which generates a risk that a transaction would be cleared abroad, but not in New Zealand. In that case, it is difficult to maintain the two firms separated only in New Zealand, or to get another jurisdiction to block the merger. For transactions that are already scrutinised abroad, but at risk of being more detrimental in New Zealand, the NZCC could focus more on the differential impact of the merger on the New Zealand market, and potential New Zealand-specific remedies to implement along with foreign decisions. Again, the NZCC would in that case benefit from the ability to accept behavioural undertakings. The NZCC's cooperation arrangements with the ACCC could also be used more often and extended to other jurisdictions.

Narrowing exceptions and carveouts to the prerogatives of the Commerce Commission

The Commerce Act does provide some explicit carveouts where normal competition law does not apply, and where the NZCC cannot intervene. This was done historically to protect some activities that were deemed legitimate and beneficial for society but at risk of infringing upon competition jurisprudence. International shipping was an area where ratemaking and capacity limitation agreements were allowed, until this exemption was narrowed down by a 2017 amendment to the Commerce Act (see above). To come within the current exception, international shippers must, amongst other things, ensure that their

cooperation improves the service supplied to owners or consignors of goods carried at sea. This is also likely to facilitate private enforcement from affected consumers if they go to court over unfair trading practices.

Intellectual property (IP) is another domain where exemptions have been removed. The Commerce Act originally contained three limited exceptions for certain conduct in relation to IP. In line with the global trend to enforce competition law on IP cases (OECD, 2019c), these exemptions have been removed in New Zealand by a 2022 amendment: all anti-competitive IP-related conduct is now prohibited and subject to scrutiny by the NZCC and judicial courts. The full scope of the Commerce Act will be applicable to the IP space, but the NZCC has produced some guidelines to identify the type of conduct that is most at risk of breaching the Commerce Act. This includes refusals to license IP or restrictive licensing, as well as practices that extend market power beyond the expiry of the patent and settlement of IP disputes.

Labour contracts are also currently exempted from the Commerce Act, so as not to interfere with wage bargaining. However, anti-competitive behaviour in the labour market (such as abusive non-compete clauses) has come under greater scrutiny (OECD, 2020e). Many non-compete clauses are too broad and would be unenforceable if the worker were to challenge them in courts, but they may nevertheless have a chilling effect on workers if they are uncertain about the law. Allowing unions to challenge the most egregious and unenforceable boilerplate non-compete clauses could be a way to limit this chilling effect.

And while some conduct by large employers in small local labour market might not be illegal or abusive per se, it might nevertheless be a form of monopsony or oligopsony power, due to their dominance in that market (Hovenkamp, 2019). While this problem is likely not as prevalent in New Zealand as in other countries such as the United States (OECD, 2020a), there might nevertheless be a case for allowing the NZCC to delve into these issues when conducting a market study into one sector or another. As such, the NZCC would not intervene in labour contracts directly, but it could publish sector-specific findings and recommendations if labour contracts strongly affect product or service competition in the sector.

While restrictive land covenants were already illegal under section 28 of the original Commerce Act, the NZCC's recent market studies demonstrated that restrictive land covenants (in particular with retail distribution companies selling sites on the condition that no competitor would be allowed) had significant anticompetitive effects in New Zealand. Section 28 has been broadened in 2022 to deem certain grocery-related covenants as prohibited and unenforceable. The NZCC now provides guidelines over acceptable land covenants, which will give businesses greater legal certainty in case of disputes over enforceability. These guidelines should be updated regularly. Additionally, the NZCC and MBIE should further study the effect of land use rules and local regulations on market entry, and suggest possible improvements.

Giving more voice to consumer protection in the legal system

Delivering lower prices and higher quality to consumers is one of the most important roles that competition policy, supported by consumer protection organisations, can play. Ombudsmen and advocacy groups could cooperate more with the NZCC or other sectoral regulators in bringing the voice of consumers to competition policy and regulation. This was the motivation for the 2019 Electricity Price Review – and the Consumer Advocacy Council was established in the electricity market following this review. Other sectors can probably also benefit from such inputs. Cooperation can also be enhanced between public and private enforcement of competition law, if the NZCC, other sectoral regulators and ombudsmen gain the ability to support private litigants in courts, in matters related to anticompetitive or abusive business practices. While these administrative bodies should not necessarily act as co-plaintiffs themselves, they could nevertheless provide guidance to litigants or expertise to courts when assessing the effect of certain activities. For example, the NZCC or the Employment Relations Authority could provide guidelines and support to workers or unions that wish to challenge anticompetitive or unfair clauses in work contracts.

To increase deterrence and provide more remedies against cartel and other abusive behaviours, lawmakers could also introduce class actions and litigation funding – where the litigation is funded by a person who is not a plaintiff himself in exchange for a commission in case of success –, as argued by the

New Zealand Law Commission in 2020 (NZ Law Commission, 2020). Some class actions have been accepted in the past – notably in a 2017 Court of Appeal lawsuit on natural disaster insurance – but New Zealand lacks comprehensive rules in how to deal with them (McKechnie, 2018). While the previous Government had agreed in principle to the recommendation, no progress has been made in implementation. Since 2021, individuals found guilty of illegal cartel provisions can face a criminal penalty of up to seven years in prison, and a fine of NZD 500 000. Until then, the NZCC could only bring civil proceedings under the Commerce Act. A Cartel Leniency and Immunity Policy had already been introduced in 2004, where a cartel participant can collaborate with the NZCC in exchange for civil immunity; the NZCC can now make a recommendation of criminal immunity to the Solicitor General, who retains the discretion to grant immunity or not. As with class actions, this is likely to increase deterrence.

3.4.2. Fostering growth and competition in digital markets

New Zealand has much to gain from digitalisation. It can lower effective distance from foreign markets and help exporters and importers trade more effectively, both services and goods. Businesses can attract customers from abroad with lower fixed costs if a physical market presence is no longer required. Digitalisation can also spur competition at home, insofar as it enables foreign or domestic entrants to compete despite smaller or missing distribution networks. Finally, digitalisation has the potential to diffuse technology across sectors, making workers and firms more productive (OECD, 2022a). Artificial intelligence has also made sizable progress since the pandemic (OECD, 2023d). AI can help New Zealand businesses, especially SMEs in creative industries, to boost their effective scale and productivity, allowing them to find international partners and export more.

Assessing market power and market dominance in digital markets

One of the challenges that OECD countries are facing is adapting competition policy to the rapid expansion of digital markets including how to measure market power. As in most markets, digital market shares are an essential measure of market power, but static market shares provide only incomplete information about potential supply-side entry in nascent industries and how these industries will evolve. This is particularly true in digital markets (OECD, 2022c). Some competition authorities have looked not only at the level but also the stability of digital market shares as a proxy for the lack of competitive pressures. Others have looked at the symmetry of market shares, favouring a merger between smaller players to create a larger competitor against the dominant player. Whether market shares should be assessed in terms of revenue, or number of users, active users or transactions, is also debated.

Internationally, to complement market share analysis, many competition authorities have also looked at price levels, profit stability, and entry patterns to assess the overall level of competitive pressures in different digital markets. Network effects such as interoperability and externalities, multi-homing (using several platforms in parallel), economies of scope, ecosystem effects, brand effects and consumer inertia may also contribute particularly to digital market power. Other relevant factors assessed by authorities include economies of scale, fixed costs and product differentiation. Market power in multisided markets will affect the overall set of prices and parameters across the platform, so each side of the platform should not be assessed in isolation. Competition authorities around the world (OECD 2019b, 2020c; Fletcher, 2020) have grappled with several core characteristics and issues in digital markets when assessing market power:

- a price of zero, and consumer reluctance to pay, is no evidence of a lack of market power;
- competition dynamics may be insufficient to discipline market power, in particular if consumers are locked-in to a service for extended periods and multi-homing is limited;
- patterns of past entry in a market do not necessarily imply future competitive pressures, and temporarily high market power can become entrenched given the uncertainty faced by competitors.

An important challenge is that the risk of market dominance is much higher in digital markets where economies of scale allow a "winner-takes-all" phenomenon. This calls for a tougher implementation of antitrust legislation than in other markets. The NZCC has taken successful action in cases related to digital advertising (Commerce Commission v Moola.co.nz Ltd., 2021), retail platforms (2018) as well as two-sided markets with a price of zero (2017). As argued previously, there also is scope to move the burden of proof in antitrust cases regarding killer acquisitions, by being stricter on acquisitions aimed at shutting down a business, even if the overall impact on the state of competition remains uncertain. It may also call for ex-ante legislation to address some of structural issues that characterise these markets, which cannot be addressed in a timely and effective manner only through ex-post enforcement of competition law.

In 2020 the Australian government tasked the ACCC to conduct a series of inquiries into markets for the supply of digital platform services over a period of 5 years, which will culminate with a final report that shall provide recommendations on how to address the competition issues identified. There can be some scope for engaging with Australia and consider more legislative alignment between this country and New Zealand, and cooperation between the NZCC and the ACCC on digital competition matters. This could be seen as the foundation of a future 'single digital market' across the Tasman, as is the case in the European Union where the Digital Market Act (2022) has introduced harmonised legislation to foster contestability in digital markets between member countries. Intellectual property could also benefit from similar Trans-Tasman legislation and competition enforcement. While New Zealand indirectly benefits from studies and interventions carried in other larger markets, the NZCC could nevertheless conduct a market study of various digital markets (connected devices and vehicles, application stores, online advertising and marketplaces, cloud computing, etc.), as in Australia and many EU Member Countries, and whether a dedicated legislation, similar to the EU Digital Markets Act (2022) would be warranted; this would likely require additional resources.

Data access and portability

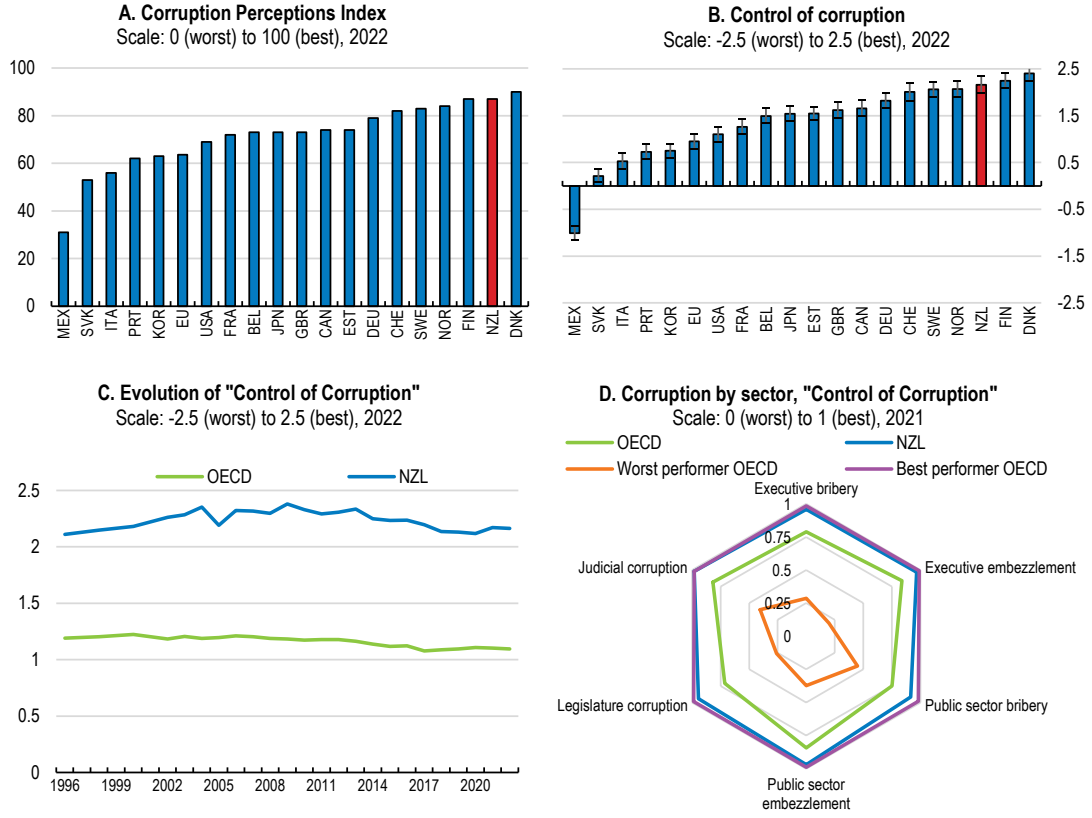
Digital markets require strong enforcement of antitrust legislation, as well as dedicated legislation to ensure that economies of scale and scope as well as network effects do not limit access to digital markets and reduce contestability and hence competition at the detriment of consumers and smaller businesses (Nicoletti, Vitale and Abate, 2023). One significant structural barrier to competition in the digital space is the access to data. Data portability – where a firm that collected an individual's data provides data through third-party accessible interfaces to the individual, or to a third party he or she has chosen – is thus a promising way to improve competition in digital markets (OECD, 2019a). Data portability can reduce switching costs, allowing consumers and businesses to change more easily to new data-driven services and platforms. A consumer data right (CDR) gives individuals or businesses stronger control of their data and ensures that their data are only shared for their benefit, with their consent. Australia enacted a CDR legislation in 2019, where consumers in designated sectors can have certain information disclosed to them or accredited third parties. First applied to banking, it will be extended progressively to energy and telecommunications.

In New Zealand, following a 2020 consultation and decisions in 2021, the previous Government released a draft bill in June 2023 that would cover the banking sector initially, and subsequently other sectors such as telecommunication, insurance, energy and health. Under the proposed CDR regime, data holders within a designated sector will be required to put in place systems and processes that enable customer data to be shared via application programming interfaces, to facilitate the transfer to accredited requestors. Requestors would be required to meet certain criteria, including character screening of directors and senior managers, detailed security requirements, and potential new insurance obligations. Significantly, the draft Bill allows authorised third parties to take steps and make decisions on the customer's behalf, if directed to do so by the customer. This is referred to as "action initiation" or "write access" (as opposed to "read access" which would simply allow customers to view data across multiple accounts). Action initiation is also currently considered in Australia under the equivalent CDR regime, and is expected to have various benefits, such as facilitating applications for new products or services. The current Government has indicated an intention to progress legislation to provide a Consumer Data Right framework.

3.4.3. Corruption is low in New Zealand but ethics rules could be further strengthened

While corruption can be highly corrosive for competition, perceived corruption in New Zealand is one of the lowest in the OECD (Figure 3.10), tax transparency is high and anti-money laundering enforcement is effective (Figure 3.11). New Zealand's policy settings to control corruption are generally best practice. To address foreign bribery, New Zealand collaborates with the International Anti-Corruption Coordination Centre (IACCC), which was set up in 2017. The Serious Fraud Office has increased international engagement with overseas agencies and joined the International Public Sector Fraud Forum. Investigations have been carried out where there is suspicion of serious or complex fraud (including corruption) but none has resulted in a corruption charge. New Zealand may not face the same risks as other jurisdictions owing to the size and make-up of its economy; it is also rarely involved in cases identified overseas and receives few requests for assistance from foreign agencies other than the IACCC. Keeping corruption low, nevertheless, requires constant vigilance. There have been cases of conflict of interest not being declared in the past. Therefore, it is important that all politicians, national or local, and senior public officials strictly adhere to the rule of law and the highest ethical standards in their official duties, including always pro-actively declaring potential conflict of interest and recusing themselves where a conflict exists.

Figure 3.10. Corruption is low in New Zealand

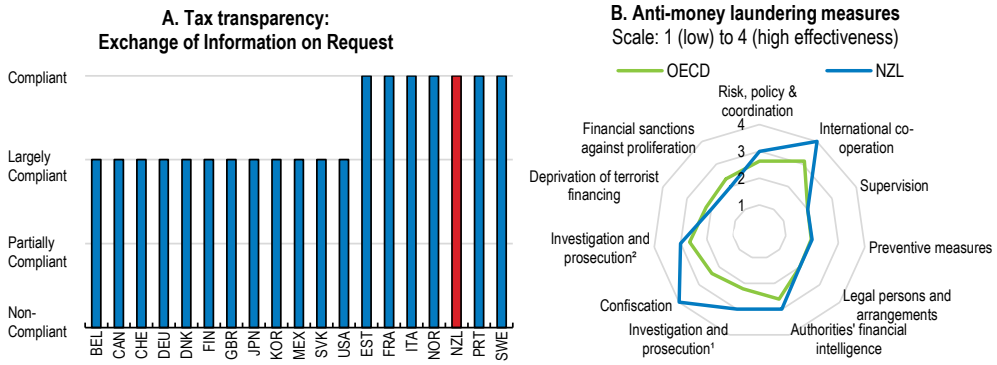


Note: Panel B shows the point estimate and the margin of error. Panel D shows sector-based subcomponents of the "Control of Corruption" indicator by the Varieties of Democracy Project.

Source: Panel A: Transparency International; Panels B & C: World Bank, Worldwide Governance Indicators; Panel D: Varieties of Democracy Project, V-Dem Dataset v12.

StatLink https://stat.link/lf4wjc

Figure 3.11. New Zealand actively cooperates against worldwide tax evasion and money laundering



Note: Panel A summarises the overall assessment on the exchange of information in practice from peer reviews by the Global Forum on Transparency and Exchange of Information for Tax Purposes. Peer reviews assess member jurisdictions' ability to ensure the transparency of their legal entities and arrangements and to co-operate with other tax administrations according to the internationally agreed standard. The figure shows results from the ongoing second round when available, otherwise first round results are displayed. Panel B shows ratings from the FATF peer reviews of each member to assess levels of implementation of the FATF Recommendations. The ratings reflect the extent to which a country's measures are effective against 11 immediate outcomes. "Investigation and prosecution[1]" refers to money laundering, "Investigation and prosecution[2]" to terrorist financing.
Source: OECD Secretariat's own calculation based on the materials from the Global Forum on Transparency and Exchange of Information for Tax Purposes; OECD, Financial Action Task Force (FATF).

StatLink https://stat.link/ifnzyg

Findings and recommendations

FINDINGS	RECOMMENDATIONS (key ones in bold)
Overall state of competition policy and related regulation	
The policy framework has become more sophisticated, adding more sector-specific analysis, regulatory tools and competent regulatory institutions to broad economy-wide competition laws. Low regulatory barriers to entry will not always be sufficient to ensure vigorous competition in New Zealand's small and distant market.	**Retain market studies and adopt a strategy of gradual escalation of intervention, from reducing barriers to entry to light-handed regulatory approaches, and structural solutions such as break-up of dominant players.**
Fuels	
The market for fuels is dominated by three vertically-integrated majors. Transparency and competition have improved recently, a 'regulatory backstop' to the terminal gate pricing has been added in 2023, and the NZCC will be able to investigate terminal gate prices.	The effect of the new legislation should be monitored, and remaining barriers to entry and expansion for independent retailers should be investigated (vertical integration and retailer access to supply, land use rules). If competition in fuels remains insufficient, consider forcing some of the majors to exchange or divest from some of their assets.
Residential building supplies	
Prices for building supplies are high in New Zealand, and competition remains limited, especially locally. The regulatory system does not favour the use of new products or processes like off-site manufacturing, and incumbents aggressively use land covenants and quantity forcing rebates.	If insufficient competition persists, task the NZCC and MBIE with advising on whether stronger interventions are warranted. Consider a fast-track process for foreign supplies approved abroad.
Retail grocery	
New Zealand's grocery sector is effectively a duopoly. Following the NZCC's market study, a reform was enacted in July 2023. It introduces a new regulator, improves access to the wholesale market for independent retailers, and regulates conduct between supermarkets and suppliers.	Continue MBIE's analysis of the costs, benefits and policy options for national or local structural divesture, as well as other remedies.
Banking services and payment systems	
Banks' profits and transaction fees are high in New Zealand, in international comparison. These profits are partly due to the high lending margin, and the limited extent of competition might be partly due to regulation.	Investigate the impact of prudential regulation on competition in banking. Facilitate switching further and introduce a consumer data rights regime for banking to facilitate digital innovation and competition.
Dairy	
Insufficient transparency in the milk price methodology is introducing unnecessary uncertainty for investors in independent dairy companies. Fonterra is successful at generating profits in part of the dairy value chain but the dairy industry needs new competitors to reach its full potential for innovation and growth.	A study into the barriers to expansion for new processing companies – especially those that want to move into the fast-moving consumer goods business – should be conducted, either as part of the 2025 statutory review of the dairy market, or as part of a market study by the NZCC. This study could also investigate whether the transparency of the price manual could be further improved.
Air transport	
Given its hub status for long distance international travel, Auckland airport enjoys a dominant position especially as the international gateway. The vision of a Single Australia and New Zealand aviation market is not complete with insufficient presence and competition of the airlines of the other country in the domestic market and at "second-tier airports". Airline code-sharing agreements are cleared by the Minister of Transports, for whom competition may not be the primary consideration	Investigate 'hybrid till' alternatives to the current dual till airport model, or the scope of activities that fall into the regulated till. Consider treating the three larger airports differently if remedies are needed only for one. To increase the frequency of non-Auckland Trans-Tasman flights and give greater connection choices for long distance flights, facilitate entry of New Zealand and Australian firms into each other's domestic markets and consider negotiating 7th freedom rights with Australia (direct Australian flights from NZ to the rest of the world, and vice versa). Subject code-sharing agreements to NZCC clearance.
Electricity markets	
Consumer switching remains low, and consumers who do not switch pay significantly more than those who switch regularly.	Require retailers to signal to consumers if they have other pricing plans better suited to their needs, or if they have conditional discounts available. Encourage the Electricity Authority to also provide a standard model of how different pricing plans affect a consumer that smaller retailers could use and adjust.
The large integrated generator-retailers still largely dominate the market.	If the recent reforms do not prove sufficient, consider forcing some of them to swap some of their assets or divest from retail assets.

Increase the take-up of mobile broadband	
While New Zealand is a leader in high-speed fibre broadband, mobile phone data usage is one of the lowest in the OECD, and unlimited or high-data contracts remain relatively expensive.	Encourage the NZCC or MBIE to investigate the reasons behind low mobile phone data usage and whether or not data and pricing plans should be benchmarked against other OECD countries.
Revisiting the law and jurisprudence around competition	
Market studies and other sectoral inquiries have identified some common anti-competitive factors (market concentration or vertical integration, excessive use of land covenants, insufficient protections for customers or suppliers and the difficulty to move to a competitor, etc.).	As the market studies process matures, the NZCC and MBIE should keep reporting to the government periodically on cross-sector themes arising from the studies and opportunities for wider cross-economy reforms. The NZCC and MBIE should further study the effect of land use rules and local regulations on market entry, and suggest possible improvements.
Preventing anti-competitive mergers has at times proved difficult for the NZCC.	Consider inverting the burden of proof for unnotified mergers or when the market is already concentrated, and for killer acquisitions. Follow up on Australia's upcoming review to maintain legislative alignment. Consider further narrowing exemptions in the Commerce Act. Consider giving the NZCC the ability to accept behavioural undertakings.
New Zealand is lagging behind other OECD countries in recognizing and addressing the challenges that digital markets pose to competition.	**Ensure the NZCC has the tools and capability it needs to address digital platforms' market power and the associated risks to competition. Consider alignment of laws with Australia to promote a single digital market.** Introduce a consumer data rights regime in different sectors.
The articulation between the NZCC and criminal prosecution has improved in cartel cases, with the NZCC advising on criminal clemency rules.	Further investigate the articulation of competition policy, consumer protection, and criminal or civil enforcement (class actions for example).
Improving the regulation on businesses and trade	
Foreign investment remains low in international comparison.	While maintaining the national security component of the current screening regime, review the foreign investment regime with a view to reducing barriers to foreign entry. Continue to reduce compliance costs and boost predictability for investors. Carry out a review of the broader regulatory environment affecting FDI sector by sector.
Corruption is low in New Zealand but there are fewer restrictions on moving from politics into lobbying roles than in other countries.	Introduce tighter standards against lobbying and conflicts of interest.
SOEs are not overly politicised but public ownership does carry some risks. Council-controlled organisations are more at risk of being inefficient.	Move towards greater privatisation of SOEs, including considering reducing local government ownership of port assets. Explore measures to strengthen competitive neutrality in markets.

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4 Ensuring the tide lifts all boats: Improving quality and equity in schools across New Zealand

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Axel Purwin
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The education policy framework and New Zealand's autonomous school system have many strengths and centres of excellence. New Zealand has a deep pool of highly talented and motivated teaching professionals, but the system is performing below potential. Student achievement is declining and equity is not improving, and outcomes are too variable even in the same school. School autonomy allows education to be tailored to the learning needs of the children and their backgrounds but places heavy responsibility on boards, principals, teachers, and schools to deliver high-quality learning outcomes. Many of the support elements are lacking, including a sufficiently detailed curriculum, efficient assessment tools, specialist subject teaching practice and curriculum implementation advice, and initial teacher education tailored to the unique demands the system imposes. The Ministry of Education's operational capacity was pared back too far. Centres of excellence operate too much in isolation and lack of support has nurtured actor distrust of frequent policy reforms. Many improvements can be made without increasing total spending. The Ministry should continue to develop its operational support capacities. The government should better spread best practices, and continue efforts to provide a detailed curriculum, an assessment system and education of teachers and training for boards and principals better informed by data, evaluations, education research and the expertise of the system's experienced actors.

4.1. Declining school education performance and ongoing inequity are a serious threat to New Zealand's prosperity

Schooling quality and equity are important determinants of individual earnings, the distribution of incomes, productivity and economic growth (Krueger and Lindahl, 2001; Hanushek and Woessmann, 2007, 2012). People with higher levels of educational achievement are more likely to find employment, stay employed and have higher earnings (OECD, 2023). From an economic performance perspective, education is an investment that generates a stock of human capital and is a key determinant of both individual earnings (Becker, 1994) and economic growth (Lukas, 1988; Barro, 2001) as it raises individual and economy-wide productivity. On average across the OECD, adults with upper secondary education earn 18% more than those with below upper secondary education. Better achievement at school raises the probability of entry into tertiary education. Individuals with tertiary education at the bachelor's degree level and post graduate levels on average across the OECD earn 74% and 229% respectively more than adults with below upper secondary education (OECD, 2023).

Poor education performance in school is rarely caught up later creating long-term negative effects. Indeed, recent OECD research finds that a fall of 8 points in the average country score in mathematics, science and reading in the OECD's PISA tests of student achievement is associated with a long-term decline in aggregate productivity of 1% (Egert et al., 2023); this suggests that the decline of almost 29 points in New Zealand's average PISA score between 2006 and 2018 will eventually reduce aggregate productivity by close to 4 percentage points. This is an important reason why turning around a trend decline in New Zealand school education performance, including in literacy and numeracy, and increasing equity in education outcomes, is key to ensuring the future performance of the economy and the wellbeing of all New Zealanders. The previous *OECD Economic Survey of New Zealand 2022* found that weaker learning outcomes at school in mathematics and science are already constraining the capacity of the economy to grow and create jobs through digitalisation. New Zealand's education system has many strengths and should remain devolved but implementation of the education policy framework needs a major overhaul.

This chapter discusses primary and secondary education in three main sections. The first section analyses trends in achievement and equity in international comparison. The second section discusses how to reprioritise spending towards deepening an intermediate support layer to help schools, school boards, principals and teachers to put policy into action and strengthening horizontal ties between actors. The final section focuses on policies to offset socio-economic disadvantage and close ethnic, gender and regional equity gaps. Overall government spending rose significantly from 2017 to 2023. New Zealand faces a structural fiscal deficit and gradual consolidation is required (Chapter 2). In this context, as discussed below, many improvements to education can be made without resorting to increasing spending. Where new spending is required, this should occur via re-prioritisation of spending.

4.2. Achievement has fallen and inequality remains high

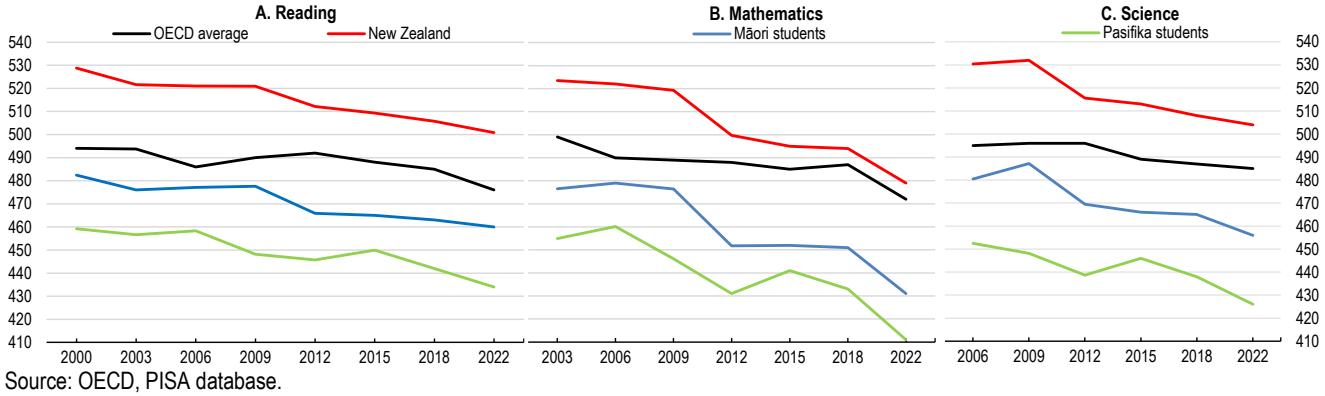
4.2.1. Results have fallen in primary and secondary education

In the first PISA study, which surveys 15-year-olds, published in 2000, New Zealand ranked third among OECD countries in both mathematics and reading. Since then, New Zealand's school performance has weakened considerably, relative to both past performance and peer countries, although it continues to score above the OECD average. In the latest (2022) PISA assessment, it fell to 19th place in mathematics, recording the third biggest drop since 2006 of any country, and 7th in science and reading. Between the 2018 and 2022 PISA assessments, a period when learning was disrupted by COVID-19, the results of children in most countries fell. New Zealand's results in mathematics fell as much as the OECD average, while the New Zealand's decline in reading and science was slightly less. However, there is upward bias in New Zealand's ranking and results in the PISA 2022 study as high-achieving students were over-

represented in the sample; analysis by the Ministry of Education (2023e) suggests this led to an estimated upward bias of around 10 points on the PISA scale.

The biggest decline in PISA scores occurred between 2009 and 2012 for all three subjects but a downward trend is evident through to 2022 (Figure 4.1). Mathematics especially saw a jump in the share of low performers (children scoring below level 2 or the baseline for mathematics proficiency). Since 2012, the share of low performers in mathematics has risen further, reaching 29% in 2022, whereas the share of the top performers (level 5 or above) has dropped gradually, to 10% by 2022. The same decline in achievement across the performance distribution, albeit less pronounced, can be observed for reading and science, and is similar across the socio-economic spectrum and for Māori and Pasifika students.

Figure 4.1. New Zealand's average PISA scores have declined



Source: OECD, PISA database.

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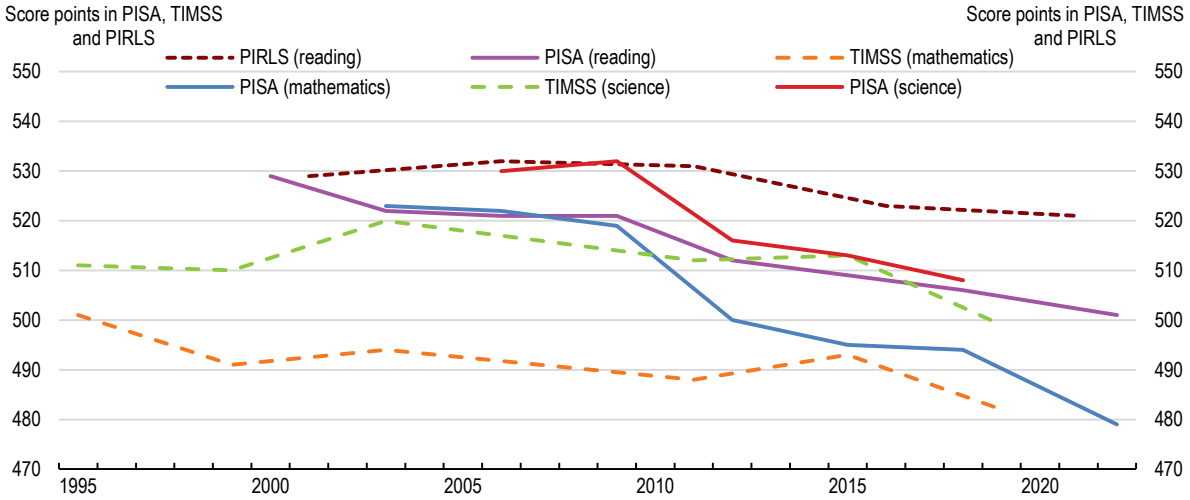
The negative trend in student achievement is corroborated by other international studies (Figure 4.2) as well as domestic assessments. Since 2006, reading comprehension among year five students has deteriorated, according to the PIRLS-study, and New Zealand placed 26th out of the 29 OECD countries that participated in 2016, scoring well below peers such as Australia, Canada and England. Similarly, in TIMSS, which tests capabilities in mathematics and science among fourth and eighth graders, New Zealand scores among the worst of the participating OECD countries.

The difference in New Zealand's noticeably better mathematics performance in PISA than TIMSS could potentially be attributed to the way the assessments are designed. Whereas TIMSS focuses on factual and procedural knowledge taught in mathematics curricula, PISA emphasizes understanding how to apply mathematics to everyday situations, a type of questions that is arguably closer to how mathematics is supposed to be taught in New Zealand.

The National Monitoring Study of Student Achievement (NMSSA) suggests that performance problems appear to be occurring between year 4 and year 8 (i.e., in the primary and intermediate system). The 2022 NMSAA study finds that 82% of year 4 children meet the minimum mathematics curriculum requirements, whereas by year 8 only 42% do. These figures are practically unchanged since 2013 and the drop is reflected across genders, ethnicities and school deciles. A similar pattern emerges for English and science, with a 28-percentage point fall in writing to 35% and a 74-percentage point drop in science, to 20%.

Figure 4.2. Other international assessments also show declining achievement

New Zealand's results in international skills surveys for children of school age



Note: PIRLS denotes the national average results of fourth-graders in the Progress in International Reading Literacy Study. TIMSS denotes the national average results of eight-graders in the Trends in International Mathematics and Science Study. PISA denotes the national average results of 15-year-olds in the OECD Programme for International Student Assessment. For all three assessments, the overall mean set to 500 and a standard deviation of 100 points.
Source: Ministry of Education, Education Counts (2023).

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4.2.2. Equity in education outcomes is not improving

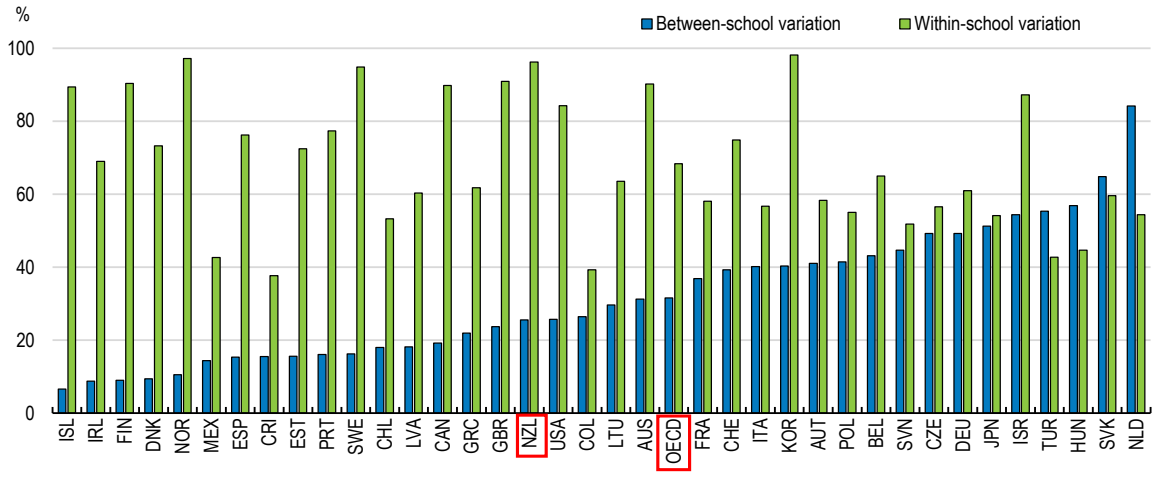
New Zealand has long allocated equity funding to schools based on the socio-economic status of the area in which the school operates through the equity grant, and then from 1995 the decile system and since 2023 the Equity Index. Nevertheless, gaps in student performance between different socio-economic and ethnic groups, as well as between girls and boys, remain wide. The comparatively large differences in student performance between socio-economic groups persist even though socio-economic segregation across schools is lower than in most other OECD countries. Consequently, low- and high-performing children are clustered in the same schools less often than the OECD-average. This along with a high variety of what is taught even within the same school contributes to high within-school and low between-school variation in achievement in comparison to the OECD (Figure 4.3).

Differences in achievement by socio-economic background are also apparent in the NMSSA assessments and larger in mathematics and science than in English. For year 8 mathematics, high decile (i.e., deciles 8-10) children scored 21 points better than low decile (i.e., deciles 1-3) children, a difference corresponding to two and a half years of normal school progress. A pilot study of the new Literacy and Numeracy pre-requisite standards in the National Certificate of Educational Achievement (NCEA), discussed further below, also shows disparities. Achievement rates differed vastly between high and low deciles, with a mere 12% of secondary children in decile 1-schools meeting the standard in English writing, whereas 59% met the standards in decile 10 schools (Evaluation Associates, 2023).

There is also a large variation in performance by ethnicity. An important reason for this is the high correlation of ethnicity and socio-economic background. In addition, Māori children sometimes face additional barriers to learning, such as lower expectations from teachers or fewer teacher-student interactions (Henderson, 2013). Domestic and international studies both point to considerably worse outcomes for Māori children than non-Māori, with the gap being particularly pronounced in mathematics and science. In the NMSSA studies, the difference between Māori and New Zealand Europeans surpasses one year of school progress for all subjects (mathematics, science, reading, writing, speaking, presenting,

listening and viewing) and grades (years 4 and 8) except for year 4 writing. In PISA, outcomes for Māori have declined largely in line with that of the non-Māori population over the past two decades.

Figure 4.3. Variation in mathematics performance between and within schools



Source: OECD, PISA 2022 database.

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Pasifika also tend to live in socio-economically disadvantaged neighbourhoods and almost half of the Pasifika students partaking in PISA attended deciles 1 to 3 schools. Both PISA and NMSSA studies indicate that outcomes are worse for Pasifika than Māori and other non-Pasifika. Differences are especially large in mathematics. By contrast, Pasifika children assess teacher support and school wellbeing as better or on par with those of non-Pasifika. Pasifika children are, however, less likely to report being assigned long texts in their English class, which could point to Pasifika not having equitable access to educational opportunities (May et al., 2019).

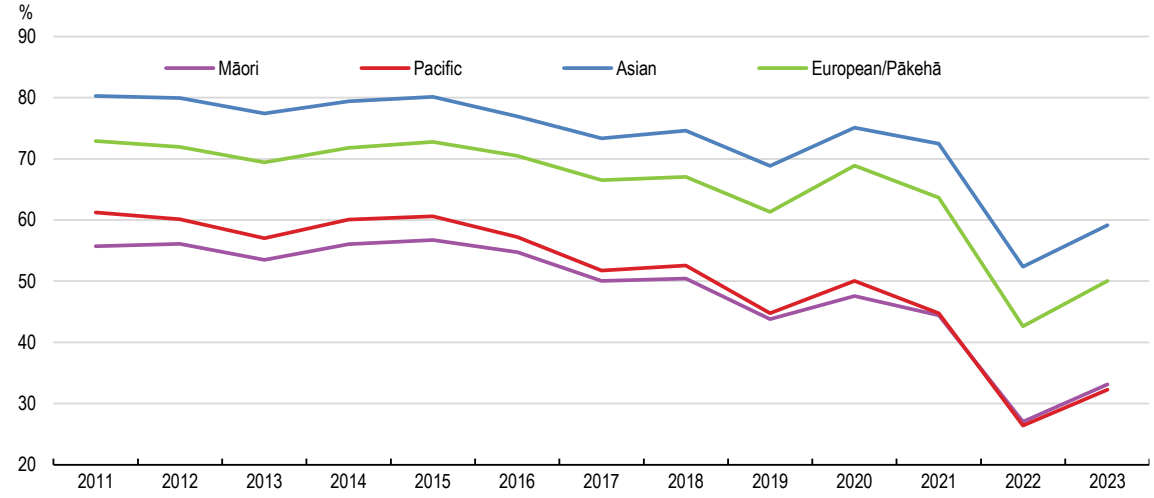
Gender gaps in student performance are manifest, albeit roughly on par with the OECD average. Girls significantly outperform boys in reading although the difference has narrowed since 2012, mainly owing to girls' declining performance. In mathematics, a higher share of top performers pushes boys' average scores above that of girls. In science, girls and boys are roughly equal, even if the distribution of outcomes is wider for boys. The share of girls attaining university entrance has been consistently over ten percentage points higher than boys' over the past decade.

4.2.3. Raising attendance requires action on multiple fronts including reducing bullying

School attendance in New Zealand is low by international standards and has fallen. In the last term of 2023 only 54% of students had attended school over 90% of the time, down from 66% just prior to COVID-19. OECD data, albeit dated, suggests that around 85% of children attend 90% of the time across the OECD (OECD, 2013a). Attendance has likely declined in New Zealand, for several reasons. These include the detachment from in-person attendance at school and work caused by COVID-19 but attendance was declining before COVID-19. A low sense of belonging to school in some groups, child and parent ambivalence about school attendance, and increased rates of bullying all appear to play a part. As discussed below greater cultural relevance of schooling can play an important role in improving a sense of belonging for Māori. Four out of ten parents are comfortable with their child missing a week or more of school and the children of these parents are twice as likely to miss school regularly (ERO, 2023). It is important that parents impress on their children the importance and value of attending school every day. Bullying also appears to be a key contributor to low attendance, with victims more likely to suffer from poor mental health and peer rejection, and perpetrators at greater risk of future unemployment and delinquency

(Green et al. 2019). The effects of bullying also extend to those who witness it and to schools at large, which see falling student performance (OECD, 2019a).

Figure 4.4 School attendance is still below pre-COVID levels



Source: Ministry of Education, Education Counts (2023).

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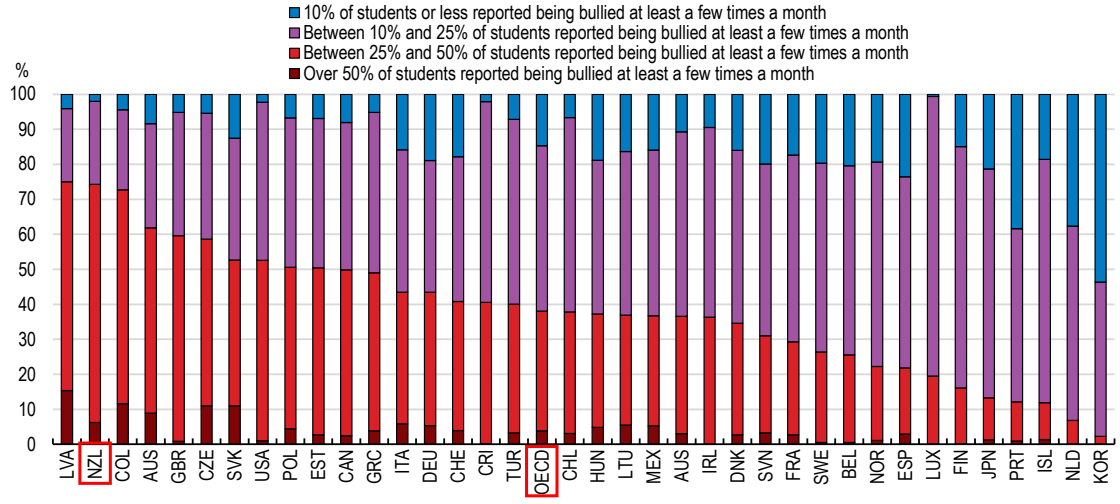
In the 2018 PISA survey, New Zealand had the highest share (15%) of students who reported being frequently bullied of any OECD-country and ranked high in all different types of bullying (Figure 4.5). In the Teaching and Learning International Survey (TALIS), New Zealand also had the highest share (43%) of lower secondary principals reporting that bullying incidents occurred at least weekly in their school. Moreover, it faced the largest increase in the incidence of bullying between TALIS 2013 and TALIS 2018 of any OECD country.

Figure 4.5. Bullying is a serious problem in New Zealand

Percentage of students in schools where



Source: OECD, PISA database.

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This bleak picture of bullying is confirmed by the latest TIMSS study, in which New Zealand ranks near or at the very bottom in various measurements of bullying for both year 4 and year 8 students. Domestic studies, however, indicate that bullying prevalence has changed little over the past decade, aside from a

rise in the cyberbullying rates. The disciplinary climate is also below OECD average in secondary schools but it tends to be better in advantaged and private schools (OECD, 2019a; OECD, 2019b). A sense of belonging to schools for 15-year-olds is also significantly below the OECD average and tends to be better in advantaged and private schools (OECD, 2019a).

Bullying is a determinant of student truancy (OECD, 2019a), whose levels in New Zealand schools attended by 15-year-olds, in 2018, were considerably above the OECD average (OECD, 2019a). It is more prevalent in disadvantaged and public schools. Bullying, poor discipline and school safety, and truancy are all associated with lower wellbeing and achievement of children and dropout rates are higher than in many other OECD countries (OECD, 2019a).

4.3. Greater focus on policy implementation is the key to ensuring better quality and equity

The New Zealand education system has many strengths. The greatest assets of the education system are its deep pool of talented, motivated teachers and principals. Indeed, an above OECD average share of teachers in New Zealand cite contributing to child development and society including the socially disadvantaged as a reason for joining the profession (OECD, 2019b).

The Ministry of Education's policies have many features that are in line with international best practice, the Education Review Office operates in line with best practice in going beyond evaluation and increasingly working in partnership with schools to advise them in how to improve and high-quality education research is carried out by New Zealand universities, non-profit organisations (Box 4.1) and the New Zealand Education Research Council. However, as discussed below, the system seems to be missing a sufficiently deep and well enough funded intermediate support layer to help schools and teachers put policy into action, design detailed curriculum guides and assessments and deliver them as well as spreading best practices more generally.

Experience in Denmark suggests that careful implementation, including ensuring all key stakeholders, are onboard is a pre-requisite for ensuring the success of a national reform. National reforms in 2005 to promote school choice had limited success with only 12% of parents exercising their right to choose and children generally go to the school in their district. This may have been partly due to parents choosing not to exercise their rights as schools are quite similar, but there was also evidence of municipalities using class-size limits and school district changes to block parent choice as well in order to avoid over-concentration of children from migrant backgrounds (Wiborg and Larsen, 2017).

Box 4.1. The Education Hub

Founded in 2017, the Education Hub is a New Zealand independent not-for-profit organisation that aims to support innovation and discussions on education policies and facilitate implementation of new research findings in New Zealand classrooms. It plays an important role in spreading research-supported best practices. Drawing on both international and New Zealand research, the Education Hub offers a range of webinars and courses targeted at early childhood and schoolteachers. It also produces special reports and disseminates research reviews that highlight and summarise international research of potential relevance also for a New Zealand setting. In total, the Education Hub online library contains, in addition to the webinars and courses, more than 700 resources spanning 90 different topics. Teachers can participate in the various learning opportunities either as individuals or together with a group of teachers or the whole school. The Education Hub's activities are fully dependent on economic support from individuals and philanthropic organisations, such as the Next Foundation or the Fletcher Trust. Starting in 2024, it will begin charging a small fee for its webinars.

Source: The Education Hub, https://theeducationhub.org.nz/

4.3.1. There are obstacles to implementation: a high-trust model suffering from doubt

Since the 1989 *Tomorrow's Schools* reforms, the New Zealand education system devolves significant responsibilities to schools. Indeed, there is considerable autonomy at the school level to decide on the curriculum, budget allocations within the school and on teacher selection and recruitment (OECD, 2020c). This model has the important advantage of local autonomy, which gives the scope to adjust content and the way education is delivered to make it relevant to the culture and background of the children.

However, there are a variety of obstacles to obtaining better quality and equity out of New Zealand's devolved system. First, there is variable, and in some cases insufficient, capacity to carry out tasks delegated to school boards, principals and teachers. Second, the ability to identify good practice and spread it across the system is restricted by schools being relatively isolated and having limited opportunities for learning from effective practice from across their region or the country. An important barrier to spreading best practices is insufficient system-wide data on how schools and teachers are implementing policy, e.g., the curriculum and the results associated with that. There is also underexploited research data on the performance of all 2500 schools in New Zealand from Hernandez (2019).

Despite these challenges, after 30 years, schools, school boards, principals, and teachers are used to, and value their independence and, as discussed below, there are many centres of excellence in the current system. These include academics that help transfer education research into practice, teachers who run scholarship level courses at their own initiative to schools where outcomes for Māori are far better than the national average and trusts that run high quality leadership training for principals. The 2018 review of the 1989 "Tomorrow's Schools" reform that set up this autonomous system called for "structural and cultural" change and transfer of many of school board powers to regional Ministry of Education offices (Ministry of Education, 2018). The proposal to reduce school autonomy was controversial amongst schools, teachers, and principals and was not adopted by the previous government, which instead sought to make the current system work better, notably by improving school board capability.

New Zealand should retain its decentralised education system. The decentralised system has many advantages and the solutions do not lie in recentralisation but better implementation of the current system. Recentralisation would involve a huge change, entail high implementation risks and add a further significant policy burden to the government. Experience suggests that even if such a reform was implemented, it would generate significant policy volatility as without the support of teachers, principals and schools, it would likely be reversed in short order.

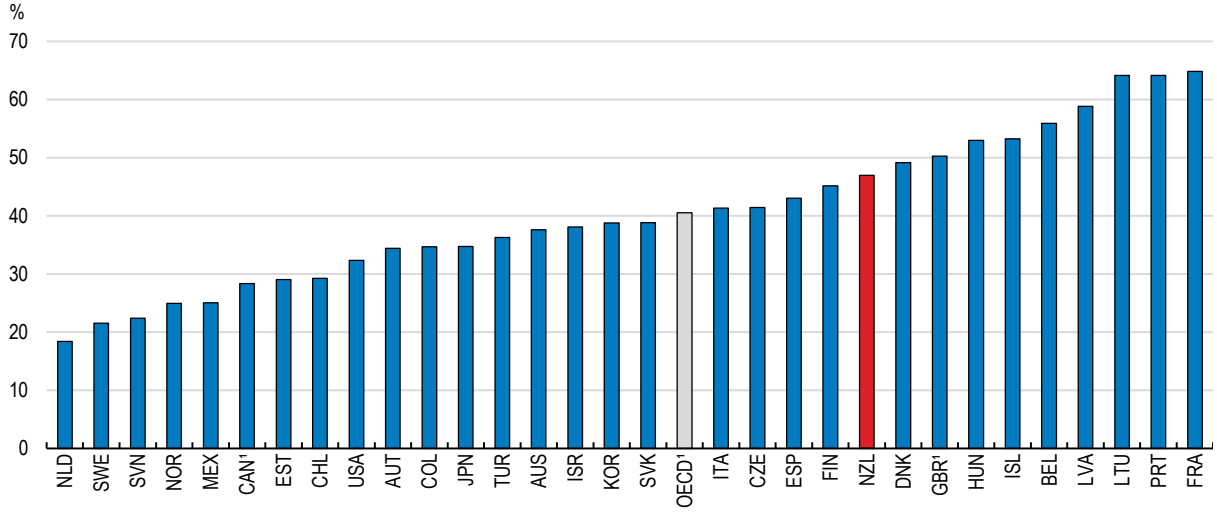
Indeed, the underlying problem does not seem to be that a lot of schools are run poorly, providing a substantive reason for re-centralisation of decision making. Empirical evidence shows that school quality as measured by student achievements is remarkably uniform once socio-economic background of the children is taken account of (Hernandez, 2019). This is confirmed by the OECD data above that shows across-school variation in PISA performance is quite low by international comparison, while within-school variation is very high (Figure 4.3). Indeed, there is less segregation by socio-economic backgrounds across schools in New Zealand than the OECD average (OECD, 2023d). Insufficient local support to schools, principals, and teachers to put policy into practice, as well as insufficient preparation of teachers to meet the needs of a wide variety of learners from varying backgrounds, likely negatively affect children in most schools across the achievement spectrum, but particularly the most socially disadvantaged and those with disabilities and extra learning support needs.

There was widespread agreement among interviewed stakeholders that reforms in recent years had been sequenced incorrectly (putting assessment and teacher education reform before curriculum reform) rendering implementation more difficult for schools, principals and teachers. Furthermore, limited central guidance and support means teachers are spending too much time on tasks where there is strong potential for economies of scale, such as the selection of high-quality teaching materials or designing the

sequencing of what is taught. Indeed, the share of teachers that report quite a lot or a lot of stress related to changing requirements from the national authorities is above the OECD average (Figure 4.6).

Figure 4.6. National reforms have put New Zealand teachers under above average stress

Share of teachers for whom keeping up with changing requirements from central authorities is a source of stress "quite a bit" or "a lot", 2018



1. GBR refers to England, CAN to Alberta and OECD to the average of the countries in this figure.
Source: OECD, TALIS 2018 Database, Table II.2.43.

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Experience elsewhere in the OECD suggests that a decentralised education system can perform well, subject to strong support systems and institutions (Box 4.2). For New Zealand this requires greater priority on improving the implementation of the current policy framework. This means lifting all schools' capacity to deliver national policy objectives. This will particularly benefit the most disadvantaged children in all schools by facilitating more time for teaching and less time on, for example, curriculum design from scratch. It also requires improving trust between the Ministry of Education on the one hand and school boards, schools, principals, and teachers on the other hand, which has been eroded by past policy changes not being accompanied by sufficient support to schools to implement them. This is crucial to obtaining the buy-in to policy from schools that will be required to bring about the system-wide improvements the government seeks. As discussed below, the new government's Teaching the Basics Brilliantly and Literacy Guarantee policy to improve outcomes for all children can help address these problems.

Box 4.2. Improving learning outcomes and equity in a decentralised education system

McIntosh (2022) identifies several factors associated with performance and equity in a decentralised education system. These include ensuring: a well-articulated and widely accepted system wide vision and goals; schools have clear guidance on expected learning outcomes, for example via detailed curriculum guides and effectively assess whether they are being achieved; national policy shifts result in changes in classroom practice; strong school-family engagement; schools are publicly accountable to stakeholders to meet clearly specified standards; and there are strong professional networks and collaboration between teachers and schools.

The experience of Ireland suggests that a middle regional support layer like the Ministry of Education is developing in New Zealand, can also play an important role in improving outcomes in a decentralised education system. Ireland is an above-average performer in PISA, notably in reading and mathematics (OECD, 2023d). Like New Zealand it has above OECD average levels of school autonomy and schools managed locally by boards. There is also similar to New Zealand more within than between school

variation in children's education outcomes (OECD, 2023d) and two language medium school pathways (English and Irish). Regional education support centres (21 full-time and 9 part-time) linked by an umbrella organisation, on behalf of the Department of Education and Skills, meet the ongoing professional development needs of teachers, school management and parents at local and regional levels. Education support centres are statutory bodies, funded by the Department of Education and Skills, and managed by voluntary management committees elected annually. The centres also organise after-school activities, learning support and training sessions and often provide spaces for teachers, parents, students and community groups to convene.

Source: McIntosh (2022), www.esci.ie.

The Ministry of Education needs to continue developing its more active local support role

Improving education policy implementation will require the Ministry of Education to redeploy resources towards increasing its operational capacity to support schools. As part of the "Tomorrow's Schools" reforms, the large Education Department became a small policy ministry. It has since re-expanded and become more operational but does not appear yet to have the capacity, especially locally, to provide the support schools need to implement national policies including the curriculum and assessment and policies to increase the cultural relevance of education.

The Ministry should expand its middle layer service to schools with a provider role at a sub-national level (McIntosh, 2022). New Zealand's structural deficit and the need to reduce it doesn't allow for total spending increases and as discussed below total spending on education is around the OECD average and not at a level where increasing it would necessarily improve outcomes. Hence, this expansion should be done by reprioritising spending. The regional offices seem well placed to play a stronger role in establishing direct contact with schools and facilitating advice and support offers that respond to schools' identified needs. Being closer to the local level than the national Ministry, the regional offices could help ensure that principals and school boards have access to high-quality advice and are able to use their planning and reporting structures for continuous improvement (Nusche et al., 2012). Expanded regional offices could work in partnership with schools to help improve student learning, including sharing effective practice across schools, strengthening data analysis, supporting family, local community and iwi engagement, and enhancing two-way communication between schools and government agencies.

The Ministry of Education is reorganising and going further in the direction of a more operational and regional based organisation. An Education Service Agency, Te Mahau, was established in 2021 and it has expanded since then. It has five groups in total, three regional support groups, North, Central and South (replacing 11 different regional offices) and two national-level divisions (operations and curriculum) that work together. The three deputy secretaries heading these groups, who are also part of the senior management team of the Ministry, can help ensure that national policy will be informed by local experience. Te Mahau's largest operational function is to provide learning support for children with disabilities or learning difficulties. The Curriculum Centre, Te Poutāhū, which is part of Te Mahau, develops and maintains the national curriculum, provides national resources that supports the curriculum, and provides curriculum advice including with curriculum leads based in the regions. Te Poutāhū was set up to provide expert advice on improving children's wellbeing. It has subsequently added mathematics and literacy as priority areas for support. Te Mahau is a welcome initiative and should focus on providing expert support and advice, and developing, in partnership with schools, practical strategies for implementing national policy. It is especially important, as further discussed below, that it provides more curriculum implementation advice via more regionally based curriculum leads with specialist knowledge in mathematics, science, reading and other subjects.

Having more curriculum leads in regional offices with specialist subject knowledge would allow more in-person contact between teachers and subject experts and help leads to build trust with and support schools and teachers. Schools would need to maintain comprehensive documentation of their current practices in assessment, subject curriculum, teacher evaluation and professional development. Ministry regional

advisors would need to have the specialist knowledge to suggest ways to improve these practices and the ability to differentiate support according to the needs they identify in schools. These curriculum lead roles should be ones of support and not enforcing compliance or adding to requirements teachers and schools face.

4.3.2. The education system's significant assets could be leveraged more

New Zealand's decentralised education system has fostered many centres of innovation and excellence led by highly motivated and talented academics, teachers, principals and school boards but they are often too small in scale. They range from regional subject associations to non-profit organisations that provide support services, such as how to put research into teaching practice and leadership training for principals. A key challenge is to leverage these assets and better spread these best practices and knowledge. This would help improve equity in achievement both across and within schools. This can be done through central government support as discussed above. OECD research suggests that teachers and schools openness to innovation can also be encouraged through professional learning communities, including collaboration between actors at the local level (OECD, 2019b). This is because these communities can constantly provide feedback to teachers, supporting incremental change and positively affecting instructional quality and student achievement (Bolam et al., 2005; Louis and Marks, 1998, Kools and Stoll, 2016).

Collaboration between schools should be boosted further

A longstanding aim of the Ministry of Education has been to promote school collaboration through a variety of programmes including School Improvement Clusters and Learning and Change networks. The most enduring of these school collaboration networks, Communities of Learning | Kāhui Ako, have had some success at the principal level but there is far more potential for collaboration across schools (PPTA, 2017). Vertical (i.e., groupings of primary, intermediate, and secondary schools) communities of Learning | Kāhui Ako school groupings could be complemented with more horizontal and mixed-performance groupings of primary and secondary schools. International experience suggests horizontal school networks in New Zealand involving both principals and teachers would help spread best practices and lift performance in areas such as curriculum design and teaching practice, where knowledge and performance is variable (Hood, 2023).

One of the ingredients of successful collaborations is the authorities using a confidential, data-driven performance assessment to identify higher-performing schools and pair them with lower-performing schools with a similar student profile given the influence of socio-economic background, gender and ethnicity on education outcomes. ERO is in the best position to do this as it identifies during its school evaluations the processes that led to good performance. Another factor in successful collaborations is that they occur between both principals and teachers. For example, the London City Challenge reforms starting in 2002 introduced a collaboration scheme where schools which were designated as "outstanding" based on school-level performance data became teaching schools, which shared their practice with other teaching professionals in the district (McAleavy and Elwick, 2016). The impact was particularly noticeable in Keys to Success schools identified as most in need of support that between 2008 and 2011 increased the percentage of the students reaching the expected level in national qualifications in English and mathematics by more than the national average (Hutchings et al., 2012).

Using a partnering approach that matches successful schools with low-performing ones has also been used in Shanghai. High-performing schools are contracted for two years to turn around the academic outcomes of low-performing schools. Teachers and school leaders from both schools move between the two schools, building capacity and developing effective practices resulting in a marked performance improvement in low-performing schools (Jensen and Farmer, 2013). Indeed, experience in the Netherlands suggests that participating school support programmes, in which teachers and school leaders work

together to improve the quality of teaching and learning is the key to not only lifting performance but excellent performance (OECD, 2016).

An excellence fund to help spread best practice

Experience in the United Kingdom with the London Schools Excellence Fund suggests competitive funding of best practice spreading projects lifts teacher confidence, subject knowledge, and content-specific pedagogy as well student achievements (SQW, 2016). Competitive funds made available to spread best practice in New Zealand includes the Teacher Led Innovation Fund (2015-19), and the still existing Teaching and Learning Research Initiative administered by the New Zealand Education Research Council. The latter has very limited funding of NZD 1.5 million and funds joint research of practitioners and researchers rather than spreading best practice more widely.

By international comparison, accessibility to education research is perceived low (OECD, 2023c). Very little is spent on putting research into practice in education, by comparison to the health sector where no vaccine will go to market without extensive clinical trials (OECD, 2022a). There also appears to be many experienced education stakeholders whose expertise could be utilised more.

To further spread best practice and leverage the assets of the wider education community, consideration should be given to setting up a government-funded education excellence fund, governed by an independent board with a wide and deep range of expert knowledge in subjects and practical experience with teaching and leading schools. It could fund not-for-profit initiatives of academics, school boards, principals, teacher, community organisations and subject associations. These initiatives may include a programme on best practice design of the mathematics or science curriculum and how to teach them, an advanced or catch-up mathematics course for children from schools across a city, a programme for how to incorporate Māori knowledge into the curriculum and/or specific teaching professional development programmes. Independence of the Board is important for encouraging a wider range of stakeholders to participate and embrace successful methods, approaches or service delivery that may not fit within existing Ministry of Education frameworks or rules.

Experience suggests such a system is likely to work best in gaining teacher and school trust and engagement if the providers of these services are seen as independent. For this to happen, the provider should be left with discretion over how and what to deliver in their programme or initiative. An evaluation of the Teacher Led Innovation Fund found that while there were successes, there was a lack of data analysis underpinning evaluations of the funded projects (Sinnema et al., 2018). A regular data-based funding review could ensure quality and value for money by focusing on whether the programme is improving teacher capacities and student achievement. Experience in London also suggests that investing first in understanding the needs of the teachers targeted by the funded programme is key to success (SQW, 2016).

Spreading best practice from the Kaupapa Māori and Māori medium pathway to the English medium pathway

Parents have a critical role in the education of children (OECD, 2012b). The high engagement of families with schools is one of the factors identified as contributing to better performance of Māori children in the Māori-medium pathway (ERO, 2021). There are two main pathways with an intensive use of the Māori language: Kaupapa Māori and Māori medium. Kaupapa Māori has a focus on Māori leadership, mātauranga Māori (Māori knowledge) and tikanga (cultural practices) at all levels of governance and operations, in a near to or total language immersion context. Māori medium, while it has varying degrees of these areas too, focuses more on the provision of teaching and learning in the Māori language, usually within an English medium setting, with varying levels of immersion.

In these pathways, discussed more below, where teaching is done in the Māori language and observes Māori cultural practices, families are heavily involved in an extended school-home education system and

take part in the design of strategies to prevent and deal with underachievement (ERO, 2015). Another success factor is teachers knowing the children well, their abilities and achievements but also who they are. This includes having a good knowledge of the strengths and weaknesses of children and leveraging the child's strengths. Some of these goals are easier to achieve in smaller, comprehensive (i.e., year 0 to 13) Māori-medium schools but increasing these practices in the English-medium setting could have a high pay-off as 90% of Māori school-aged children are enrolled in that pathway. Spreading these practices may include support and guidance from Ministry of Education Regional offices and ERO on how and when to engage with parents, family and communities.

The Education Review Office has an important role to play in spreading best practice

The Education Review Office (ERO) is set up to carry out school evaluations and sometimes this process has created high stress amongst teachers. ERO has a deep knowledge of best practices based on its evaluations and it has increasingly coupled initial evaluations with more frequent follow-ups and advice to help schools improve their performance. Schools and principals often appreciate this advice (Alansari et al., 2023). This advice function is a strength of the system that can help reduce stress by providing practical ideas rather than orders that must be complied with and should continue.

For this to be most effective requires schools to be receptive to this advice. Experience in the Netherlands suggests that intensive advice to weak schools often turns them around as evidenced by a reduction in the total number of weak schools (OECD, 2016). However, it is not always successful: a virtuous circle of stakeholder motivation to do better will yield better results, but a vicious circle can also occur with a refusal to recognise there is a problem, a rejection of help and conflict with the evaluation agency. A set of OECD studies (van Twist et al., 2013) suggests that there is no simple recipe to ensure a virtuous circle is established. Nevertheless, having a principal strongly motivated to improve the school seems to be a differentiating factor, as well as teachers and other stakeholders feeling that their efforts are being recognised and rewarded and not being punished by the external agency.

4.3.3. Improving the curriculum and its implementation are critical to lifting achievement

Reforms to initial Teacher Education in the late 1990s and early 2000s that left new teachers ill-prepared for teaching (ERO, 2017; Johnstone and Martin, 2023), reinforced by a lack of subject specific content and knowledge in the national curriculum are two key explanations for the trend decline in education achievement and highly variable results within schools. As discussed below improving teacher quality is one of the main levers for improving outcomes for children. Research and international experience in Estonia, Portugal and the United States shows that a more knowledge-rich curriculum leads to better outcomes for children.

Content in the national curriculum should be set out more precisely

The 2007 national curriculum (Ministry of Education, 2007) for years 1-13 for all subjects is only 67 pages long and currently under reform. It provides only high-level guidance and little subject-specific content (OECD, 2020d). More detailed subject curriculum guides accompanied the similar 1993 high-level curriculum but not the 2007 curriculum. The choice of topics and knowledge to be taught to meet the broad achievement objectives set out in the curriculum has therefore been largely done by schools. This allows schools to tailor what is taught to local circumstances and the composition of their student body, including ensuring the material is culturally relevant. The curriculum's adaptable, competency-based focus is also in line with international best practice (OECD, 2020b).

The ultimate aim of school education should be building competencies that will serve a learner in higher education and throughout their careers and lives and not a list of specific knowledge. However, a prerequisite for building competencies such as problem solving and critical thinking is knowledge of fundamental concepts and the current high level of discretion at the school level appears to have led to a

wide variety of what is taught and therefore the knowledge and more importantly competencies that school leavers have. Research indicates that a knowledge-rich curriculum in primary school is associated with better academic results (Grissmer et al., 2023; Hood, 2023). The introduction of a curriculum that all children must follow, and which details learning outcomes, the concepts that should be learned to acquire these specified competencies, along with detailed sequencing and hours of instruction requirements, helped Estonia lift performance in PISA (OECD, 2014).

It is important to keep the competency-based national curriculum to help minimise the lag between the current curriculum and children's future needs for their careers and lives (OECD, 2020d). However, a national curriculum also needs to give sufficient guidance about what core knowledge children will need to build these competencies as they move through the school system. Clear specification of knowledge, skills and values helps teachers better understand what children should attain and parents to help their child and check their progress. A well specified set of core knowledge concepts that children need to learn at each stage of education can help smooth transitions to the next stage. Transitions can be further enhanced through diagnostic testing for example as a child shifts from early childhood to primary education to identify remaining gaps. This is especially important to avoid a long tail of low achievers developing.

All New Zealanders whatever their background expect and want an education system where all children leave school literate and numerate and with knowledge of fundamental concepts. Testing of even better performing children that are entering higher education reveals that they have knowledge gaps that are essential building blocks for developing key competencies, as well as more advanced studies. This is compounded by insufficient curriculum guidance about a topic, concept, idea to be taught, which can lead to children being taught some things twice and missing out on being taught other important concepts altogether.

The Ministry of Education is refreshing the curriculum programme over a period of six years from 2021. Key competencies are specified across the whole curriculum, with a Understand (big ideas), Know (specific content) and Do (practices) framework for each learning area. The Know element aims to address insufficient content issues in the curriculum. The new curriculum framework appropriately sets out content to be learned in phases defined by school year (years 1-3, 4-6, 7-8, 9-10, 11-13). An age bracket approach is in line with how teachers deliver the curriculum in practice in most schools. It is also consistent with how most children learn (OECD, 2020b).

Building on this refresh work, a welcome step in improving the curriculum is the Minister of Education's appointment of a Ministerial Advisory Group to provide advice to the Minister on the English, mathematics and statistics learning areas for years 0 to 10. Under the government's Teaching the Basics Brilliantly policy, the government is further reinforcing curriculum reforms to improve outcomes in literacy and mathematics by introducing the requirement for schools to teach year 0 to 8 children on average one hour per day each of reading, writing and mathematics. This will mean the share of instruction time devoted to these subjects will be 2/3 (based on a typical 6-hour primary school day assuming 1.5 hours for breaks) compared to an OECD average of 41% and one of the highest in the OECD (OECD, 2023f). An important element of this programme is that schools will be supported in implementing it by the Ministry of Education providing best practice guidance on timetabling. The quality of this extended teaching time should improve with the government's introduction of a ban on mobile phones, which based on the PISA 2022 Survey appear to be more disruptive to learning in mathematics in New Zealand than the OECD average, with 46% of students reporting being distracted using digital devices, compared to an OECD average of 30% (OECD, 2023g).

The Aotearoa New Zealand histories curriculum refresh has been completed and took effect in 2023. However, it is also important that the history curriculum reflects the increasingly multicultural nature of New Zealand. Around 27% of the population was born outside New Zealand. European, Māori, Asian and Pasifika accounted for 70%, 18%, 17% and 9% of the population respectively in 2023. Although the histories curriculum provides opportunities for exploring multicultural New Zealand, broadening it further can help to build an understanding in all New Zealand children of how it became the country and society it is today.

Mastering any competency requires a learner to progressively, and to some extent sequentially, build knowledge and understand certain concepts. Mathematics learning is particularly sequential: without knowledge of how to do certain tasks (e.g., addition, subtraction, division, multiplication), it is very difficult to learn how to solve more advanced problems (e.g., a quadratic equation). Mathematics achievements will therefore be more likely to be negatively affected by a lack of precision in what must be taught and this is what appears to be happening, since this is the area where performance in PISA and other international tests has declined the most. The Ministry of Education's draft refreshed curriculum for mathematics and statistics (Ministry of Education, 2023b) specifies in more detail than the existing curriculum the specific content and what phase (year bracket) and year of schooling it should be known by. The refreshed curriculum is also being the accompanied by development of a Common Practice Model that details pedagogical practices for teaching mathematics and literacy These are steps forward but continued consultation with mathematics teachers and their representatives to develop more detailed advice is key, as is adjusting the NCEA assessment changes to the curriculum and refining the Common Practice Model. In this regard, the Education Review Office and the Ministry of Education are jointly monitoring the curriculum refresh and the first monitoring study (using data collected in 2023) will be published in 2024.

The importance of wide consultation with subject experts and precision in the content of the curriculum is illustrated by the development process for the science curriculum in 2023. An initial draft of the science curriculum was circulated to much controversy. Its drafters argue that more children will engage with science if it is taught via today's big issues like climate change and that basic concepts will still be covered (Tolbert, 2023). However, science teachers and scientists criticized it for being too narrow, lacking content (e.g. how atoms and electricity work), not mentioning core natural science subjects such as biology, chemistry and physics, and not specifying the basic knowledge required to be able to study these applied problems (Gerritsen, 2023; Seah, 2023). Experience with the 2007 curriculum in New Zealand suggests that these concerns about a lack of specific content were warranted and the new curriculum has appropriately been put on hold for review and discussion with the new government. The core knowledge that is taught should not be left to chance as a lack of precision in the content has led to highly variables student outcomes (Hood, 2023). A Ministerial Advisory Group's mandate should also eventually be extended to the science curriculum.

Teachers should be given more support to implement the curriculum

A risk to equity associated with granting greater autonomy over the curriculum is that schools do not all have the same capacity to achieve objectives set out in the national curriculum (McIntosh, 2022). This capacity is key as research finds that teachers with strong subject knowledge and content-specific pedagogy skills are those that are most likely to improve students' outcomes (Leu, 2004; Goe and Stickler, 2008).

More specialist subject support to lift teacher capacity to design and implement the curriculum they will teach is needed. The Ministry used to have specialist subject advisors and they should be re-instated. Indeed, a past specialist subject advisor pilot programme was highly welcomed by the teachers who benefited from this advice, the majority of whom reported an increase in knowledge of their subject and assessment practices as well as confidence to carry out many teaching tasks (Taylor et al., 2008). Currently regional support services housed in Te Mahau include some 70 regionally-based wellbeing curriculum leads, who advise teachers on how to design a curriculum that fosters student wellbeing, adapted to local culture and giving effect to the Treaty of Waitangi – norms set out by the courts for guiding the relationship between the Crown and Māori including partnership. There should also be appropriately qualified specialist subject curriculum lead advisors in, for example, history, reading, writing, mathematics, or science. The priority should be on advisors for the primary and intermediate levels and schools where outcomes are poorer in terms of excellence or equity. Indeed, secondary schools are organised into subject departments, that operate together to develop a curriculum, usually led by very experienced teachers with specialised higher-education level qualifications in the subject areas. By contrast, primary teachers have less within-school support networks to help them develop how to teach subjects (Hood, 2023).

The new Ministry of Education subject curriculum lead advisors could be similarly highly experienced teachers with higher education level qualifications in the specialised subject area. These posts could be partially filled on a rotational, extendable, secondment basis by current senior teachers, with an automatic right of return to their school positions. This would not only inject more specialist knowledge but also help build up links and trust between the Ministry and teachers and schools. Moreover, drawing the advisors from secondary schools would help ensure children have the requisite knowledge and competencies to enter secondary school.

As well as more detailed content in the curriculum and greater advisory support, it is important to provide more guidance to schools on expected learning outcomes and how to conduct effective assessment of whether those outcomes are being achieved. Part of this implementation support should be to provide more materials including assessment tools and a range of textbooks and other teaching materials aligned with the content and goals of the curriculum. Schmidt et al. (2022) showed that while the New Zealand curriculum emphasises higher-order problems, the share thereof in New Zealand textbooks was lower than the average for the 19 countries they considered.

Although local presence and in-person contact is important for building trust and a strong relationship between curriculum advisors and teachers, advisors could also useful complement this with regular use of digital technologies. Online courses and communities and dialogue have the potential to significantly enhance teacher professional development and learning opportunities (Minea-Pic, 2020). Take-up is likely to be stronger for specifically tailored content. Teachers appear to have a greater tendency to make use of such tools than some other professions. Using digital technologies would also allow advisors to leverage scarce resources to provide more frequent feedback and support to teachers than via in-person activities alone.

4.3.4. Student assessment should focus more on individual progress and encourage deeper and broader learning

Valid and reliable evaluation and assessment that leads to improvements of education practices and lifts student learning are key to establishing a high-performing education system (OECD, 2013). There is no single best-practice model for an assessment system, but it is important it is based on a high quality, coherent curriculum, standards and learning progression documents, uses a wide range of assessments and sets clear external reference points in terms of expected levels of student performance at different levels of education. Research points to gaps in the current assessment system in New Zealand. A review of assessment in primary schools found that while it has improved in the decade from 2007, there was still a high level of variability in assessment quality across teachers and schools (ERO, 2020). Not enough is known about what children are taught in key subjects and what the outcomes are (McNaughton, 2020). There is no systematic approach to diagnose the needs of children upon entrance into primary education. This is particularly problematic because the ability of children at five when they enter school is highly variable due to variance in family background (McNaughton, 2020). There is also insufficient measurement of individual child progress against achievement standards and systematic school level reporting to administration throughout primary and secondary schooling. Digital technologies could also play a greater role in giving detailed feedback and facilitating personalised learning (Gottschalk and Weise, 2023).

A data framework for collecting individual achievement progress and regular school level reporting by age and gender, ethnicity etc on progress against national standards was abandoned after 2017 over teacher concerns that this was an unfair way to measure teacher and school performance and would lead to ill-informed decisions by parents about where to send their children and growing segregation by socio-economic and ethnic background. The latter seems to have occurred despite the dismantling of the data collection and reporting framework. In the absence of better data, parents appear to be basing their decision on the misleading socio-economic status of the school.

There is an urgent need to complement the existing assessment system by systematically better measuring how much individual progress children are making against well-specified standards. The Ministry of Education is taking important steps to address this gap including: building on the National Monitoring Study of Student Achievement (NMSSA), there will be a new Curriculum Insights and Progress Study (CIPs) expansion of to provide new information about progress at years 3, 6 and 8; introducing new regular assessments of students in reading, writing and mathematics from years 3 to 8; introducing common reporting templates so parents know how their child is progressing in these core areas; introducing a new assessment near the end of year 2 to check basic skills like counting, phonics, and letter formation.

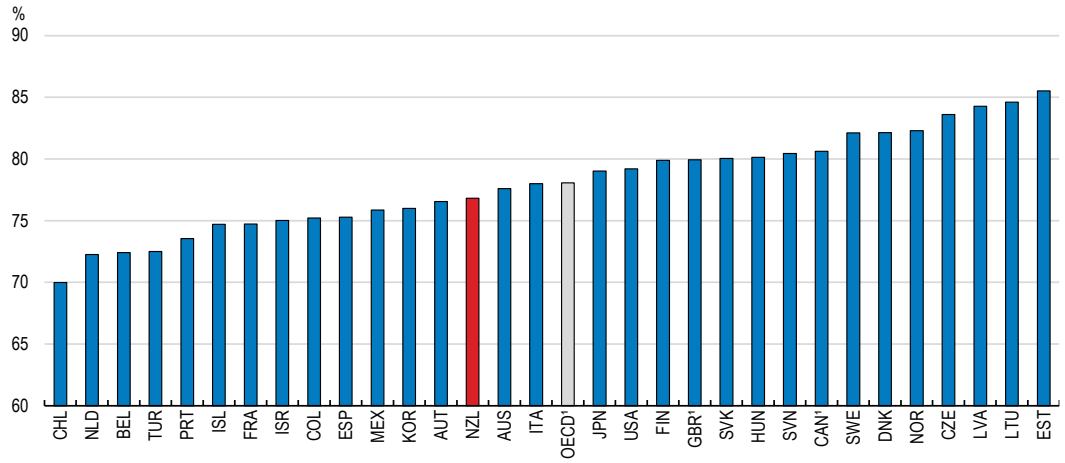
Building on these individual initiatives and existing data on progress, a revised national data collection and reporting framework that focuses on children's progress towards common achievement standards in literacy, numeracy, science etc. should be rapidly re-instated. Possible choices for this are assessment tools already used in primary schools such as e-asTTle and PATs. There should be regular confidential reporting to ERO and the Ministry of Education at the school level, focused on teacher-based summative assessment, to determine where problems and successes lie. Researchers should also have access to this data on a confidential basis to understand the performance of the school system.

More data is essential to determine where more resources, both advice and financial, need to be directed and to identify best practices that can be spread more widely. The standards themselves need to be common across schools but the assessment against these should remain with teachers. Indeed, this responsibility is core to being an effective teacher. International experience (OECD, 2013) suggests that implementation will be more successful if teachers are provided with a wide range of assessment materials and methods to choose from, teachers are regularly appraised on their assessment capabilities, and there are regular opportunities to build teacher capacity to carry out assessments (e.g., through professional training, involvement in school collaborations). This is a key area where the central agencies including the Ministry of Education, ERO and the New Zealand Qualifications Authority as well as the wider support network of education trusts and associations should focus support. The Ministry of Education provides an online achievement tool, the Progress and Consistency Tool (PaCT) to help teachers implement assessments but one of the concerns in the abandoned national standards system was creating too much assessment work. Teacher time to carry out assessments could be further reduced by enhanced support to teachers for designing assessment including materials and advice from ERO, specialist Ministry of Education curriculum advisors, school communities of learning and education trusts.

At the secondary school level, the National Certificate of Education Achievement (NCEA) is the main school leaving qualification. It was introduced in 2002 and is a standards-based qualification divided into three levels and earned in years 11 to 13. Children must obtain a total number of credits for each level earned by passing individual standards. NCEA has been criticized for making secondary education too assessment intensive, taking away too much time from teaching. Assessment takes considerable time because under NCEA subjects are divided into many smaller units, each of which is assessed individually and mostly internally, i.e., at the school by the teacher (Lipson, 2018). Typically teachers have classes at both lower and upper secondary level, and the extra time spent on assessment in the upper secondary part of their job may help explain the share of classroom time New Zealand teachers spend on teaching activities at lower secondary level being below the OECD average (Figure 4.7). This is a concern as the higher the share of classroom time teachers spent on teaching, as opposed to other tasks, the better student performance, notably in mathematics (OECD, 2021).

Figure 4.7. Time spent on actual teaching and learning is below the OECD average

Results based on responses of lower secondary teachers and principals, 2017-2018



1. GBR refers to England, CAN to Alberta and OECD to the average of the countries in this figure.
Source: OECD, TALIS 2018 Database.

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NCEA's flexibility and high share of internal assessments is appreciated by many teachers. It allows them to schedule assessments when they wish and alter the length of the courses to meet student needs and also allows project-based courses, mixing material from different subjects. However, the standards have also been criticized for being too narrow and not incentivising deep and broad learning, having unclear pathways to future education and employment including not preparing children well for higher education and encouraging an overly credential-focussed orientation to learning by children and teachers (NZCER, 2018). The system incentivises children to seek easier standards, because all standards are considered equal in terms of the credits and schools are incentivised to encourage them to do so in a bid to raise school NCEA achievement rates. Finally, dividing subjects into so many units risks that children's knowledge is too narrow and missing concepts because they only do some of the units. The narrow knowledge base then becomes a barrier to mastery of overall competencies, and this does appear to have occurred, as evidenced by higher education entrance tests revealing key knowledge is missing to study degrees such as engineering.

A process to reform NCEA started with public consultations in 2018 and the reforms were approved by the Government in 2020. They include a new compulsory literacy and numeracy co-requisite with new standards that must be passed to be awarded NCEA at any level. The new NCEA level 1 certificate will be implemented in 2024. However, in an acknowledgement of the implementation burden these changes are putting on schools and teachers, the introduction of level 2 and level 3 reforms has been delayed by one year to 2026 and 2027 respectively to allow more time for schools to implement the new co-requisite.

The new level 1 qualification is optional and many schools with a high socio-economic status (SES) rating, where children are unlikely to leave school before obtaining level 2, have decided to opt out to allow for more time for teaching and less for assessment. For lower SES schools and those with a high Māori and Pasifika roll, level 1 is more important as it may be the only school qualification the children will obtain. From an equity perspective this diversity in approach is concerning. It may devalue the reputation of the level 1 qualification and it would be preferable to keep refining level 1 in consultation with schools to obtain greater participation from higher SES schools. To encourage this, reforms of level 1 should ensure that it is relevant to students continuing to level 2 and 3, while also streamlining the assessments to reduce the time involved.

Given declining performance in reading, writing and mathematics the new literacy and numeracy co-requisites are a welcome development and will help to broaden the core standards that children must

achieve. Pilot testing of these minimum competency standards resulted in low pass rates illustrating the size of the performance challenge the education system is facing. Indeed, although it increased from earlier pilots, 35.6%, 44.7% and 44.1% of children still failed to meet the reading, writing and numeracy standard respectively in the June 2023 pilot. Standards in NCEA are either achievement standards, with grades of achieved with excellence, achieved with merit, achieved and not achieved, or pass/fail unit standards although they are sometimes awarded with merit or excellence too. A pass is appropriately the compulsory requirement to obtain NCEA, to ensure those children obtaining NCEA have sufficient literacy and numeracy skills for pursuing their lives and careers.

The co-requisites should be standards with a progressive achievement grading, or the standards should be offered at different levels. More levels would give children the opportunity to strive to do their best and not just "pass". A high-level co-requisite attached to university entrance level qualifications, NCEA level 3, could help ensure students have the necessary literacy and numeracy for higher education in arts, economics, engineering, science and mathematics etc.

Implementing the plan to have fewer and larger standards that are more similar in credit size (Ministry of Education, 2019a) as well as rebalancing assessment towards external assessments is one of the most important parts of the NCEA reform (Lipson, 2018). If implemented well this should reduce teacher workload, incentivise more comprehensive learning and reduce credential-focussed learning. To inform a continuous improvement of the assessment framework and ensure that research informs practice, it is also important that the Ministry continues to commission independent research into the performance of NCEA.

4.3.5. Teachers need more support from initial teacher education to the end of their careers

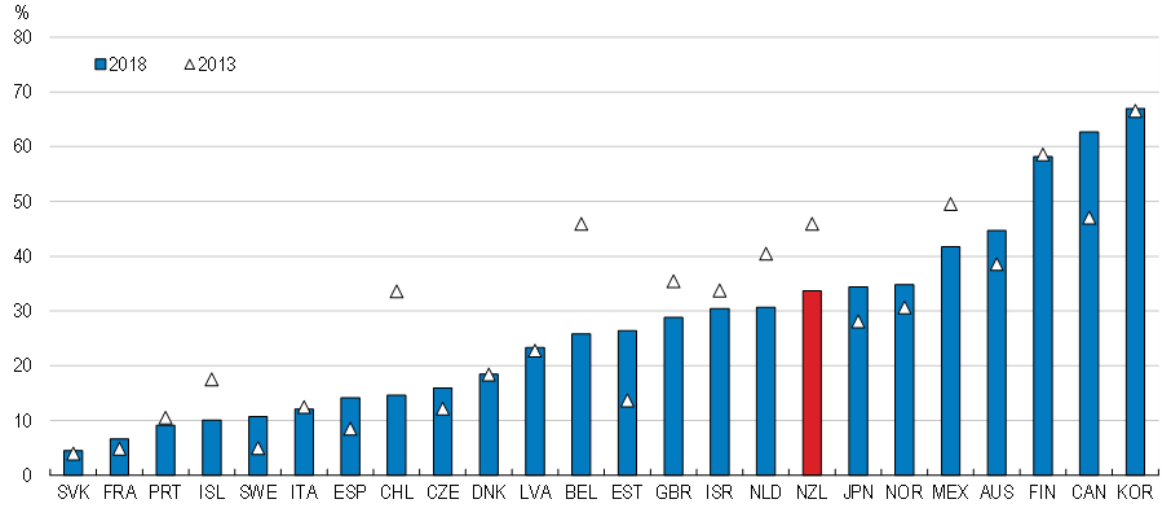
A review of the research on student learning finds that teaching quality is the within-school most important determinant of a child's learning (OECD, 2005). The organisation of the teaching profession in New Zealand has a strong framework. Teachers have significant autonomy to exercise their professionalism in teaching and assessing children. A professional body, the Teaching Council Aotearoa New Zealand, has the main responsibility for defining professional standards. This allows some self-regulations and autonomy over the development of the profession. A teacher appraisal system is in place which is for teaching registration and also for salary progression, i.e., the teacher being appraised gains access to the next salary step only if his or her appraisal is deemed satisfactory. There is also a good level of collaboration between teachers within schools. Indeed, peer mentoring in lower secondary education is considerably more common than in other OECD countries (OECD, 2019b), with teachers engaging in collaborative professional learning and receiving more feedback (OECD, 2020c).

The attractiveness of the teaching profession seems to be eroding

While the perceived societal value of teaching remains higher than the OECD average (in 2018, in lower secondary education), it fell from 2013 to 2018 (Figure 4.8). Teachers also perceive that they are not valued enough and TALIS (2019) revealed that the share of New Zealand teachers reporting that raising teacher salaries should be a spending priority is above the OECD average. It is generally recognised across the OECD that teachers' remuneration should be competitive with that of similarly educated adults working in comparable occupations to attract and retain high-potential candidates (OECD, 2019c). Indeed, a comparison done in 2021 revealed primary teachers have been paid below similarly educated workers (OECD, 2022c). The June 2023 collective agreement settlement that increased primary school teacher salaries and allowances as well as out-of-classroom time should help alleviate these concerns. However. maintaining competitive teacher pay to attract new talent will remain important.

Figure 4.8. Teachers perceive that society values their work less

Share of lower secondary teachers who "agree" or "strongly agree" that the teaching profession is valued in society



Note: GBR refers to England, CAN to Alberta and BEL to the Flemish Community.
Source: OECD, TALIS 2018 Database.

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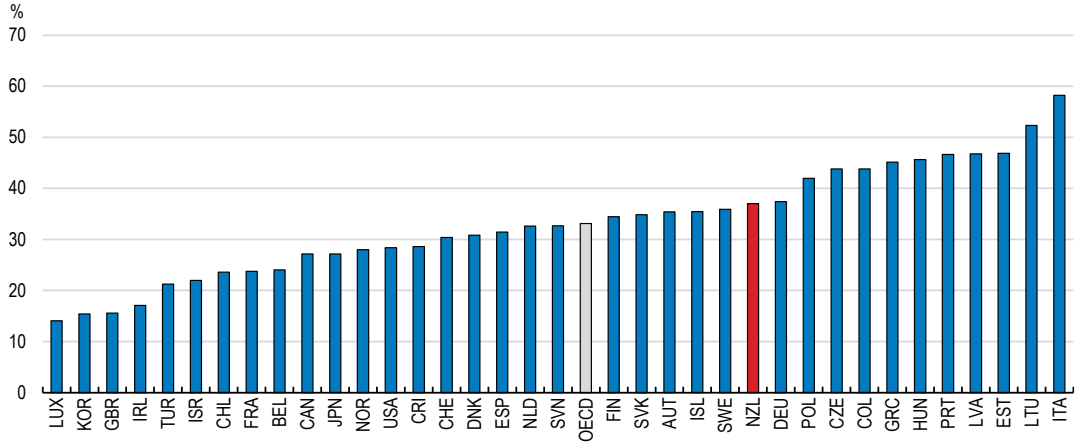
After a COVID-related surge in 2021 overall initial teacher education (ITE) enrolments dropped back sharply in 2022 to around pre-COVID levels (Ministry of Education, 2023e). Nevertheless, student enrolments have been slowly rising, suggesting that ITE numbers will need to rise to maintain student-teacher ratios (assuming the share of ITE graduates staying in the teaching profession remains constant), especially as the teaching workforce is relatively old (Figure 4.9) and the percentage of teachers aged 50 or less wanting to leave teaching within the next five years is higher than the OECD average (OECD, 2020c).

Figure 4.9. The teaching workforce is relatively old

Percentage of primary teachers aged 50 and over, 2020



Source: OECD, Education at a Glance.

StatLink https://stat.link/0uovz4

Raising the attractiveness of the profession is not only about pay but also ensuring good working conditions. Indeed, the perception of difficult working conditions is higher in New Zealand lower secondary schools than in the OECD area. In lower secondary education, NZ teachers have among the highest total working hours across OECD countries (OECD, 2019b). The percentage of teachers who experience stress "a lot" in their work and reporting that too much administrative work is a source of stress is higher than the

OECD average (OECD, 2020c). A further sign of stress are the high levels of turnover from one school year to the next (the highest level in the OECD) and driven in particular by very high levels of turnover in rural/remote schools (OECD, 2020c). Efforts to support teachers and schools, as discussed above, including greater central guidance on curriculum implementation, assessments and administrative tasks can potentially help to reduce workloads and stress for teachers.

Raising the quality of teaching is a key lever to improve achievement for all children

Nearly all children and adults will cite a high-quality teacher or teachers as making a crucial difference to their education, careers and lives. Indeed, empirical work suggests that high teacher quality - an experienced teacher with strong subject and knowledge, advanced pedagogical practice and well-developed behaviour management - is an important determinant of a child's learning (Egert et al., 2023). Teacher support is also particularly important for a child's achievement in times of disruptions such as COVID-19 (OECD, 2023d). International experience also shows countries that are successful in improving outcomes for underperforming children in mixed performance classrooms, such as Finland, have a strong practical component to ITE. This practical part focuses on developing independent professionals, with judgment and expertise in both subject matter and pedagogical alternatives that results in a highly qualified and effective teacher workforce (Field et al., 2007).

Flexible and differentiated teaching required to help all children that are at different stages of development in the same classroom is a challenging task for a teacher, that requires strong preparation (Field et al., 2007). As discussed below, reducing class size has a role to play in ensuring teachers can achieve this objective, especially in schools with many children from lower socio-economic backgrounds but this is an expensive policy. Investing in better teachers is complementary and provides a cost-effective alternative (OECD, 2017c). Ensuring new teachers are well prepared for the classroom is also crucial for increasing teacher retention rates.

ITE requirements to become a primary teacher in New Zealand are met either by completing a three-year Bachelor of Teaching degree or another Bachelor's degree and then a one year post graduate teaching diploma. This is then followed by a two-year induction programme after which a teaching graduate is eligible for full teacher registration for which they must meet standards imposed by the Teaching Council, the teacher professional body responsible for registration. To become a secondary teacher requires completing a specialist subject degree at bachelors' level or higher and then a one-year post graduate diploma and a two-year induction period before registration.

There are indications that the ITE process is not preparing new teachers sufficiently for the high demands they will face in the devolved school system, and that both knowledge and pedagogy content in the ITE curriculum and links between ITE providers and schools need to be strengthened. OECD data show that a sizeable proportion of teachers in New Zealand do not feel fully prepared in core teaching areas, content of subjects, pedagogy, teaching cross-curricular skills (Table 4.1). This lack of preparation is contributing to high stress levels among new teachers who face an extremely steep learning curve and high workloads to "catch up" when they start their careers. It also raises the risk that new teachers will leave the profession altogether.

Most secondary school teachers have a specialist degree (77.9% hold a bachelor's and 13.4% a master's degree, compared with OECD averages of 49.3% and 44.2%, respectively). However, a lack of content knowledge and associated pedagogy (i.e., how to teach it) is more of a concern at the primary level, especially in mathematics and science (Martin et al., 2021; Johnstone and Martin, 2023). The mathematics component of ITE has been reduced (Martin et al., 2021). Only 4% (5%) and 15% (13%) of year 4 and year 8 primary teachers have a specialised focus in mathematics and (science) (Education Assessment Research Unit et al., 2019a;2019b). This lack of focus is concerning not just because mathematics and science are important subjects per se, but they involve specific pedagogical challenges due to their hierarchical nature and the need to carefully sequence what is taught.

Table 4.1. A high share of teachers do not feel well prepared in core teaching areas

Sense of preparedness for teaching, percentage of teachers

	Content of some or all subjects taught	Pedagogy of some or all subjects taught	General pedagogy	Classroom practice in some or all subjects taught	Teaching in a mixed-ability setting	Teaching in a multicultural or multilingual setting	Teaching cross-curricular skills	Use of ICT for teaching	Student behaviour and classroom management	Monitoring students' development and learning
New Zealand	71.5	65.1	69.4	72.3	48.9	44.6	40.8	33.9	57.2	49.5
OECD average	80.1	71.3	70.1	71.0	44.1	25.5	49.2	42.8	53.1	52.9

Note: Percentage of lower secondary teachers who feel "well prepared" or "very well prepared". OECD average comprises 31 countries.
Source: OECD (2019), Table I.4.20.

International evidence shows that teacher subject-related degrees and knowledge have a positive relationship with children's performance, especially for Master's degrees in mathematics and science (Coenen et al., 2018, Hanushek et al., 2018). More subject content and pedagogy should be included in ITE programmes in these areas. Curriculum development for initial teacher programmes should draw from subject experts in mathematics, science, reading, history, geography, etc. It should receive guidance from a broad set of expert stakeholders, including academics in higher education institutions, practitioners working in schools, and professional associations (OECD, 2019c).

A coherent and comprehensive initial teacher education curriculum covers both content and pedagogical knowledge, and develops practical skills linked to theoretical knowledge (OECD, 2019d). There are mechanisms linking the theoretical and practical components of ITE, including observation of student teachers in schools when ITE students are participating in practical blocks in schools. However, this observation is often carried out by a contractor rather than ITE staff themselves. In addition, teacher education institutions do not receive systematic information about how their ITE students perform in schools post-graduation, and mentors are often relatively inexperienced teachers themselves (Johnstone and Martin, 2023).

Under the auspices of the government's Teaching the Basics Brilliantly policy the Ministry of Education is committed to introducing an ITE exit exam to demonstrate expertise in reading, writing, mathematics, and science instruction. This is unusual in OECD advanced countries but can ensure that ITE is preparing new teachers, reducing their stress, and also play a diagnostic role to identify post-graduation development needs for new teachers. It is important this testing is accompanied by changes to ITE to ensure teacher trainees are better prepared in these subject areas. A stronger partnership between ITE providers and schools is key to improving ITE and raising new teacher capability (Education Workforce Advisory Group, 2010). International experience shows that high-performing countries and schools have an initial education or induction period that includes a mandatory and extended period of in-classroom experience and a variety of opportunities for in-service professional development; and teacher-appraisal mechanisms with a strong focus on continuous improvement (Smidova, 2019; OECD, 2019d).

The Teaching Council in 2019 reformed ITE increasing required practical experience placements in 1-3-year ITE programmes, as well as requiring that every aspect of the ITE programme is integrated to link more seamlessly "theory" and "practice". Only as of January 2022 have all ITE programmes have been approved under the updated requirements so it will take some time before their effect is known. The outcomes of these reforms should be closely monitored as discussed further below including surveying new teachers and principals and ITE requirement adjusted further if necessary.

However, teacher education doesn't stop at graduation and the above reforms could be complemented with a reinforcement of the current post graduation induction by making at least the first year of teaching

registration a more structured post-graduate education year, that retains a substantial component of classroom teaching but with more opportunities for in-service professional development courses and a focus on developing and demonstrating content knowledge and pedagogical capability to fulfil registration requirements. To facilitate this first-year teachers would need their non-class contact time increased significantly. They would also need an accredited and experienced mentor, with greater support by the ITE provider, including more regular direct observation of the student teacher by the ITE provider and meetings between mentor and provider.

Mentor experience requirements should be increased. More centralised guidance on the curriculum to be taught to children and teaching materials as well as more centralised support to schools, as discussed above, should help to free experienced teacher time for mentoring and covering an expansion of first-year teacher non-contact time. However, it is also likely that extra spending on experienced teachers will be required to cover the extra non-contact time of graduate teachers. Given the cost, this more structured post-graduate year could be piloted in some schools and different settings. As discussed below, when the overall fiscal situation allows, the programme could be broadened out as a priority investment given the returns from improving teacher quality for not only lifting student achievements but also improving equity.

Although 90% of ITE is provided in universities, there are many other smaller providers including institutes of technology, wānanga (Māori-based tertiary institutions) and accredited private training establishments. Encouraging so many providers to increase content knowledge and pedagogy and engage more with schools in a formal training year could be achieved by changing the accreditation standards for ITE programmes, so they are more focussed on these requirements (Johnstone and Martin, 2023). A step in this direction is that, under the government's Teaching the Basics Brilliantly and Literacy Guarantee policy, the Ministry of Education is required to work with the Teaching Council to make structural literacy a component of teaching education. For this reform to be durable requires bi-partisan political support and therefore for all the current actors to be on board. Reforms to ITE should be also accompanied by a systematic survey of teachers in their first two years, as well principals to enable teacher education programmes to collect information about where new teachers feel they have been most and least successful, and whether the new teachers are meeting their school's needs. This information could also be used by the Teaching Council in standard setting the teacher and provider accreditation process. Finally, it is important that the gains in teacher quality from better ITE are not lost through neglect of subsequent professional development. Like other professions, teachers need the incentive (as discussed below) to engage in lifelong learning and access to high quality ongoing professional development, networking and training opportunities to help them stay at the frontier of pedagogical practice and their specialised fields. Conflict with work schedules, i.e., appears to be one of the main barriers to greater participation in professional development across countries (OECD, 2009).

More career paths should be available for teachers

The current system of teacher appraisal and progression has several strengths. Classroom observation takes place, there are professional interactions between the teacher and school leadership, and there are opportunities for peer feedback. It is a trust model, mostly internal to the school, which seems to be well ingrained in the schools' culture (OECD, 2020c). Teacher appraisal also seems to inform teacher professional development (OECD, 2020c). And levels of teacher professional development seem to be relatively high, at least in secondary schools (OECD, 2020a; 2019b).

However, teacher appraisal practices across schools vary in quality and extent depending on the capacity of school boards and school leaders. There is no mechanism to ensure minimum standards for teacher appraisal processes in schools and no guarantee each teacher receives proper professional feedback. There is also a lack of clarity in schools about which standards are used for teacher appraisal processes and there is an opportunity to better recognise performance and provide a wider range of rewarding teaching careers (Nusche et al., 2012).

The overall policy objective should be to better align expectations of skills and competencies at different stages of the career (as reflected in the teaching standards) and the responsibilities of teachers in schools (as reflected in career structures). This should start by unifying the two existing sets of standards (Teaching Council for teacher registration and teachers' collective agreement for career steps). For teachers who want to stay in teaching as a long-term career, the current career and pay structure limit the possibilities for rewarding strong performance without progressing into management.

Teacher retention and motivation would be improved by greater recognition of teachers' skills and expertise (Education Workforce Advisory Group Report, 2010). There should be more opportunities to remain in fulltime teaching, while receiving recognition for advancing teacher skills. This could be done by revising teacher standards and requiring these be met at higher levels to advance in a more tiered career structure for teachers as previously recommended by the OECD (Nusche et al., 2012). In New Zealand, there are many opportunities for teachers to take on extra responsibilities that confer extra pay and status. The Communities of Learning | Kāhui Ako Kāhui Ako Across School and Within School Teacher roles also create an opportunity for teachers to temporarily take up a post where they spread best practice. However, what seems to be missing is a permanent pathway for teachers to be rewarded and recognised for their growing mastery of teaching without going into management. There are only seven annual salary and career steps in the classroom teacher scale, which is low in international comparison.

Internationally, more innovative career systems have career ladders divided into several tracks (OECD, 2019c). For example, in Singapore one of the three tracks is teaching and the track is divided into several levels of seniority from classroom to senior teacher to lead teacher to master teacher (Singapore Ministry of Education, 2021). Teacher standards for progression in a Master Teacher track would need to be more centred around subject knowledge and pedagogy than is currently the case. These could be set together with a revised set of teacher registration standards focusing more on these areas as discussed above to ensure that ITE prepares new teachers well for following the Master Teacher track if they chose to do so.

4.3.6. There is room to ease the burden on school leadership

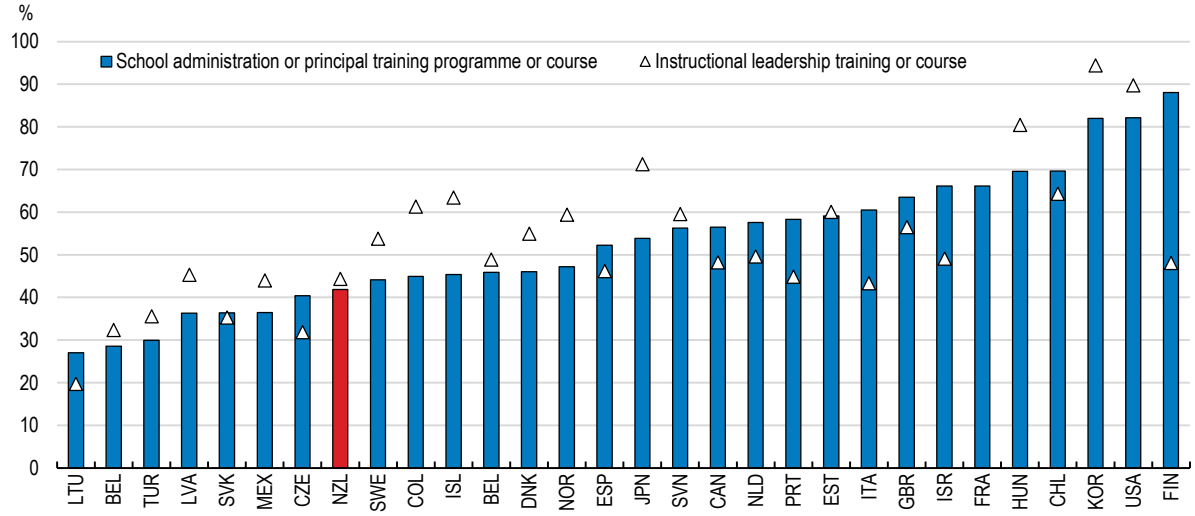
The effects of school autonomy largely depend on the ability of schools to make use of it to manage resources effectively (OECD, 2017c) and this depends on school governance. The school board is the governing body of the school, composed of five elected parent representatives, the principal, a student (secondary schools only) and a teacher representative. The board is the employer of staff and has responsibilities for setting targets and reporting on them, management of school curriculum, financial and property management, health and safety and policies and procedures, student achievements and discipline. The board also plays a key role in supporting principals in their planning, reporting and self-review tasks and in evaluating them. Many of the board's responsibilities are delegated to the principal on a day-to-day basis but the school board is ultimately collectively responsible for all governance decisions.

The School Trustees Association, funded by the Ministry of Education, provides support services to boards including principals. Around 90% of New Zealand's 2 500 schools are members. The Association employs people with a background in school governance (e.g., former board members) as well as specialists in areas for which boards are responsible (e.g., employment lawyers). It also helps spread best practice via a large annual national conference and in advisory services to schools. Most boards have very qualified board members but some schools, notably in lower socio-economic areas, struggle to find parents with the necessary experience to carry out their governance role. The Association's expertise built up since the devolution of governance to schools in 1989 could be used more to spread best practice in governance by making it the organiser of school governance learning communities that group together school boards. These could play an important role in assisting less qualified boards as well as principals. Also, the staggered board election system, where some of the board faces re-election every 18 months, could be replaced by a minimum three-year term for all board members to build stability and give them the chance to build experience.

Despite a solid school governance support system, the burden on school boards and principals is high and they are not always well prepared (Figure 4.10). The burden on school leadership could be alleviated by re-centralizing with the Ministry of Education board responsibilities where there are large economies of scale, and which take a lot of board time that could be refocused on lifting student achievement. In particular, the government should implement plans announced in 2021 to recentralise property management responsibilities with the Ministry of Education.

Figure 4.10. New principals have not received enough training

Percentage of lower secondary principals for whom the following elements were included in their formal education before taking up their role as a principal[1]



1. Data refer to the sum of the percentages of school leaders trained "before taking up a position" and "before and after taking up a position" as principal. GBR refers to England, CAN to Alberta and BEL to the Flemish Community.
Source: OECD, TALIS 2018 Database.

StatLink https://stat.link/4rlu1o

Lastly, training of and support to new school leaders is insufficient. In secondary education, formal training before taking up duties as a principal is below the OECD average, with about 21% of school leaders in secondary education having never received any instructional leadership training (OECD, 2019b, Figure 4.10). To avoid that high autonomy widens inequality across schools, school leaders need adequate levels of capacity, support and accountability. There needs to be greater support to principals in financial management and other key responsibilities of the post. A welcome development was the introduction in 2023 of the Leadership Advisory Programme, a Ministry of Education service provided by regionally based leadership advisors, to assist principals with implementing national educational policies and improving outcomes for children. Support should also include a training requirement for new principals together with a grant they can use to train with a training provider of their choice. The soon to be introduced legislative requirement to set eligibility criteria for appointment as a principal is a welcome initiative that should help build greater consistency in the quality of those appointments. It should also help in better signalling to aspiring and new principals the minimum skills and knowledge they will need to successfully carry out the roles and therefore the type of training they will need.

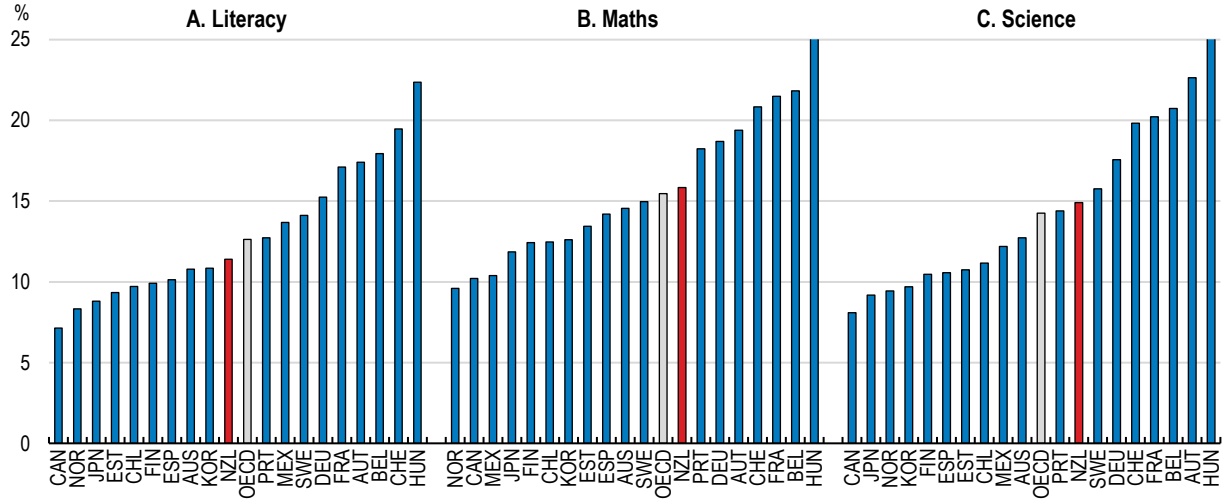
4.4. Socio-economic status is an important factor driving learning outcomes

OECD data suggest the influence of socio-economic background on student achievement in reading, maths and science is close to the OECD average (Figure 4.11). This partly reflects policy actions such as equity-based funding helping to offset socio-economic disadvantages. However, New Zealand should be striving to be amongst the best OECD countries such as Canada and Norway by reducing the influence of

socio-economic background on achievement considerably more. This would go a long way to reducing across and within school variation in student performance.

Figure 4.11. The influence of socio-economic background on achievement is close to average

Share of variance in student performance explained by socio-economic background[1], 2022



1. PISA index of economic, social and cultural status.
Source: OECD, PISA 2022 database.

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International research shows that along with teacher quality, the most important determinant of learning outcomes is what a child brings to school with them, their abilities and attitudes and their family and community background (OECD, 2005). Indeed, recent research using individual student record data in New Zealand shows that disparities in student achievement outcomes in schools across deciles disappear once the effect of family background, particularly differences in parental education, are taken account of (Hernandez, 2019). The rural-urban reading divide is also eliminated once socioeconomic status is accounted for (OECD, 2022b). It also helps to explain high variation within school performance because of the relatively high socio-economic mix in schools in New Zealand.

Socio-economic factors are not easy to influence through policy especially in the short run. Hence, the main immediate policy challenge for reducing inequality in student achievement is how to offset the disadvantages created by low socio-economic background, while also pushing overall achievement higher. International experience suggests that education systems can lift both equity and overall achievement through improving early childhood education, raising teacher quality, tackling educational failure, and better targeting of funding to children's needs (OECD, 2022b). More specifically, in New Zealand it requires working on several fronts: further increasing participation in early childhood education; further improvements in targeting of equity funding informed by a revised national data collection and reporting framework (discussed above); continuing New Zealand's remarkable efforts to address cultural needs; tackling bullying, which contributes to lower school attendance and thereby educational failure and improving remedial learning support.

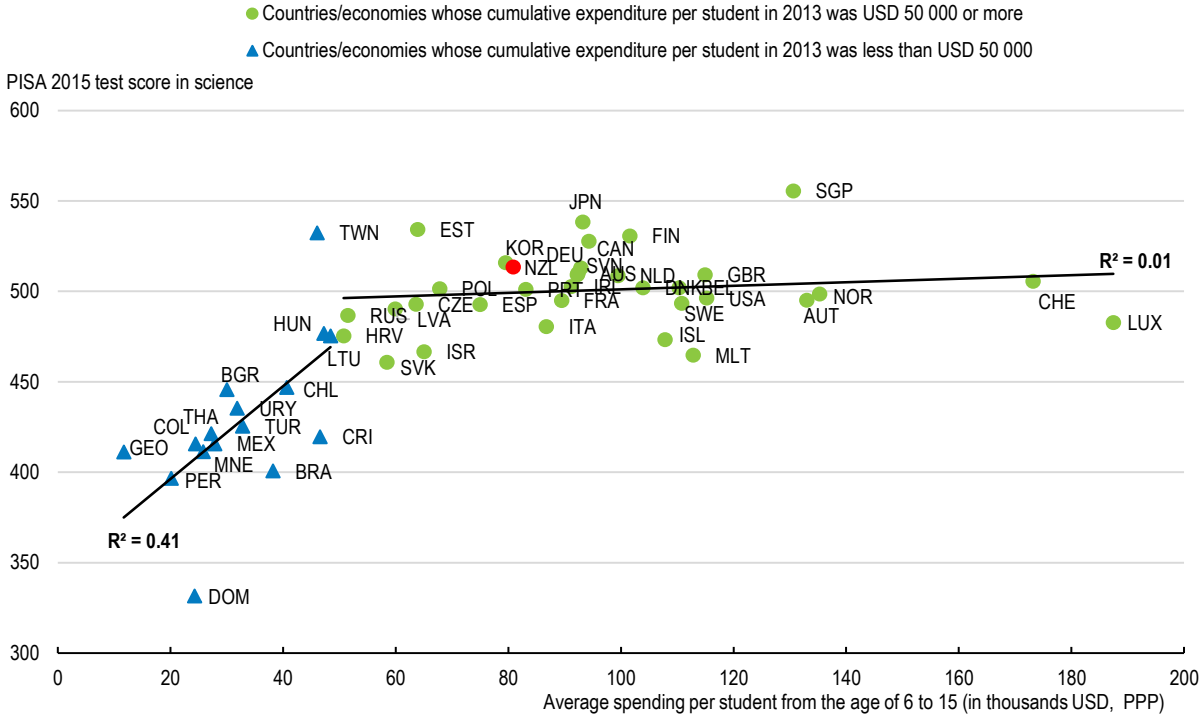
4.4.1. Targeting public education funding better to improve achievement and equity

There is no guarantee that simply spending more in aggregate on education would make a meaningful difference to achievement and equity in New Zealand. Public spending on primary and secondary education in New Zealand of 3.1% of GDP is just below the 3.2% OECD average. The relationship between total spending per child and achievement appears to be non-linear. At lower levels of spending, it is positive but above a spending threshold of around USD 50 000 of cumulative spending per child aged between 6

and 16 the relationship appears to be weak (Smidova, 2019) and New Zealand's spending is already above this threshold (Figure 4.12).

Figure 4.12. Increasing aggregate spending is not guaranteed to lift results

Total spending per pupil between the ages of 6 and 15 and PISA science performance



Note: Only countries and economies with available data are shown. A significant relationship ($p < 0.10$) is shown by the line.
Source: OECD (2015), Education at a Glance.

StatLink https://stat.link/yqolp5

Corroborating that overall resourcing appears to be adequate by international standards, overall student teacher ratios are lower than the OECD average. In New Zealand, in full-time equivalent terms, there are 12 children per staff member in general upper secondary programmes, lower than the OECD average of 14 (OECD, 2023b).

However, education spending appears to be skewed more towards secondary and tertiary levels, where per student public spending were 86% and 108% respectively of the OECD average in 2020. By contrast primary and lower secondary education were only 78% and 79% (OECD,2023b).

Strategies used to allocate and match resources to learner needs are at least as important as overall school funding levels (OECD, 2017c). There should be greater prioritisation of resources on raising participation in early childhood education and raising teacher quality (discussed above), which international experience suggests have strong potential to lift the achievement of all children and particularly those from lower socio-economic backgrounds. There should also be a priority on selected programmes such as more specialist subject advisors that address problems at the primary level, where achievement appears to be declining the most and where spending per student is relatively low. Despite improvements, there is also an opportunity for more regular review and streamlining of programmes and funding allocations to improve equity.

Lifting participation in high quality early childhood education and care would pay large returns

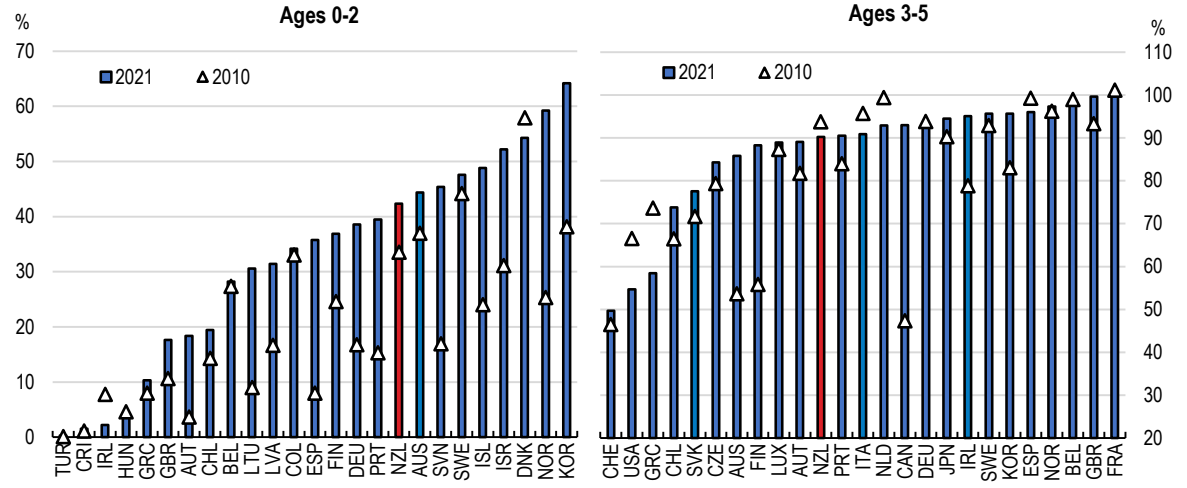
Provided the system is of high quality, lifting participation in early childhood education is one of the most effective ways to offset the negative impact of unfavourable backgrounds on achievement (OECD, 2017c;

Smidova, 2019). Well-trained early childhood education and care (ECEC) teachers can and do expose children from poorer households to richer oral conversations and vocabulary, books, music and many other activities that they may almost never experience before they get to school. How long-lasting these effects is a function of the quality of ECEC as well as what is taught: to avoid fading out, ECEC needs to boost skills that are foundational for later success, not developed in the absence of ECEC. It is statistically challenging to determine how long-lasting the effects of ECEC are. However, a wide review of the empirical literature consistently shows that for universal programmes (open for all, but where children from disadvantaged families are typically prioritised) for older preschoolers from disadvantaged families the benefits of ECEC persist into adulthood (Duncan et al., 2023). The importance of ECEC is also revealed by strong path dependency in education. An analysis comparing the PISA and PIACC results of the same cohort in Sweden showed that adults rarely make up education ground lost as a child (OECD, 2023h).

Participation in ECEC from age 3-5 is high overall in New Zealand (Figure 4.13). However, even though 4% of enrolments accounted for by kōhanga reo (Māori medium pre-school) are not included in the data, participation is lower for children living in lower socio-economic areas. Only 60% and 67% of 3- and 4-year-old children from lower socio-economic backgrounds participated in ECEC for 10 or more hours per week, compared to around 73% and 81% for children from higher socio-economic backgrounds. Public spending on ECEC from age 0 to 5 is 90% of the OECD average and only 13% of the OECD average from aged 0 to 2 (OECD, 2023e). Boosting ECEC participation especially of lower socio-economic groups should be a priority. However, although there is limited data available, there are indications of quality and cost issues calling for first carrying out an investigation into these issues in the ECEC system. Parent payments for childcare as a percentage of income are the highest in the OECD (OECD, 2024) and there may be quality problems, which warrants further investigation. Around one quarter of 3000 surveyed ECEC teachers would not send their own child to the facility they work for and 45% said staffing ratios are sometimes breached (OECE, 2023). Also, ERO found that 20% of the 165 ECEC services they visited were not complying with one or more regulatory standards (ERO, 2022). International experience suggests an additional constraint on expansion of ECEC is the availability of suitably qualified staff (OECD, 2020e).

Figure 4.13. Participation in early childhood education has room to increase

Enrolment rate, %



Note: The first and latest data might differ slightly from 2010 and 2021. For the age group of 0 to 2, Belgium and Greece, 2019 and Portugal 2018. First year for the age group of 0 to 2, Costa Rica, Greece, Israel, and United Kingdom, 2013, Turkey, 2014, Colombia and Hungary, 2015, Belgium and Ireland, 2017.

Source: Calculations based on OECD Education at a Glance.

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There should be a review of the ECEC system to identify the reasons for relatively low participation (costs, lack of awareness of some communities of the benefits of ECEC), assess the quality of the ECEC system

and identify reasons for quality problems. The challenges seem high and fixing problems will likely take significant time. In the meantime, subject to fiscal constraints, an alternative for raising participation in formal schooling could be for the government to consider extending in length year 0 of primary school, on a pilot basis. Year 0 in New Zealand is a partial year, the length of which depends on the date of the child's 5th birthday, which is when they allowed to go to school and when parents usually choose to send children to school (although school is not compulsory until 6). One option to extend year 0 would be to allow children to enter year 0 from the beginning of the school year (school years run from late-January to mid-December in New Zealand) in which they turn 5. However, international experience and research suggests that if the starting school age is lowered, care will need to be taken to ensure there is a smooth transition between ECEC and primary education. The year 0 should involve pedagogical approaches and goals that are appropriate for this age group. It should in particular avoid the risk of "study intense learning" where a play-based approach is lost, which would be detrimental to children's wellbeing, and a too strong focus is put on "early basic academic skills". Finland is experimenting with lowering the school entry age to improve equity with significant effort going into designing a smooth transition.

Continuously improving equity funding formulas

Although equity funding made up less than 4% of total school resourcing in 2023, it can represent a substantial share of discretionary expenditure available to a school board and so have an outsized influence on how a school is run. The Ministry of Education's funding allocation formula already provides more resources to schools with children from lower socioeconomic backgrounds. Indeed, student-teacher ratios do increase with the socioeconomic status of both primary and secondary schools (Table 4.2). The allocation of funding to offset disadvantage has been further improved by the creation of an Equity Index developed by the Ministry of Education to replace from 2023 the decile system introduced in in 1995. An important improvement is that this index attempts to measure the socio-economic background and barriers of the children attending the school, rather than the average socio-economic status of people living in the area where the school is located. Another advantage of the Equity Index is that funding declines smoothly avoiding "funding cliffs", where schools could see substantial changes in equity funding when moving between deciles.

Table 4.2. Student to teacher ratios vary considerably by region

Contributing primary (years 0 to 6) student to teacher ratio, difference to New Zealand average

	Decile 01	Decile 02	Decile 03	Decile 04	Decile 05	Decile 06	Decile 07	Decile 08	Decile 09	Decile 10	Region average level	Region average NZ
Auckland	1.5	1.3	0.6	0.1	0.3	-0.1	-0.1	0.3	0.3	0.3	16.2	0.5
Bay of Plenty/Waiariki	-0.1	0.6	-0.4	0.2	0.7	1.0	1.3	1.3	0.8		16.1	0.4
Canterbury/Chatham Islands	0.6	1.1	0.7	-0.7	0.6	-1.1	-1.4	0.1	-0.7	-1.0	15.5	-0.2
Hawke's Bay/Tairāwhiti	-2.1	0.4	0.9	0.2	0.5	0.4	0.4	0.3	1.5	2.1	15.2	-0.5
Nelson/Marlborough/West Coast		0.2	-1.2	1.7	-3.2	0.1	0.0	1.0	-0.2	-3.9	15.4	-0.3
Otago/Southland	0.9	-0.8	-1.9	-1.5	-0.8	-1.2	-1.2	-0.1	-0.8	-0.5	15.1	-0.6
Tai Tokerau (Northland)	-1.4	-1.2	0.6	0.7	1.3	0.3	0.4	-1.0			15.0	-0.7
Taranaki/Whanganui/Manawatū	-0.3	-1.6	0.5	-0.2	-0.5	1.8	0.5	1.2	0.1	-0.1	15.5	-0.2
Waikato	1.2	-1.4	1.9	0.1	0.1	0.4	1.0	-3.3	-1.0	0.9	15.9	0.2
Wellington	0.0	-0.6	-2.6	0.0	0.5	1.0	0.2	-1.9	0.0	0.0	15.5	-0.2
Decile average Level	14.7	14.7	14.8	15.6	15.6	15.9	15.8	16.4	16.5	16.5	**15.7**	0.0
Decile average New Zealand	-0.9	-1.0	-0.9	-0.1	0.0	0.2	0.1	0.7	0.8	0.9		

Note: Teachers measured in full-time equivalents. The New Zealand national average is 15.7. Green denotes a ratio of 1 or more below the decile average, and yellow a ratio of 1 or more above the decile average.
Source: Ministry of Education and OECD calculations.

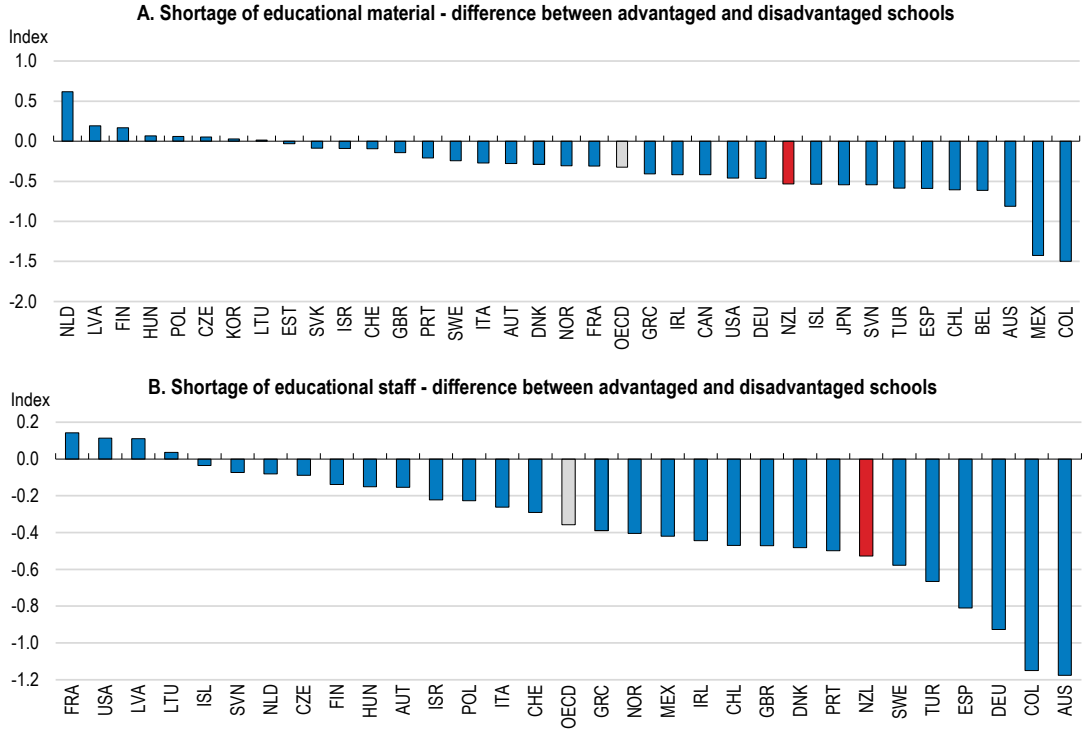
Nevertheless, there appears to be room for further improvements. There seems to be too many small equity-based programmes, forcing schools to make multiple applications for funds to deal with for example behaviour management issues. By international comparison disadvantaged schools in New Zealand still have a high perceived shortage of materials and especially teachers than advantaged schools (Figure 4.14). This warrants an investigation into whether the Ministry of Education's extra funding formula provides enough funding to compensate the extra difficulties that all disadvantaged schools face. The revised national data collection and reporting framework on children's achievements by school discussed above would assist this process and allow a more precise targeting of resources to address underachievement.

There is consensus in the research literature that small classes have a strong positive effect on the learning of children in the earlier years of education and from disadvantaged socio-economic backgrounds (OECD, 2017c). However, the effect of class size reduction is undermined if teachers are not well prepared to work with more demanding students (OECD, 2007). This makes it essential to accompany smaller classes at school with ITE and professional development activities that prepare teachers well as discussed above.

Student-to-teacher ratios provide is one diagnostic for identifying where there may be a resourcing issue but needs to be carefully interpreted. An analysis of student-to-teacher ratios in 2022 suggests the problem of insufficient teachers runs across deciles but is more prevalent in some regions than others. It seems to include not only low socioeconomic status schools but also mid-level ones at both primary and secondary levels (Table 4.2). Auckland has the highest student-to-teacher ratios in New Zealand in schools in nearly all deciles at both primary and secondary levels. For example, decile 1 (the lowest) primary schools in Auckland have substantially higher student-to-teacher ratios than schools in this decile elsewhere in New Zealand, and closer to ratios of high decile schools of decile 8 and above. These include schools in South Auckland with high Māori and Pasifika populations.

Figure 4.14. Perceived shortages of resources in disadvantaged schools are high

2022



Note: Negative values indicate higher shortages in schools with low socio-economic status. As reported by school principals.
Source: OECD, PISA 2022 Database.

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At the secondary level, several regions have substantially higher student-teacher ratios in mid-level schools (deciles 4 to 6) than their decile elsewhere in New Zealand. Rural schools also have very high perceived teacher shortages by international comparison. This complex pattern suggests there may be several reasons behind higher ratios. This includes that while the Ministry of Education calculates a total staffing entitlement per school to achieve target student-to-teacher ratios, school boards determine the actual ratios and timetabling of classes, which may contribute to some variety. Recruitment difficulties may also be partly responsible. The Ministry of Education is working to update its programme for supporting schools with recruitment difficulties. The new programme, Priority Staffing School, aims to identify schools that have the most difficulty in recruiting and retaining teachers and to provide them with more resources to counter this disadvantage. The Ministry, in concert with ERO, should monitor school-by-school whether this enhanced programme is sufficient for all schools identified as having higher student-to-teacher ratios than peers in the same decile or locality (rural, urban etc.). Given that it is school boards that decide actual student-to-teacher ratios, this will need to be done in close consultation with the schools concerned to understand their needs and preferences. Resolving teacher shortage issues may require not only more funding for teacher salaries to offset recruitment disadvantages, but also more support to create generally more attractive working conditions for teachers in these schools, including better ITE and new teacher induction. More effort to spread best practices between principals and leadership training for principals, as discussed above, would contribute to a better working environment for teachers by improving mentoring.

4.4.2. New Zealand has increased cultural awareness markedly but there is more to do

An important aspect of improving equity in education outcomes is improving the performance of Māori children, who as a group under-perform the New Zealand average on every indicator from attendance to school leaving qualifications. Indeed, Māori children accounted for 25% of primary and secondary enrolments in 2022 so improving their performance and wellbeing is key to ensuring that the education system delivers the opportunity for all children to reach their potential. Teachers can have lower expectations of Māori children, and this is likely to lead to them being given more restricted learning opportunities (Alansari et al., 2020). This differentiated treatment may help explain why Māori children feel a lower motivation to learn, greater test anxiety and lower levels of parental support than non-Māori, although their motivation to achieve remains above the OECD average (OECD, 2017b). Along with coming from lower socio-economic backgrounds, these factors have likely contributed to worse outcomes for Māori children than the national average, including leaving school with fewer qualifications, lower attendance rates and higher expulsion rates.

Building teacher cultural awareness and bringing Māori knowledge and language into the curriculum and other aspects of schooling can serve to reduce discrimination and improve the performance and wellbeing of Māori children. This is especially important as 90% of Māori children are enrolled in the English-medium pathway, where most teachers are non-Māori and command of Māori knowledge and language, although growing, is still work in progress. By giving importance to their identity and ancestral history, this provides them and teachers a better understanding of their place in New Zealand and the world. It can also help make children feel valued, with a strong sense of self-esteem and belonging at their school. It can further assist teachers understand who and where their children come from, and therefore build a stronger relationship of trust between teachers and children (OECD, 2023a).

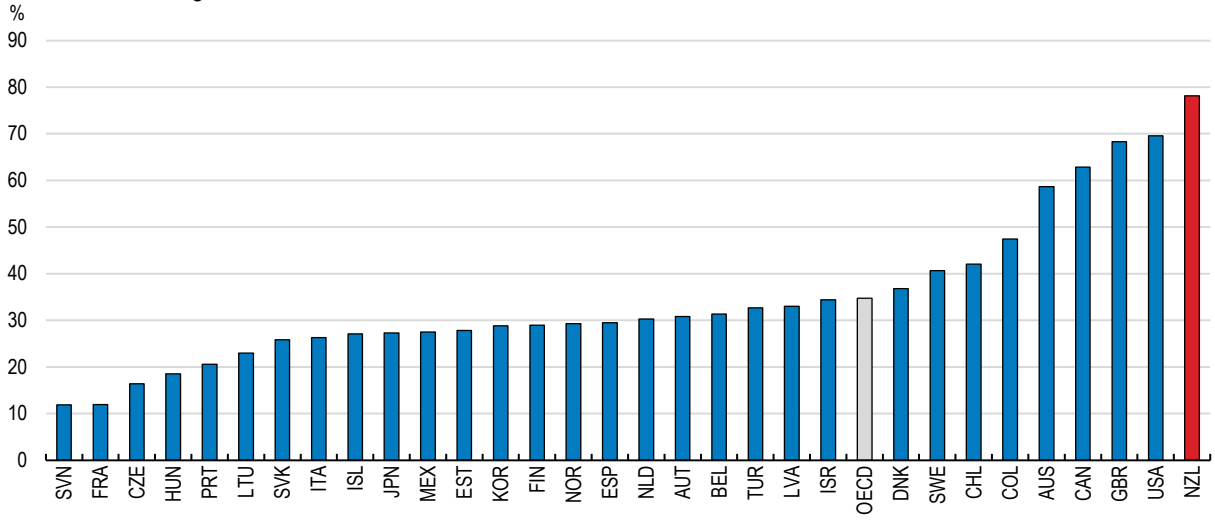
Efforts to increase the understanding and influence of Māori culture in New Zealand and revitalise the Māori language have been intensified. A foundation step was the Māori Language Act 1987 that gave Māori official language status in New Zealand. In education, like in many policy domains, a feature of this effort is the central pillar status the Treaty of Waitangi and giving effect to its principles are accorded in designing policy. Indeed, consistency or implementation of these principles is often the first objective of any recent proposed policy reform. Another manifestation is the widespread use of code-switching in government education policy statements, documents and communications, i.e., the use of both English and Māori words in the same text: for example, the draft curriculum Te Mātaiaho states “Te Mātaiaho is designed to give effect to Te Tiriti o Waitangi and to be inclusive of all ākonga. The curriculum is framed

within a whakapapa that connects all its components" (Ministry of Education, 2023c). Code-switching in official documents raises cultural and language awareness. But this practice is unusual internationally, even in countries with two or more official languages such as Canada. New Zealand is also the OECD leader in preparing teachers for teaching in a multicultural and multilingual environment in the OECD (Figure 4.15).

Further action is taking place to make all schools places where Māori children are not discriminated against and feel they belong to. One of the primary objectives of the Ministry of Education's English medium-curriculum refresh is that a school board's plans, policies, and local curriculum reflect local tikanga Māori (customary practices), mātauranga Māori (Māori traditional knowledge), and te ao Māori (Māori world view) (Ministry of Education, 2023c). However, teachers, feel they do not have the knowledge and support to implement these requirements. Furthermore, teachers of Māori ethnicity already feel overburdened in terms of advising school leadership on Māori culture, knowledge, and language issues. To help this policy objective succeed, the Ministry of Education needs to complement these objectives with providing national and regional support for implementation at the local level, including school board and teacher training, and providing expert advice to spread best practices.

Figure 4.15. New Zealand is the OECD leader in preparing teachers for a multicultural environment

Percentage of teachers for whom "teaching in a multicultural or multilingual setting" was included in their formal education or training, 2017/2018



Note: CAN refers to the province of Alberta and GBR to England.
Source: OECD, TALIS 2018 Database.

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One of the main initiatives in bringing Māori customs, language and knowledge into the education sector was the development of a Māori medium education pathway, where the children are taught more than half of the time in the Māori language. The first Māori medium pre-school (kōhanga reo) and school (kura Kaupapa Māori) were opened in the 1980s and the pathway has expanded significantly but is still developing. Approximately 10% of all Māori in schools are enrolled in this pathway.

Comparing results in the Kaupapa Māori and Māori and English medium pathways is complicated because the commitment of parents to education may be higher amongst parents of children sent to Kaupapa Māori and Māori medium schools as evidenced by a willingness to travel longer distances and because it is often a deliberate choice by a wider family. With this caveat of selection bias, Māori children in Māori-medium education are experiencing better outcomes than Māori in English medium education in many domains (Ministry of Education, 2020). This includes a higher share of children staying in school until age 17 and above, of which only 6.8% left without at least NCEA level 1, compared to 60.8% of Māori school leavers

below 17 that left without NCEA level 1. In 2020, 79.9% of Māori in Māori medium education left with an NCEA level 2 or above qualification, only slightly below the national average of 80.8%.

Māori-medium education faces several challenges. There are few assessments tools for years 0-10, i.e., prior to NCEA. There are tools for assessing mathematics and reading but no tools for assessing writing or oral competency in Māori and other competencies of children as they transition from one level to the next to see where they are strong and weak or enter the Māori-medium pathway. Transitions are easier than in the English system because schools are more often composite (i.e., years 0-13) and teachers know and are following children throughout their schooling. Developing new assessment tools alongside the refreshed Māori-medium curriculum, and especially diagnostic type assessment would better inform teachers about the needs of all children in the pathway. It would also help teachers speed up the integration of children transitioning late into the pathway, who can struggle to catch up.

The Māori medium curriculum, Te Marautanga o Aotearoa, redesign will be the third iteration of the Māori medium. It aims to be more strongly built on a foundation of the Māori world view, history and culture than its predecessors, while preparing children for a globally connected world. The Māori curriculum refresh faces the same challenge of increasing the detail of what should be taught as the English one.

Another important challenge is to build up the Māori medium pathway and Māori language learning at the secondary level. The share of Māori enrolled in Māori medium schooling falls dramatically from primary to secondary level. The share of Māori children learning Māori in some way also falls from nearly 100% at primary school to around 35% in secondary school (Ministry of Education, 2020). There is a drop in demand by parents but also the supply of secondary teachers with sufficient Māori to teach their speciality in Māori is small. The Ministry of Education uses innovative techniques to mitigate this, for example providing some subjects at secondary level via online courses.

However, ultimately increasing secondary level participation is constrained by supply of teachers. This will require increasing Māori ITE completions at the secondary level, which are only around one fifth of primary school ones. The Ministry of Education has pilot ITE programmes where students are fully funded including course and living costs with strong mentoring support, a mix of practical and theory components and a guaranteed teaching post on successful completion, along with some bonding obligations. Two of the three pilots are now finished and Te Ahikāroa – delivered by the University of Waikato to eight trainees (originally intended to be 40) will finish at the end of 2024.

These programmes are costly, so expanding them will likely require some scaling back of expenditure per candidate, although for the moment candidate supply seems to be more the binding constraint as places in the pilot were far from fully filled. Given large public support to students, an obligation for students to work for some time in return for the support they received during their studies seems fair. Such an obligation seems to be also necessary as professionals with a higher education degree and who are fluent in Māori language are in short supply and have attractive alternatives in the private and public sectors.

4.4.3. Addressing the needs of every child

More young people would choose scientific and technological careers if there was more focus on helping especially girls overcome their anxiety about mathematics and science. Even among top performers in mathematics and science as in most other OECD-countries, career expectations differ considerably between girls and boys, with boys looking for a career in science and engineering to a larger extent, whereas girls tend to turn to health-related professions. Narrowing these gender gaps requires employers, parents and teachers to become more aware of their own conscious and unconscious bias so they give boys and girls equal chances for success at school and later (Encinas and Cherian, 2023). Training teachers to recognise and address any bias they have about girls and boys can help. It is also important to improve the participation of girls in more mathematical and technological activities, raise the awareness about the pay consequences of different choices of fields of study. School visits and talks by women leaders in

mathematics, science and technology and men in arts and humanities can also play an important role in showing boys and girls and their teachers that men and women can succeed in any role in the labour market.

Tackling parent attitudes, bullying and discipline is key to increasing attendance rates

Parent attitudes play a large role in the attendance of their children and many are ambivalent about their children attending school every day (ERO, 2023). The government and the Ministry of Education together with school and community leaders should run a campaign with parents to turn these negative attitudes around. In a welcome move the government has announced as part of its Truancy Action Plan that it will roll out a communications campaign to improve awareness of the importance of attending school from the second quarter of 2024 onwards. The Action Plan also appropriately is focusing on improving data to allow a better analysis of the drivers of non-attendance and developed. While there are likely multiple drivers and solutions depending on the degree of truancy, as discussed above, international evidence suggests that bullying contributes to non-attendance and the campaign should be accompanied by demonstrating to parents that action is also being taken to improve the school environment for their children both culturally and from a security perspective.

In this regard, to counteract bullying, the Ministry of Education, along with 16 other agencies, has set up *Bullying-free NZ*, a hub which disseminates evidence-based bullying prevention policies. The *Bullying-free NZ* website provides schools with free guidance on how to design and implement anti-bullying measures, including complete frameworks and roadmaps. The Ministry of Education has also tasked the New Zealand Council for Educational Research with managing *Wellbeing@School*, a website which allows schools to collect data on bullying, and then develop and self-review their anti-bullying action plans.

PISA data suggests bullying can be reduced by creating a supportive environment inside and outside the classroom. The share of frequently bullied children is higher in schools with a poor disciplinary climate and where a high share of children feel they are disciplined more often than others and are ridiculed by their teachers. This suggests teachers can help limit bullying by communicating clearly to students that they will not tolerate any form of disrespectful behaviour, and by acting as role models in the classroom. Teachers, school leaders and parents should work together to improve the school climate including whole-of-school prevention strategies that make everyone responsible for confronting bullies and supporting victims (OECD, 2017a). A review and analysis of 100 studies evaluating the effectiveness of school-based anti-bullying programmes across several countries found that such programmes were effective in reducing both school-bullying perpetration (by an estimated 19-20%) and school-bullying victimisation (by an estimated 15-16%) (OECD, 2023i). However, for programmes to be effective teachers and school leaders need to be equipped to both recognise bullying and to actively create an environment where it is less likely to occur (OECD, 2023a), emphasizing the importance of teacher and school leader professional development in this area.

Recent successful whole-of-school anti-bullying programmes include Free of Bullying used in Denmark and KiVa developed in Finland. KiVa is used across many countries, including, since 2014, in more than 50 New Zealand schools. Using interactive computer games for students and teacher training, among other techniques, KiVa addresses bullying at a group level, aiming to turn bystanders into defenders that take the side of the bullying victim. Early indicators point to KiVa being an effective bullying prevention programme in other countries (Huitsing et al., 2020) and in New Zealand (Green et al., 2020). More research is needed into policies to combat cyberbullying, but there is evidence that programmes to combat traditional bullying including KiVA are effective against cyberbullying (Gottschalk, 2022). The Ministry of Education should expand whole-of-school anti-bullying programmes to more schools together with a New Zealand based evaluation.

Ability grouping within classes at schools is extensive and may run counter to equity objectives

In New Zealand, formal programme tracking into different education pathways such as technical and academic focused schools does not exist. This tends to promote equity in education (Hanuskek and

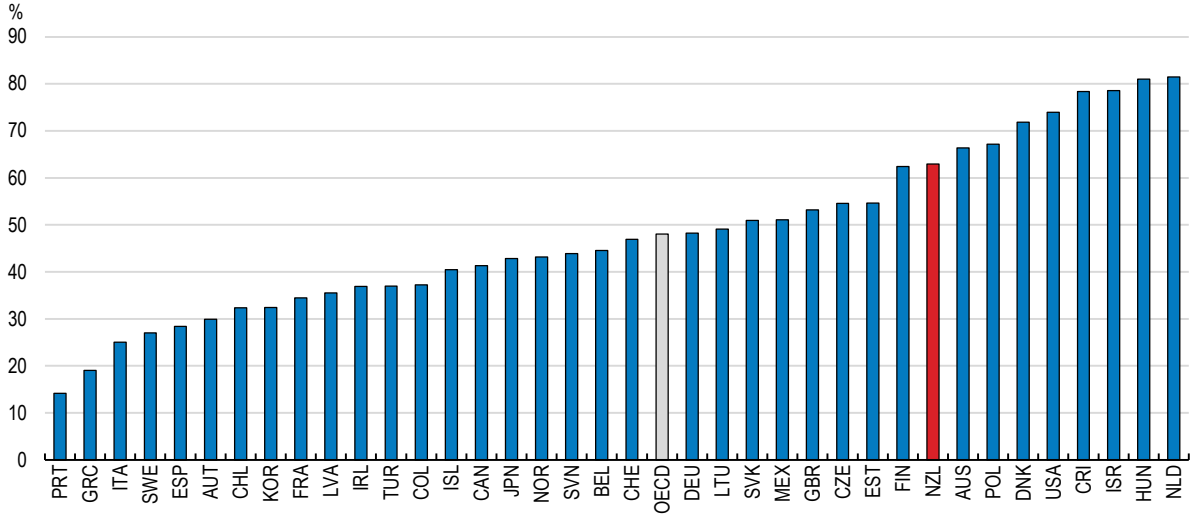
Woessmann, 2006; OECD, 2012a) by subjecting all children to the same learning environments, providing similar learning expectations and putting them in groups with the same ability (OECD, 2023a). Indeed, OECD analysis suggests that the age of first tracking explains close to half of the differences in reading performance in PISA across OECD countries (OECD, 2020a). However, because NCEA is appropriately a wide programme with both more academic and vocational options, children can find themselves effectively tracked into different pathways but in the absence of data it is difficult to understand what its effects are. More data collection and research is warranted in this area. In particular, more transparency about how those decisions are made at classroom and school level, for example though a national and transparent policy, is needed (Perico Santos, 2023).

In addition, ability grouping in school, which can also impact equity, is high in New Zealand. Ability grouping involves placing students into different classrooms or in small instructional groups in a class based on the students' initial achievement or skill levels (OECD, 2023d), (Figure 4.16). It can reinforce socio-economic differences within schools by creating lower teacher expectations for those children in lower ability groups, who in turn internalise these expectations (OECD, 2023a). This particularly affects Māori children who are over-represented in the low-ability groups. Ability grouping is often justified on the basis that it lifts overall performance. However, OECD analysis of PISA results suggests that across countries there is only a weak positive correlation between streaming in some subjects and mean performance in reading (OECD, 2020a). A large-scale study in the United Kingdom found no evidence that ability grouping lifted student achievement in mathematics, science and reading (Ierson et al., 2005).

There are calls on equity grounds and especially for Māori children to end streaming in New Zealand by 2030 supported by the Ministry of Education. Many teachers agree but some voice concerns about the extra challenges of teaching in mixed ability groups, especially where class sizes are large. Given that only anecdotal evidence for the effects of de-streaming in New Zealand has been provided, and some opposition remains, de-streaming should be introduced gradually, first with more pilot trials and studied using a rigorous large scale, data-based analysis.

Figure 4.16. The use of ability grouping is prevalent in New Zealand

Share of children in schools that group children by ability within their class for some or all subjects



Source: OECD, PISA 2022 Database.

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Gradually implementing de-streaming with extra support to teachers to teach to mixed ability groups will help ensure this reform is successful and build trust. Simultaneously actions can be taken to mitigate the possible negative equity effects of streaming including: making grouping as subject-specific as possible as children's attainment differs across subjects; regularly re-testing children; and moving them between ability

groups where appropriate; and ensuring that all children have access to a rich curriculum, rather than reducing content and lowering standards for children in lower-ability group levels (OECD, 2023a). It is especially important to avoid cultural and other biases and schools should perhaps consider some anonymised checking of their ability grouping decisions to help avoid this.

Assisting children with disabilities and extra learning needs

There has been increasing recognition in New Zealand of the importance for equity in ensuring that all children with disabilities and extra learning needs can achieve their potential. The government spends approximately 0.3% of GDP on disabilities and extra learning needs education, making it one of the key programmes for improving equity in education. There is no universal agreement on what disabilities and extra learning needs encompasses. It can include learning disabilities (e.g., dyslexia) independent of intelligence that affects a child's ability to use language, physical impairments, mental health conditions (e.g., Attention Deficit/ Hyperactivity Disorder (ADHD)) and giftedness: children with higher-than-expected intellectual abilities given their age (OECD, 2023i). The Ministry of Education estimates that around 20% of children need extra learning support related to disability, learning difficulties, disadvantage, physical or mental health or behaviour issues. Around 14% of pre-schoolers may have neurodevelopmental disorders (NDD) although such estimates are highly uncertain (Saraf and Marks, 2019).

Important policy strides have been made towards addressing these needs in a more inclusive and coordinated way, starting from 1989 with an increase in dedicated funding for children with disabilities and extra learning needs towards a broader and more coordinated and inclusive range of support services (Ministry of Education, 2021). The Learning Support Delivery Model (LSDM) introduced in 2016 brings together learning support services in a community of schools that work together with Learning Support Coordinators and Ministry of Education facilitators (Ministry of Education, 2021). The LSDM seeks to identify needs across their school community and how to address them. This collaborative approach is important because of the very diverse range of these needs making it near impossible for any one person or school to be expert in addressing them all.

The Ministry of Education has developed a detailed plan (2019-25) based on widespread consultation to further improve support to disabled children and children with additional learning needs. One of the main priorities of the plan is to improve LSDMs through the employment of just over 600 learning support coordinators (often experienced teachers) to coordinate support of schools, teachers and parents for those children with additional needs for 1052 schools in 124 clusters. A recent qualitative evaluation found strong support for these roles from schools, teachers and parents and that coordinators had assisted with child transition between schools (Andrews et al., 2022). However, reflecting a lack of tools to foster collaboration, coordinators had struggled to influence learning support outside their own school.

The Ministry of Education plans to further reform the delivery but more needs to be known about disabilities and extra learning needs to do this most effectively. As not all schools have a coordinator, fostering school clusters is key to achieving better equity across schools. Providing a national database and nomenclature of learning needs would facilitate collaboration and is a key requirement to help children with additional learning needs more. There is a widespread consensus across society that early identification of NDD and other learning difficulties is crucial to help these children more (Ministry of Education, 2019b). The Ministry of Education, together with the Ministry of Health, should implement the plan to systematically carry out early screening tests of pre-school children and at school entry to identify the children with different learning needs.. A large share of learning support funding is provided through schools and families need to reapply when they move from school to school including moving from primary to intermediate to secondary schooling. Funding can be uncertain through these transitions as access to funding can be dependent on the quality of application and the school's ability to navigate the learning support system. It would be preferable that the funding follows the child to their new school (OECD, 2007). This would help ensure that the funding is available from when the child starts at a new school. Better measurement of the national

scope of the problem, which is unknown, as well as a national database on individual needs is also key to knowing how much funding is required to tackle it and where to target it.

However, beyond improving measurement of needs, it may also be worth considering piloting a mix of funding models to address disabilities as they each have advantages. The most common internationally is an input-based one based on ensuring demand for extra learning needs support is met. This can help ensure resources go to the children that need them, but it also relies on being able to label and diagnose children and involves waiting time before they will be helped. By contrast, the throughput model is a supply-driven model that emphasises specific services provided instead of needs to be covered and is used in Denmark, Ireland, Greece and Sweden (OECD, 2023a). This model does not directly require labelling students with disabilities and extra education needs reducing the costs of measurement and also risks of over-identification and stigmatisation induced by labelling. However, not directly funding in tandem with demand can mean that schools may not always have sufficient financing to cover the needs of individual children with extra education needs. Contrary to input and throughput approaches, the output model, which is the least common internationally, links results of the education system to the funding and directly promotes a set of valuable outcomes. This, however, entails the risk of not channelling resources where the need is higher as well-performing schools may receive most of the funding that lower-performing schools would need more. However, the school clustering and collaborative approach being used in New Zealand may help offset that problem.

Existing interventions to help children with additional learning needs can also be improved. The main remedial learning programme that is funded by the Ministry of Education for children falling behind in literacy, Reading Recovery, has been in place since the 1980s. There is evidence that Reading Recovery does help some children that are falling behind to improve their reading performance (Appleton-Dyer et al., 2019). However, it fails to improve learning outcomes for a significant minority (15-30%), and particularly children from Māori and Pasifika backgrounds (Chapman and Tunmer, 2018), and research finds that improvements are not permanent (ERO, 2018).

Teachers are also overly reliant on interventions such as Reading Recovery rather than taking immediate responsibility for having all students succeed in their classroom (ERO, 2018). In addition, programmes to deal with children that have not improved in Reading Recovery appear to be ineffective and there is inconsistency across the different levels of intervention (McNaughton, 2020). In a welcome move, the Ministry of Education is also now providing funding to support the Better Start Literacy Approach, a structured literacy approach, introduced by the University of Canterbury in 2020 that includes building letter-sound knowledge (phonics). All schools have also been provided with copies of the Ready to Read Phonics Plus books to support a structured approach to teaching reading. As Reading Recovery does not work for all, the Ministry of Education should continue to expand support to alternative interventions with different methods including structured literacy and phonics to teach reading. It is also important that teachers, via ITE and ongoing professional development improve their teaching practice and understanding of the technical aspects of teaching reading, and how children learn. Outside interventions have their place but it is ultimately in the classroom where the challenge to improve education achievement and equity lies.

The objectives and regulation of partnership schools need to be carefully designed

The government plans to re-start partnership (publicly funded private schools). This can potentially play a role in further improving equity and excellence but it is important to carefully consider the current school landscape in New Zealand. The high autonomy of schools mean they can already tailor significantly their offer to local needs suggesting partnerships schools would not add much in this domain. Similarly designating these schools to take care of the learners whom the public system has not served well, risks stigmatising those learners and conveying the message that the public system is not able to address the needs of those learners with the greatest learning difficulties. By contrast, partnership schools may be able

to contribute to spreading best practices and improving school board governance. However careful thought needs to be given to who the government is targeting to do this and to tailor the regulatory framework to this. For example, if the aim for school boards from successful schools (in terms of excellence and equity) to govern other schools, the government may want to require the successful board to show that it has generated success for children from similar backgrounds to those of children in the school it proposes to govern. Experience from different countries indicates that the impact on equity and educational quality of publicly funding private providers is influenced by the institutional arrangements surrounding them (OECD, 2017). It is important regulation prevents undesirable outcomes for equity such as greater segregation through allowing the school to select students based on academic achievement or reduced professionalism by allowing unregistered teachers.

Findings and recommendations

FINDINGS	RECOMMENDATIONS [key ones in bold]
Raising achievement and improving equity in a devolved education system	
Education achievement assessed across domestic and international surveys has declined since 2000, with persistent wide inequalities in student performance and high levels of bullying. There is insufficient trust between the Ministry of Education on the one hand and boards, schools, principals, and teachers on the other hand required to obtain the buy-in to policy from schools needed to ensure system wide improvements.	The New Zealand education system should remain devolved. Implementation of education policy should be reformed by: • providing more central and regional support to help schools, school boards, principals and teachers to put policy into action; • strengthening horizontal ties between actors to help better spread best practice.
Strengthening the institutional capacity to support schools, school boards, principals and teachers	
The Ministry of Education does not appear yet to have the capacity, especially at the local level, to provide the support schools need to implement national policies. Lack of central guidance and support is unnecessarily increasing workloads and inducing stress and distrust of national reforms amongst principals and teachers.	**Continue to build further Ministry of Education capacity to support schools, and expand regional offices including reinstating specialist subject advisors, in priority for the primary and intermediate levels.**
Ensuring a more knowledge-rich curriculum and getting the most out of assessment	
The 2007 New Zealand national curriculum currently in place for years 1-13 for all subjects provides only high-level guidance. The high level of discretion at school level leads to high variability in what is taught. Teachers do not have enough materials or advice on how to implement the curriculum.	**Establish a more detailed national curriculum that specifies by subject the learning outcomes, competencies, core concepts and knowledge children should have acquired by years of education and provide high-quality assessment and teaching materials.**
New Zealand children report below OECD average exposure and understanding of both fundamental concepts and word-based problems in mathematics. A new curriculum is under development. The performance of New Zealand children in international tests is falling in science and proposed reforms to the curriculum were controversial.	Consult a wider range of mathematics and science teachers, subject associations and university faculty in engineering, mathematics and science on the new curriculums in mathematics and science and incorporate their expert advice in the new curriculums.
New Zealand has an increasingly culturally diverse population.	Broaden out the history curriculum to tell the stories of all New Zealanders.
Reforms have been sequenced incorrectly with NCEA assessment reforms taking place before curriculum reforms.	Revise NCEA standards to ensure they are fully in line with a revised more detailed curriculum.
The new NCEA level 1 qualification does not seem to have addressed the concerns that it is taking too much time away from teaching.	Keep refining level 1 to obtain greater participation from higher SES schools by ensuring it is a valued qualification for all schools.
More can be obtained from new NCEA literacy and numeracy co-requisites at little cost.	Convert the literacy and numeracy co-requisites to a progressive achievement grading, or offer the standards at different levels to promote continued participation at higher levels.
NCEA standards are too narrow, impose a large work burden on teachers and incentivise children to seek easier standards, because all standards are considered equal in terms of the credits. Dividing subjects into so many units risks that children miss out on building knowledge in key sub-topics, which is a barrier to mastery of overall competencies.	Fully implement the plan to have fewer and larger standards as well as rebalance assessment towards external assessments.
Measurement of individual child progress against common achievement standards would help with diagnosing where problems lie and allocating resources to solve them.	Introduce a revised national data collection and reporting framework that focuses on children's progress towards common achievement standards, with regular confidential reporting to the Ministry of Education.
Spreading best practice and leveraging the education system's assets	
The spreading of best practices is crucial to the performance of a highly devolved education system. However, there is not enough data or use of already available data to identify good practices.	Make more use of existing and new data to identify best practices at school level and spread them including by drawing more on research already available on the performance of schools as well as confidential data from a national standards reporting framework.
International comparison reveals expanding collaboration between actors at the local level is an important lever for spreading best practices. One of the ingredients of the success of collaborations is the use of a rigorous database performance assessment to identify higher-performing schools and pair them with lower performing schools.	Complement communities of Learning| Kāhui Ako school groupings with more horizontal and mixed performance groupings of primary and secondary schools.
There are many excellent schools and centres of innovation across the system led by highly motivated and talented academics, teachers, principals, school boards from regional subject associations to trusts. But there is insufficient diffusion of these practices and by international comparison accessibility to education research is perceived low.	Support horizontal spreading of best practices by setting up a government-funded education excellence fund to support best practice spreading projects, with resources allocated by an independent board.
Achievement of Māori children is higher in the Kaupapa Māori and Māori medium education pathway in part because of the high engagement of family and community with school.	**Spread best practice from the Kaupapa Māori and Māori medium pathway to the English medium pathway in building school-family linkages that support children's achievements and wellbeing.**
The Education Review Office (ERO) has a deep knowledge of learning outcome and processes that contribute to them.	To help spread best practice, ERO should continue its more frequent and intensive follow-up advice practices.

Supporting teachers throughout their careers	
A sizeable share of teachers in New Zealand do not feel fully prepared in core teaching areas (content of subjects, pedagogy, teaching cross-curricular skills). Primary teachers are insufficiently prepared to teach maths and science.	**Include more subject content and pedagogy in initial teacher education programmes, especially for mathematics and science. Incentivise this by changing teacher standards to require this.**
International experience shows that high-performing countries and schools have an initial education or induction period that includes a mandatory and extended period of in-class practice and a variety of opportunities for in-service professional development; and teacher-appraisal mechanisms with a strong focus on continuous improvement.	Monitor recent changes to extend the practical component of ITE via and further adjust as necessary. Better prepare new teachers by making at least the first year of teaching registration a more formal post-graduate education year in pilot schools, to better develop content knowledge and pedagogical capability. When the fiscal situation allows, make the programme system-wide.
There is no mechanism to ensure minimum standards for teacher appraisal processes in schools and no guarantee each teacher receives proper professional feedback.	Unify the two existing sets of standards (Teaching Council for teacher registration and teachers collective agreement for career steps).
A career pathway for teachers to stay in the classroom and be rewarded for their growing mastery of teaching seems to be missing.	Introduce career ladders divided into several tracks with a teaching track divided into several levels of seniority from classroom to master teacher.
Easing the burden on school leadership	
School board abilities vary and some struggle to meet the demands they face.	Consider making the School Trustees Association the facilitator of school governance learning communities that group together boards and principals.
Formal training before taking up duties as a principal is below the OECD average.	Introduce a formal training requirement for new principals together with a grant new principals can use to train with a training provider of their choice, as well as the formal assignment of experienced mentor/s.
Closing equity gaps	
By international comparison disadvantaged schools in New Zealand still have a high perceived shortage of materials and especially teachers. The problem of insufficient teachers for schools appears to run across deciles but is more prevalent in some regions than others. Recruitment and retention difficulties appear to play a role in this pattern.	Monitor the effectiveness of updated measures to provide extra support to schools identified as having recruitment difficulties. Carry out a review of individual schools with high student-to-teacher ratios and spell out further remedial measures as needed.
New Zealand is a leader in improving cultural awareness in education. However, lower teacher expectations of Māori children result in more restricted learning opportunities. Māori children often have a low sense of belonging at schools where learning does not reflect their culture.	Complement objectives to build teacher cultural awareness and bring Māori knowledge and language into the curriculum with national and regional support for implementation at local level, including school board and teacher training, and provide expert advice to spread best practices.
Ability grouping or streaming within classes, which can impact equity, is the highest in the OECD.	Introduce de-streaming gradually, first with more pilot trials accompanied by extra support to teachers to teach to mixed ability groups. Retain streaming in upper secondary schools in mathematics and science if trials show this leads to better educational outcomes.
The return from participation in high quality early childhood education and care (ECEC) is very high, especially for children from lower socio-economic backgrounds, who tend to participate less in it. There are some indications of quality issues in the ECEC system.	**Review the ECEC system with the objective of raising quality and removing barriers to more equal access to high quality ECEC.** **Consider extending the length of "year" 0, which is not a full school year currently, and adapt its content to ensure a smooth transition into school.**
Fewer girls go into scientific and technological careers.	Provide training to teachers to foster awareness of their own conscious and unconscious gender biases. Increase school talks by women leaders in mathematics, science and technology and men in arts and humanities.
Strengthening the Māori medium pathways	
There are very few assessments tools for years 0-10 in the Māori-medium pathway. Late entry into the pathway creates significant challenges to bring students to the level required to learn in the Māori language.	Develop new assessment tools alongside the refreshed Māori-medium curriculum, notably diagnostic-type assessments of needs of all children in the pathway and entering it.
An important challenge is to build the pathway up at the secondary level but there is a shortage of qualified teachers.	Continue to encourage more Māori-medium initial teacher education completions at the secondary level, using scholarship programmes, where ITE students are obligated to work as teachers in Māori-medium or Kaupapa Māori schools for several years in return for financial support.
Raising attendance and preventing bullying	
Attendance at school remains below pre-Covid levels. A low sense of school belonging, ambivalent parent and learner attitudes and a high prevalence of bullying contributes to this. Research suggests that whole-of-school-and-community anti-bulling programmes are effective.	Run a campaign to improve parent attitudes to school attendance. Expand whole-of-school-and-community anti-bullying programmes like KiVa to more schools together with a New Zealand based evaluation.
Assisting children with disabilities and learning support needs	
There is insufficient aggregate and individual information on extra learning needs to allocate resources efficiently.	Provide a national database and nomenclature of individual learning needs to better inform resourcing decisions and targeting.
Teachers are overly reliant on Reading Recovery that fails to improve learning outcomes for a significant minority of children.	Continue to expand support to alternative interventions with different methods including structured literacy and phonics to teach reading.

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5 A fight on two fronts: Adapting to climate change and reducing GHG emissions

David Haugh

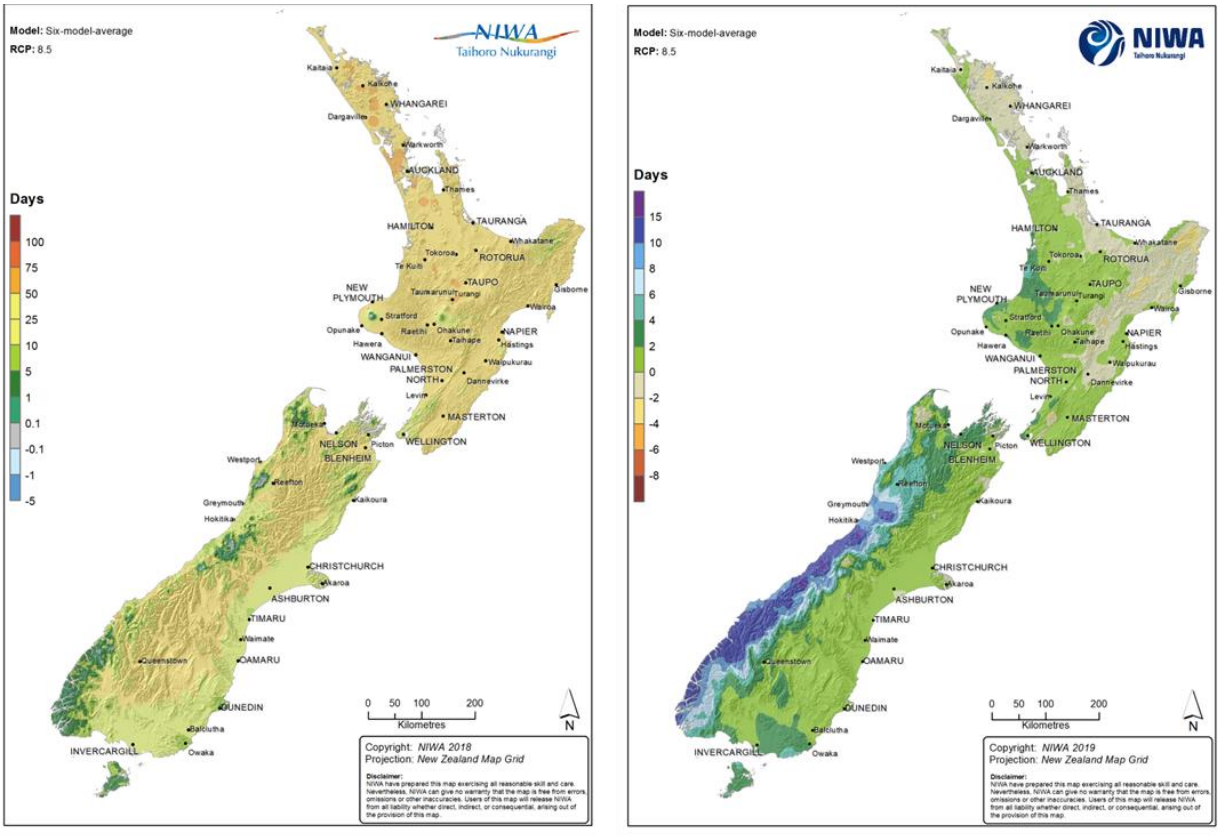
New Zealand, like other countries, needs to address climate change on two fronts simultaneously. Adapting to a hotter world while meeting its emissions reduction targets. New Zealand will need to become better prepared for more extreme weather that climate change will bring about such as the early 2023 North Island storms and cyclone. Adapting to this new reality has only just started in New Zealand and reform is required on multiple fronts. Councils will need new sources of revenue to fund the infrastructure that adaptation requires. Maintaining a comprehensive package of private insurance for climate-related losses with sharper premium price signals will also be essential. Developing a long-term energy strategy that weighs up all the main options for reducing emissions, while ensuring security of supply in a hotter world, is also crucial. New Zealand has made important strides to strengthen the policy framework for reducing GHG emissions. An important part of the framework is the New Zealand Emissions Trading Scheme (ETS), which covers all sectors of the economy except agriculture. However, the ETS should be reviewed with a focus on the treatment of carbon removals through afforestation. New Zealand's next overall emissions reduction plan should be underpinned by a rigorous and comprehensive cost-benefit comparison of the different emissions reduction options.

5.1. Introduction

New Zealand, like other countries faces the simultaneous challenge in the fight against climate change of adapting to higher temperatures and reducing emissions. The New Zealand economy with a high share of the population living in coastal and fluvial areas, and a large share of agriculture and other primary activities and hydroelectricity, is particularly exposed to environmental and weather changes. As worldwide (IPCC, 2022), climate change will bring more extreme weather to New Zealand (MfE, Stats NZ, 2023). There will be more hot days in summer, particularly in the north of the North Island, and more wet days throughout the year, particularly in the west of both the South and the North Islands, bringing more storms and extreme weather (Figure 5.1). This raises natural hazard risk including droughts, land slips and flooding. The 2022-23 summer, the third warmest and second wettest on record in the North Island, shows the potential that climate change induced warming of the south-west Pacific Ocean has for increasing the intensity of storms in New Zealand. For example, storm events in Auckland and Cyclone Gabrielle in early 2023 led to extreme rainfalls, causing loss of life, injuries and widespread flooding and associated damage, including coastal erosion, landslips, and infrastructure destruction. The ensuing damage to physical assets is estimated at between NZD 9 and 14.5 billion (New Zealand Treasury, 2023). Global warming will also bring about slower changes including a rise in sea levels that will erode coastlines and damage coastal infrastructure. Higher temperatures on land and sea and changes in rainfall patterns will also affect where and what can be grown in New Zealand and the timing of planting and harvesting (MFE, 2022).

Figure 5.1. Climate change is expected to bring more extreme weather to New Zealand

A. Change in number of summer hot days, 1995-2090 B. Change in number of annual wet days (25mm), 1995-2090



Source: National Institute of Water and Atmospheric Research.

As well as adapting to climate change New Zealand will need to accelerate its efforts to meet its emissions reductions targets. This challenge is defined by the unusual structure of New Zealand's emissions profile

of which, based on the Ministry of the Environment's national inventory submission to the United Nations Framework Convention on Climate Change (UNFCCC) in 2023, 48% (aggregated using the conventional 100-year Global Warming Potential metric, GWP-100) is from agriculture, of which 77% from biogenic methane. Afforestation provides a significant but complex to manage carbon removal opportunity to help reduce net emissions. New Zealand's emissions decoupled from GDP in 1993 and forest removals are a large part of the emissions reduction plan but there is room to improve the way forest removals are used and efforts to reduce gross emissions in all sectors will be needed.

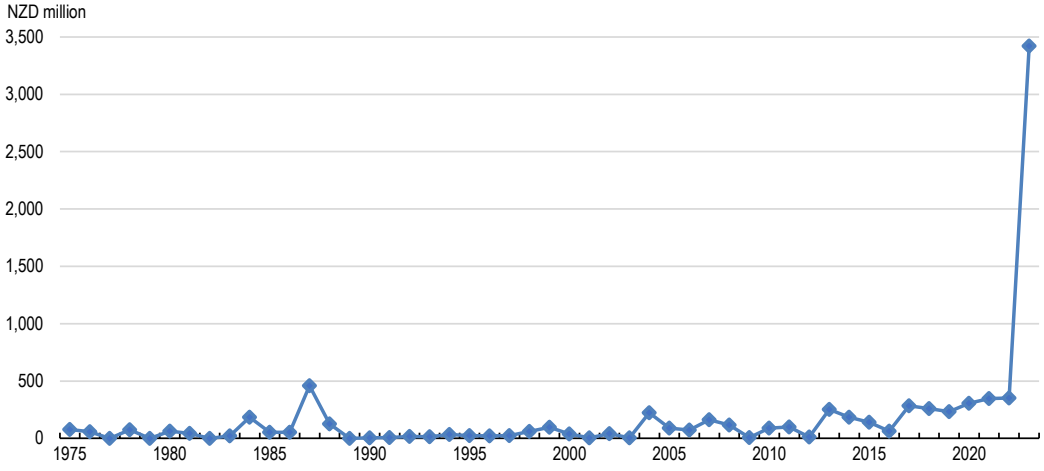
This chapter discusses the two facets of the battle against climate change. Section 5.2 introduces the policy issues that adaptation to climate change raises for urban New Zealand including in policy coherency, insurance, land planning and the electricity system. Section 5.3 describes the unique structure of New Zealand's emissions and the associated challenges, as well as the reduction efforts to date. It discusses how to improve its policy framework including in the pricing of emissions and in particular the treatment of forest removals but also regulatory and other instruments for reducing emissions.

5.2. Adapting to climate change

Climate-related hazard damage represents a large and growing contingent liability for the government, as the storm and cyclone that hit New Zealand in early 2023 have shown (Figure 5.2). The ensuing losses are being partly covered by private insurance and the public Earthquake Commission (EQC) – to be renamed the Natural Hazard's Commission from 1 July 2024 - that covers earthquake-related losses and some types of damage to land. However, the central government is acting as the insurer of last resort via the tax and welfare system and ad hoc disaster recovery funds. If only because the State owns the infrastructure that is often damaged in such events, there will always be some component of government funded disaster relief but the growing losses of life and property from climate-related hazards call for a comprehensive policy toolkit to mitigate damage and spread its costs more widely.

Figure 5.2. The North Island weather events in 2023 were costly[1]

Private insurance covered losses due to weather events



1. 2022 prices, calculated using CPI.
Source: Insurance Council of New Zealand and OECD calculations.

StatLink https://stat.link/3dev7c

Aside from high cost, relying on ad-hoc disaster relief often involves long delays while solutions are devised and implemented, with a risk of variable treatment of those affected. A more comprehensive and systematic approach will require acting on many policy fronts to influence firm and household behaviour so that people, businesses, buildings, and infrastructure are less exposed and less vulnerable, and more capable of

adapting to hotter weather and extreme weather events. This would reduce losses and ensure a faster and more consistent response. The need for coordination, the wide number of policy levers and the economic and social importance of improving New Zealand's resilience suggest the process should be a cooperative effort of central and local government and Māori leaders. Central government has much of the policy, scientific and technical expertise for fostering adaptation. Local government and Māori hold much of the local knowledge of risks, many of the implementation levers for improving resilience and are on the frontline in the case of a disaster. This section introduces the overall adaptation policy framework and three of these levers: insurance, land-use planning and the electricity system for adaptation in urban areas but adaptation touches nearly every aspect of policy and society including beyond the urban boundary. New Zealand also faces a significant challenge to adapt its large agriculture, forestry and fisheries sectors to both more extreme weather and higher temperatures.

5.2.1. An enhanced policy and implementation framework for adaptation

New Zealand's first-ever national adaptation plan was introduced in 2022 (MFE, 2022). This is much later than in many other OECD countries. This plan has some strong features, in line with advice from the Parliamentary Commissioner for the Environment (PCE, 2018), including a priority on enabling better risk-informed decisions, a cross-central-government-agency coordination body and implementation reporting.

To ensure the plan achieves adaptation in the most cost-efficient way, effective reporting on the implementation and evaluation of the plan's measures is key (OECD, 2015; PCE, 2018). Encouragingly, under the Climate Change Response Act, there will be bi-annual reports to the Climate Change Minister by the Climate Change Commission. Only around 40% of countries report on their strategies and of those only 20% of these reports, mainly in Europe, include monitoring and evaluations (Leitner, 2021). New Zealand's plan does not specify quantitative metrics for evaluating its goals so the evaluation process will need to do this as quantitative metrics are the best way to identify cost-efficient measures. Recent evaluation reports, including from Finland, Germany and the United Kingdom (Government of Finland, 2021, Kind et al. 2019 and Committee on Climate Change, 2021) may all help inform New Zealand evaluations and illustrate the implementation and evaluation challenges associated with such strategies.

Adaptation will require infrastructure investments. Although these are estimated to be only a small fraction of New Zealand's total infrastructure needs to accommodate population and economic growth, they should like all investments be based on value-for-money analysis and considered against non-built solutions like changes in land-use planning (New Zealand Infrastructure Commission, 2022). Indeed, using public investment projects to meet the plan's objectives should be based on joint central and local government efforts to ensure best practice (OECD, 2023e), with a quantified cost-benefit analysis in terms of the reduction in the expected loss (probability of event multiplied by the damage). The Netherlands is a leading example, with a long history of using extreme loss calculation and other statistical methods for this type of analysis, which are today part of the Dutch Flood Protection Programme (DFPP), an institutional and methodological approach to reducing vulnerability to flooding (Jorissen et al., 2016). Since massive floods that breached sea dikes in 1953, the Netherlands has taken an evidence-based and coordinated national and local authority approach to dike building to reduce flooding risks designed to minimise the cost per kilometre of dike nationwide. Today's DFFP also has a strategy to spread best practice and innovation among local authorities in flood protection projects, which appears to improve knowledge uptake (Tromp, 2022).

To implement this type of quantified approach, government in New Zealand at both central and local level will need a lot more information about risks and possible damage than it currently possesses. Information and risk modelling capability is highly variable across different local government areas and there will need to be an increase in best practice sharing between local governments and analytical support from central to local government.

Planning, investment decisions and accurate insurance pricing by EQC and private insurers requires widely available detailed information about the risk of climate-related hazards. Regular updates of climate

projections are a critical action of the National Adaptation Plan so funding for these activities should allow the relevant agencies to be at the global scientific frontier of weather and climate projection science. This could include the greater use of big data and machine learning for predicting extreme weather events (Lam et al., 2023) – forewarning is essential to reducing damage and especially loss of life - and for longer-term climate change modelling (Mansfield et al., 2020; Kaltenborn et al., 2022). In line with Action 3.6 of the Adaptation plan, the government could also introduce mandatory sharing of climate-risk related hazards information between local and central government and private insurers so all key actors have access to the same information. The deep knowledge Māori have of the environment of their local area is a further important source of information about local hazards and should be integrated into government decision making.

5.2.2. Insurance in a hotter world with more extreme weather

Risk assessment capacity and risk management expertise of the insurance sector can be shared with the government to support risk reduction and adaptation decisions by households, businesses and governments (OECD, 2023a). The private insurance industry and the Earthquake Commission (EQC) have up-to-date and detailed information and capacity to model how, where, and how much vulnerability to climate-change related risks are changing and will change in the future. For example, EQC has already used its claims data to show that its weather-related payouts are mainly in the northern regions of the North and South Islands and the average property making a claim is twice as close to the coast as the national average (EQC, 2018). Advances in probabilistic hazard modelling and the availability of other newer flood risk models (Kumar et al. 2023) will enhance this capacity further. Building on recent cooperation between the government and firms in the insurance industry on claims data in the context of the early-2023 weather events, the Commerce Commission should continue to facilitate competition-law-compliant cooperation between insurance firms and EQC to allow the construction of a national, regularly updated, confidential and anonymised individual claims database. Funding should be allocated to maintain and update this database regularly. This would help evaluate whether the plan is reducing vulnerability and help Ministers allocate funds to the actions with the largest impact. It could also be used by local councils to inform consenting decisions.

Household and firm decisions affecting their vulnerability to climate change-related hazards are influenced by the availability and price of insurance. Insurance premia should as accurately as possible reflect climate-related hazard risk to help them make better investment decisions. Insurance for loss or damage from climate-related hazards is provided by both private insurance and EQC but it is not compulsory to take out insurance. Up to a limit, EQC covers loss or damage arising from earthquakes, storms and related flooding and natural landslips damage to land. All homes covered by private insurance against fire are automatically covered by EQC. A flat rate premium is charged by EQC and collected by the private insurer. A flat rate was chosen to encourage the take-up of insurance and because of the extremely high unpredictability of where an earthquake may strike, with a large share of New Zealand exposed to earthquake risk making it difficult to fully price this risk by locality. Overall private flood insurance is easily available in New Zealand, well priced and offered as part of the standard “all risks” insurance offering (New Zealand Treasury, 2020). Although not compulsory, around 96% of homes have all risks insurance against fire, flood and storm damage (Insurance Council of New Zealand, 2022).

However, climate change combined with better hazard information may eventually create affordability and coverage challenges (New Zealand Treasury, 2021). Indeed, private insurers have started to introduce differential pricing for flood risk. This will not negatively affect most homeowners as around 90% of homes in New Zealand do not currently face flood risk and their premiums could even fall. However, EQC modelling with the Aon flood risk model, shows around 5% of homes are in areas where the risk-based pricing would imply an annual premium of 1% or more of the insured value (New Zealand Treasury, 2021). Given the high house-price-to-income ratio in New Zealand, this would impose a serous affordability challenge for many of those households. Climate hazard damage insurance may ultimately be offered only,

if at all, at a high premium in areas heavily exposed to extreme climate events, resulting in rising under- or non-insurance as has been observed in northern Australia (OECD, 2023). Properties at risk of sea-level rise or floodplain flooding may eventually become uninsurable privately especially where even the best forward-looking risk models cannot calculate the probability of loss due to the highly unpredictable nature of climate change risk (NZPC, 2019).

One option is to retreat altogether from uninsurable areas but in some cases, the government may judge that this is not in New Zealand's national interest or that the national social benefit of staying outweighs the costs. This could be especially the case if there are local activities that benefit a much wider part of the economy or society. Even if it is decided to retreat, it may be necessary to ensure that existing property owners, who did not always have accurate information about climate-related risks before they invested, have affordable insurance in the meantime. It is also important that insurance policy reforms to improve coverage should ensure the incentive for government and homeowners to invest to increase resilience remains. The government should continue to investigate options for insurance and other measures against climate disasters, considering the balance of public and private, optional and mandatory insurance coverage, the nature of risks and household disadvantage as well as interaction with other policy levers (Box 5.1).

Box 5.1. international insights into improving insurance coverage and affordability in a hotter world

Insurance sector policies and insurance coverage differ substantially across countries. It is estimated that in 2022 the insurance market penetration against river flooding was 5% in Austria, 40% in Germany and 100% in France and Switzerland, where coverage is compulsory (Insurance Europe, 2022). The low take up of flood insurance in Austria may reflect a belief that government will step in to compensate in the event of flood damage (OECD, 2024).

Mandatory and comprehensive private flood insurance can improve accessibility and affordability of insurance contracts (European Commission, 2017). In France private insurers must include insurance against flood risk in property insurance policies. Insurers in turn benefit from government-backed reinsurance mechanisms against damages from extreme events. Nevertheless, mandatory insurance systems can imply substantial cross-subsidisation, whereby households living in less exposed areas subsidise households in more exposed areas.

The United Kingdom's Flood Re is a cross-subsidised insurance scheme that promotes the affordability and availability of flood insurance for around 2% of homes with the highest risk of flood. The scheme mitigates the perverse incentive it creates for development in flood-prone areas by only being available to homes built before 2009. New homes face full market pricing. Flood Re is planned to end by 2039 creating an incentive for continued investment in flood risk reduction by local governments and individuals for homes built before 2009. However, this depends on whether local governments and households believe the scheme is temporary (New Zealand Treasury, 2021).

Alternative policies include the implementation of specific adaptation actions to qualify for national insurance or reinsurance schemes. In the United States coverage by the National Flood Insurance Program is only provided to communities which have set flood management conditions such as building and floodplain management standards (OECD, 2016a).

Source: Adapted from Gamper et al. (2024), Accelerating Climate Adaptation: Towards a Framework for Assessing and Addressing Adaptation Needs and Priorities, *OECD Economics Department Working Papers*, forthcoming

5.2.3. Land-use planning and infrastructure

Efficient land-use planning can help mitigate the insurance losses problem. Land-use planning policies should be informed by updated natural hazard data and information. Land use, including the type of

structures built on it, is a major factor in the vulnerability of the economy and people to climate-related hazards. Land-use planning can limit development in hazard-prone areas and mandate risk prevention measures for new and existing construction. The planning system in New Zealand is underpinned by four key pieces of legislation: the Resource Management Act (RMA) 1991, which has been the main planning framework law, the Local Government Act 2002, the Land Transport Management Act 2003, and the Building Act 2004. Māori customary rights, values and interests are widely reflected in this legislation and an important cross-system consideration.

Strong population growth has put the planning system under pressure. Over the past decade, New Zealand's population has grown by close to 18%. Around 80% of this was in the regions with major urban areas, putting the urban planning system under significant pressure. The system has not delivered the core objective of a sustainable management of resources required by the RMA. Based on price- and rent-to-income ratios, housing is some of the most unaffordable in the OECD (OECD, 2023d), the share of green space in urban areas is declining (PCE, 2023) and the environment has deteriorated, notably freshwater quality (OECD, 2017). Climate change adaptation requirements are adding to population pressure on the system by adding constraints on where building can take place and raising infrastructure needs, including better flood protection, larger storm water systems and more public green space.

The planning system has struggled to cope with the combined demands of population growth and adaptation due to the absence of a national spatial plan (up until 2020) and of insufficient use of sub-national spatial planning (Auckland is one of several exceptions), broad public appeal rights over local government plans by international standards, a lack of clarity about and extensive litigation over the meaning of core concepts of the RMA such as "environment" and "sustainable management", and finally an overreliance on regulation rather than price signals. Frustration and problems with the system have led to many amendments to the RMA, increasing its complexity and reducing coherence (NZPC, 2017). In addition, like the education system, the planning system is very devolved to sub-national actors, putting pressure on local implementation capability, which is highly variable.

In an attempt to address these problems, the previous government proposed three new pieces of legislation to replace the RMA, two of which were passed, the Spatial Planning Act and The Natural and Built Environment Act. They extended spatial planning nationwide and modified governance arrangements, with a smaller role for councils and a greater role for unelected regional planning committees. This new legislation has been criticized for lessening democratic accountability, for increasing complexity and for inviting litigation over new terminology. The new government has repealed both statutes. Given the widespread agreement that the planning system has not been working and that climate change will make the price of failure even higher, some reforms will still be required.

The new government having repealed the previous government's new planning statutes intends instead to carry out reforms to the existing statute, the RMA. Whatever the final form of these reforms, international experience and best practice, efficiency and the demands of adaptation suggest that they should contain some key elements: democratic accountability (i.e. publicly-elected councils should be the main planning actor); coordinated spatial planning at the national and local level; national direction on the broad parameters of spatial planning, including tolerance limits for the risk of loss of life and property; only one layer of public hearings on spatial plans, with further appeals limited to points of law; and more balanced and a wider range of revenue tools for councils, including user charges and better land value capture; a more data-driven approach to planning; and more central government data collection, analysis and modelling support to local governments. Indeed, a significant barrier to better environmental regulation is a lack of information about what is happening in the environment and how much pollution and damage is occurring to inform that regulation (PCE, 2023a). While the complexity of the amended RMA suggests new statutes may be necessary, retaining core concepts, where they have settled meanings in case law or defining these terms more precisely in new legislation should be retained as far as possible to avoid overburdening the court system with decades of renewed litigation over the meanings of new terms.

Given that better infrastructure is part of the solution to adaptation, one of the most important problems with the planning system from a climate change adaptation perspective is that councils have faced difficulties recovering the full costs of infrastructure from those creating the demand. This has led many councils to ration the supply of new infrastructure, contributing to scarcity of land and housing resulting in higher prices (NZPC, 2017).

A more extensive revenue toolkit is required to better recover the cost of growth and climate change adaptation infrastructure without overburdening current residents, who experience shows will successfully oppose further levies on them to fund growth. Councils should make greater use of user charges and special higher rates for owners of properties in new developments to cover the cost of the infrastructure and other public amenities they enjoy there. Property owners would eventually benefit from better amenities directly. They should also benefit in theory from lower insurance premiums against climate-change hazards due to lower risks from higher-quality infrastructure and environmental amenities such as green spaces. As is often the case internationally, councils do impose developer charges, either in land or cash to recover the costs of infrastructure, roads, drainage etc as well as to provide parks and other public amenities. However, they often do not seem to have charged enough to provide, for example, green spaces in the same quantity and quality as established parts of towns and cities, making them less adapted to climate change than established areas (PCE, 2023). It may be necessary to level the negotiating playfield between local government and developers by imposing some mandatory national rules on minimum developer contributions. This could be accompanied by requirements to employ water-sensitive design techniques (OECD, 2016).

An underexploited form of revenue pertains to the gap in value of land on the fringe of a residential area and the land just inside the boundary as well as the gap between land zoned as low and high density within the city boundaries. If the rural land is rezoned to residential, or land within the urban boundary is rezoned for higher density housing, it conveys a profit on the landowner. The gap at the urban fringe has grown substantially, signalling a lack of space or reluctance to build out or up (e.g., due to urban limits, density, and height restrictions or other factors) and has contributed to rising house prices. On the Auckland urban fringe, the difference has risen from NZD 200 to 1300 per square metre between 2010/11 and 2020/21 (New Zealand Infrastructure Commission, 2023).

To capture some of this value the central government should mandate that councils charge and collect an event-based (i.e., rezoning) incremental land-value tax on the owners of land on the city fringe that is rezoned or land that is rezoned to higher density or value activities within the urban boundary. This could take the form of a tax charged on the value increase of rezoned land when the landowner sells for development, combined with a recurrent incremental land value tax from the time of rezoning, with a higher net present value than the lump-sum tax rate. The primary purpose of this tax would be to raise revenue in an efficient and fair way, but this structure may also encourage landowners to sell rather than bank the land and speculate on further land price increases.

The use of strategic land management – buying land financed by debt before it is rezoned to capture more of the value is an additional tool for land value capture on the city fringes (OECD, 2022d). This has been used for example in high-growth cities in the Netherlands. More land value capture and flexibility to improve adaptation within existing urban boundaries could be achieved through greater use of land readjustment or pooling, which is widely used in Japan. This involves buying up contiguous plots of private land combined with regulation changes (e.g., in density limits) so that the redeveloped combined parcel, with for example better infrastructure and amenities that make it less vulnerable to climate change, is more valuable.

Spatial planning – deciding where and what firms and people are allowed to do in a certain land area – will also be key to climate change adaptation. The central government needs to provide direction and national spatial guidelines because it is exposed to the consequences of climate hazards as the social insurer of final resort, and because there are decisions, e.g., setting limits on permitted life and property loss risk as

part of climate change adaptation, that require national democratic accountability and should reflect the majority preference of all New Zealanders. To be effective and ensure coherency, spatial planning needs to be coordinated between central and local government. Austria is one of the few countries that has a formal coordination mechanism, the Austrian Conference on Spatial Planning, supported by a secretariat and chaired by the Federal Chancellor. Its members include all federal ministers and representatives of associations of local governments (OECD, 2021). One of the central tasks of the organisation is the preparation of the Austrian Spatial Development Concept, which covers a period of 10 years and provides guidelines for national spatial development that is shared by all levels of government. It has also developed an online tool that provides important indicators at the municipal and regional level.

The high autonomy over planning of elected local governments has the large advantages of democratic accountability and in-depth local knowledge of the area. These advantages should not be lost through over-centralisation. However, like the education sector (see chapter 4), this autonomous model needs better implementation support from the central government, and greater analytical capacity at the local level especially as the challenges of climate change hazards grow (OECD, 2023e). To ensure all local governments can take a more technically-driven approach to consenting and planning that incorporates the latest information on climate-related risks, consideration should be given to requiring more cooperation between regional councils, larger councils and smaller rural neighbours, especially where they share an environmentally interdependent area. To ensure greater coherency across functionally similar areas, some compulsory cooperation amongst urban councils and with the regional council may also be warranted, for instance in the greater Wellington region, which has a population of around 420000 and four urban councils, whereas Auckland with a population of over 1.7 million has only one. A complementary and cost-effective measure to foster cooperation at local government level would be for central government to take responsibility for environmental data and monitoring and modelling (PCE, 2022a).

5.2.4. Towards a low emission and secure electricity supply

New Zealand's electricity system is an important source of vulnerability to extreme weather. Hydroelectricity supplies around 60% of New Zealand's electricity demand and is geographically concentrated. This is a boon for keeping energy-related emissions low but makes the country's electricity supply vulnerable to the "dry-year problem".

As electricity imports are not possible, and with growing electricity demand due to electrification of transport, increased security will need to be attained through other methods including: diversifying supply through building other types of low-emission generation, such as wind and geothermal; increasing storage of electricity to meet peak demand under unfavourable weather conditions; and reducing demand, e.g., by increasing energy efficiency or even periodically switching off certain types of energy-intensive production. Investments in storage are increasing and New Zealand's first utility scale battery energy storage system (BESS) was commissioned in December 2023 (Transpower, 2023; Electricity Authority, 2024). Multiple BESS projects are under construction sometimes in conjunction with renewable generation projects. This has the security advantage of diversifying risk as well as potentially lower transmission losses than a very large-scale single storage facility.

New generation capacity will also require more investment in the transmission grid. Transpower, the system operator and grid owner on behalf of the government, has a systematic, forward-looking, cost-benefit driven approach to investment plans, which are submitted to the Commerce Commission for approval. These include investments to enhance the security of supply including augmenting the critical high-voltage direct current link between the South Island and the North Island. However, the government needs to develop an overall strategy for the energy system, based on cost-benefit comparisons of different options to reduce emissions, while securing supply, using a similar methodology. The absence of a clear strategy leaves large investment decisions open to improvisation, which is in turn vulnerable to the short political cycle. This increases uncertainty for private investors about their most profitable option, thereby

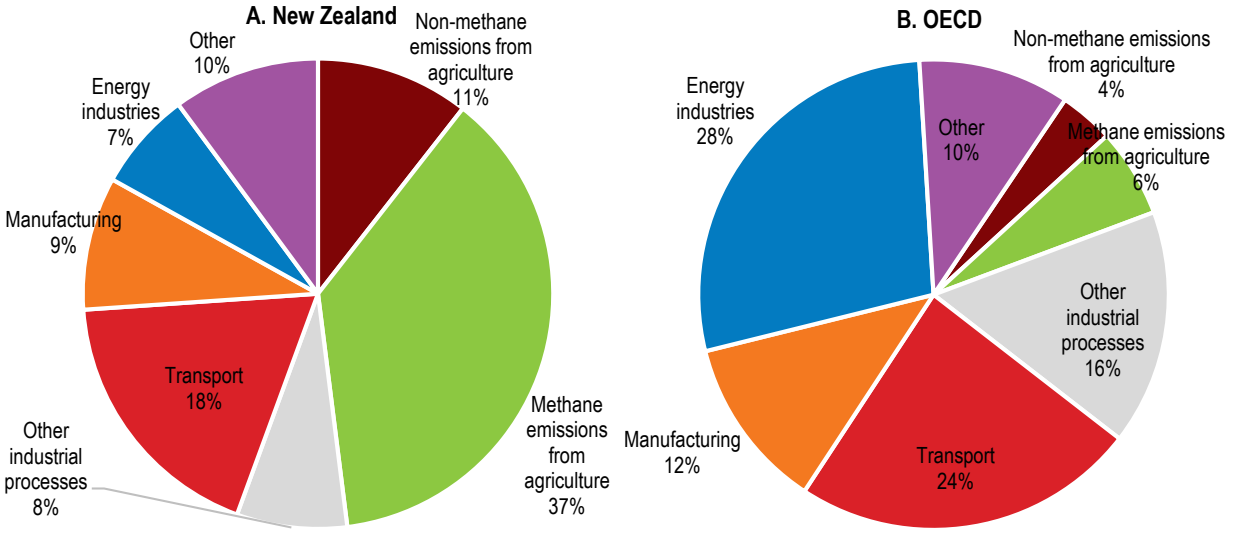
delaying investments that reduce emissions and improve adaptation, for example through building new renewable electricity generation or storage.

5.3. Accelerating efforts to reduce GHG emissions

New Zealand's emissions reduction challenge is defined by their unusual structure. Agriculture accounts for 48% of New Zealand's emissions, with 77% in the form of biogenic (i.e., emitted by animals) methane, CH_4, which is much higher than the OECD average (Figure 5.3). Around 18% of gross emissions are contributed by transport, 9% by manufacturing and 8% by other industrial processes. Only 7% comes from electricity and other energy generation, which is much lower than in the rest of the OECD.

Figure 5.3. The agricultural sector accounts for a large share of GHG emissions in New Zealand

2019



Source: OECD Calculations and OECD Greenhouse gas emissions and Agri-Environmental Database.

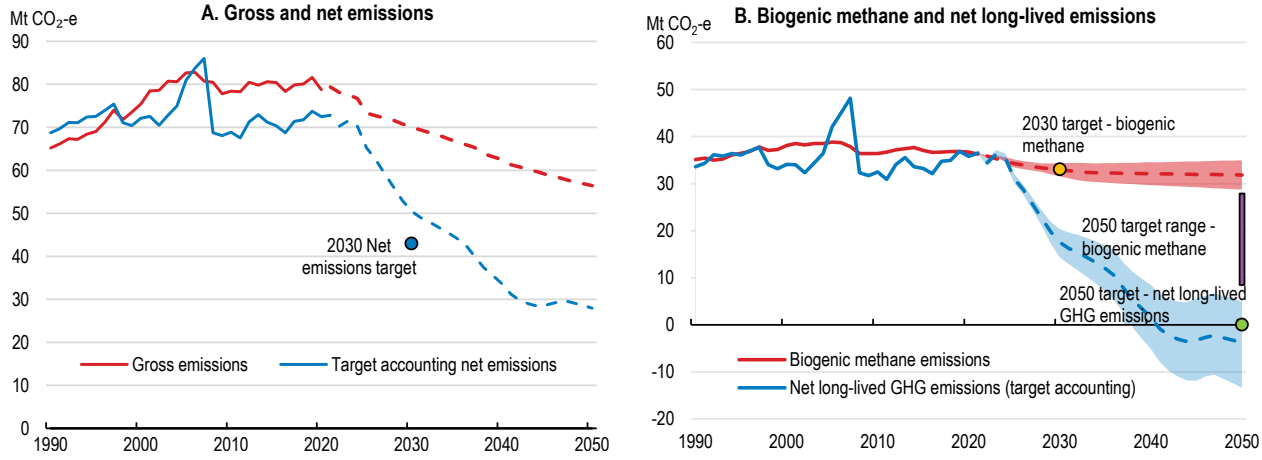
StatLink https://stat.link/e3rzmh

New Zealand's near-term international target is a reduction of target accounting net emissions to 50% below gross 2005 levels by 2030. This is a reduction in AR5 target accounting net emissions to 43 million tonnes of CO_2 equivalent as calculated by the Ministry of the Environment for the National Defined Contribution (Ministry of the Environment, 2023a). This is a reduction of 30 million tonnes between 2021 and 2030. The Ministry for the Environment's November 2023 GWP-100, AR5 projections for emissions from 2022 onwards show New Zealand would not meet this ambitious 2030 target domestically (Figure 5.4); requiring it to meet its obligation internationally. New Zealand has the following dual domestic emission targets enshrined in legislation: to achieve national net zero GHG emissions (excluding biogenic methane) by 2050; and to reduce biogenic methane emissions by 10% by 2030 and by 24 to 47% by 2050 relative to the 2017 levels. Comparing the Ministry of the Environment's projections for biogenic methane with the targets implies that New Zealand is on track to meet the 2030 target for biogenic methane and the 2050 target for net long-lived emissions but not the 2050 target for biogenic methane. These projections assume forest removals play a large role in meeting net emission reduction targets as evidenced by the large gap between net and gross emissions.

This dual target approach is appropriate as biogenic methane has a far more powerful heating effect but also is a shorter-lived gas than CO_2. When a pulse of methane is emitted, around two-thirds is removed from the atmosphere after 12 years (PCE, 2018a), unlike CO_2, which stays in the atmosphere for millennia.

Modelling shows New Zealand will need to reduce biogenic methane emissions by around 10-22% below 2016 levels by 2050 to ensure no additional warming relative to warming caused by methane emissions to date (PCE, 2022). By contrast, CO_2 needs to be reduced to net zero emissions to prevent additional warming as it is far longer-lived. The dual target makes the temperature outcomes of New Zealand's emissions reduction targets clearer and helps avoid unintended outcomes that could occur from trade-offs between those gases under an all-gases target. Reducing methane has important benefits for the climate but it is not a substitute to reducing emissions of long-lived gases like CO_2 to net zero. Otherwise, the cumulative warming from long-lived gases will eventually outweigh any benefit from methane reductions (Reisinger, 2019). As discussed below these physical properties also have important implications for forest removals making it less clear why there should be a gross emissions target for biogenic methane and a net target for other GHG emissions.

Figure 5.4. Net emissions are expected to decline more than gross emissions



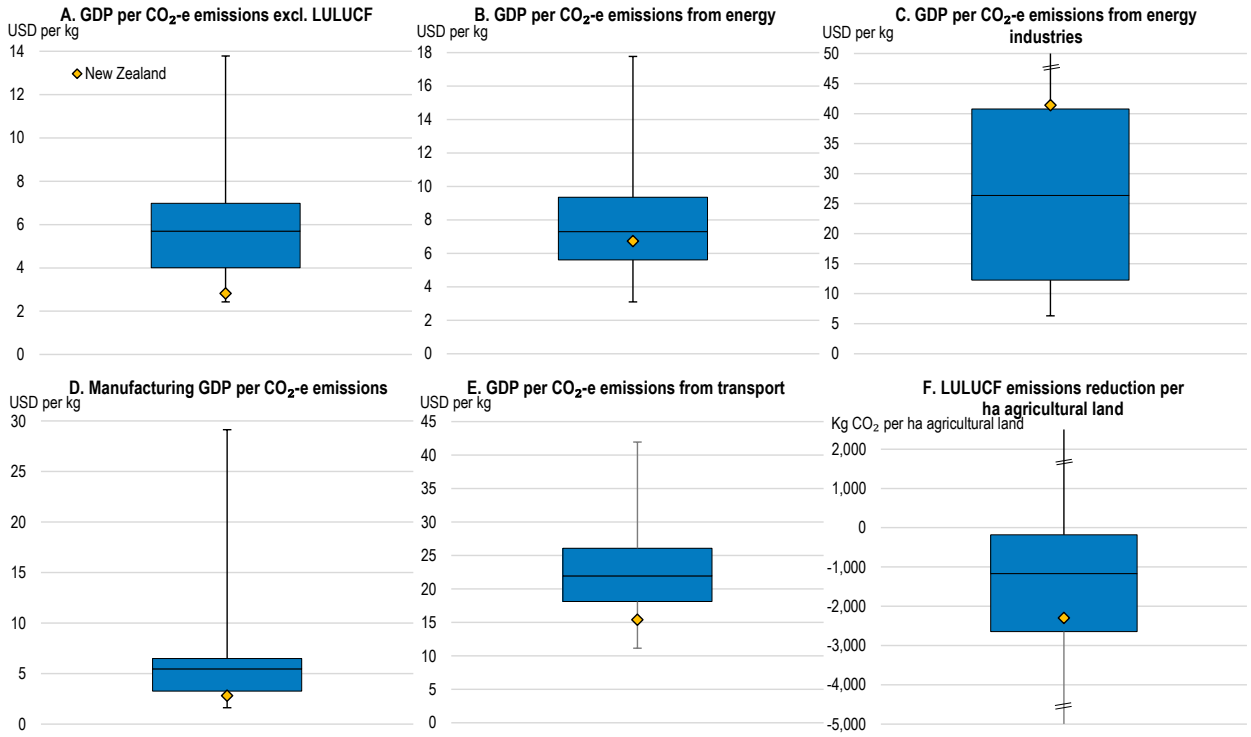
Note: Panel A shows historic total GHG emissions data extended by Ministry of Environment projections (AR5 November 2023). The series are calculated using GWP-100 (Global Warming Potentials over 100 years), the international standard that converts all GHG gases into CO_2 equivalents using fixed coefficients. The 2030 target (New Zealand's first nationally determined contribution under the Paris Agreement) and the 2050 target are defined in terms of net accounting emissions, which exclude offshore mitigation. The target range for 2050 shown by a vertical bar is that implied by the official target and using the GWP-100 method. Net long-lived emissions are total net emissions minus methane (CH4) emissions of the agriculture and waste sectors. The boundaries of the shaded areas represent the low and high emissions projection scenarios.
Source: Ministry for the Environment; OECD calculations.

StatLink https://stat.link/ua7ho4

Calculations suggest GHG emissions decoupled from GDP from 1993, with emissions per unit of GDP falling at an annual average rate of 1.9% since then, lower than the OECD median of 2.3%. A top priority of the first emissions reduction plan is appropriately increasing GHG efficiency in all sectors, i.e., output per kg of CO_2 equivalent. As discussed below, New Zealand has one of the most GHG efficient agricultural sectors in the world but agricultural emissions and particularly methane is a far more important source of emissions than in most countries. Reducing it should be a priority and further increasing GHG efficiency (i.e., output per kg of GHG) could make a valuable contribution to reduced warming potential provided the efficiency gains were not eaten up in increased livestock numbers.

In manufacturing and transport, New Zealand's efficiency is considerably below the OECD frontier (Figure 5.5), and despite improvement building energy efficiency standards for buildings are laxer than in other countries suggesting that adoption of more modern technology and policies can have a high payoff in these sectors. By contrast, because of the already high share of low emissions electricity generation (over 80% is renewable of which two thirds is hydro and one quarter geothermal), efficiency in energy industries is already in the upper quartile of the OECD. The contribution of forestry to reducing the net warming effect of agriculture in terms of CO_2 removals per hectare of land is also large.

Figure 5.5. There is large potential to improve GHG efficiency especially in transport



Note: The box shows the second and third quartile, the horizontal line indicates the median and the whiskers show minimum and maximum values.

Source: OECD, Air and climate (database) and OECD, National Accounts (database).

StatLink https://stat.link/bzcohw

5.3.1. Policy priorities for emissions reduction

New Zealand has developed a sophisticated policy framework for reducing GHG emissions. There is a detailed emissions reduction plan informed by advice from the Climate Change Commission and a range of policy instruments for reducing emissions. A cornerstone of pricing tools is the New Zealand Emissions Trading Scheme (ETS) that establishes a price on virtually all emissions except agriculture. Taxation (e.g., fuel excise taxes), subsidies (e.g., for retrofitting buildings) and regulatory tools (e.g., fuel and insulation standards) are all used. A government-industry partnership, He Waka Eke Noa, to measure, manage and reduce agricultural GHG emissions was established in 2019.

However, the choice of instruments is not always based on a comprehensive cost-benefit analysis and is sometimes ad hoc. The strategy for reducing transport emissions focused on policy instruments that reduce CO_2 such as electric vehicle subsidies, which are generally amongst the most expensive options for reducing CO_2 (Gillingham and Stock, 2023). At the same time there was insufficient complementary investment in public charging stations leading to the highest ratio of electric vehicles to public charging stations in the OECD, notwithstanding statistical comparability limitations There has also been very little use by international comparison of biofuels for heavy vehicles (IEA, 2023a), which are still expensive but less so than electric vehicle subsidies per kg of CO_2 equivalent reduced (OECD, 2023b) and could play a transition role. There is also a need as discussed below to revisit the role forest removals should play in reducing net emissions.

5.3.2. Improving the emissions reduction plan

By law the government must produce emissions reduction plans regularly taking into consideration (but not bound by) the Climate Change Commission's advice. Each plan is associated with keeping emissions within a specific emissions budget, which sets the total emissions allowed within a set period of years. The first reduction plan to meet New Zealand's first emissions budget (for the period 2022-2025) was released in May 2022 and the next plan focussed on achieving the 2nd emissions budget (for the period 2026-2030) is due by December 2024.While the first plan complied with the legislation, the process for developing plans could be improved. The first one failed to adopt a comprehensive approach taking account of economic, environmental and social impacts and systematically considering key trade-offs and questions, as well as alternative emissions pathways. This reduced its coherency (PCE, 2023).

In addition, international experience indicates some of the plan's policy goals, such as electrification of heavy vehicles, are unattainable in a small country like New Zealand until the technology matures in large markets (OECD, 2023b). The plan to substantially increase renewable electricity generation will also be much harder to achieve pending a definitive decision on whether to close the Tiwai Point aluminium smelter, which consumes 13% of New Zealand's electricity production at prices well below the market price. The ensuing uncertainty for potential investors in renewables electricity generation about future electricity demand makes them hesitant to invest (IEA, 2023a). This is in turn undermining one of the key pillars of emissions reduction, namely greater electrification of the transport and industrial sectors.

New Zealand's emissions reduction process needs a more systematic approach that compares as much as possible the costs and benefits of different emission reductions pathways using comparable methodologies (PCE, 2023). A more systematic approach to emissions reduction requires the development of a long-term energy strategy, which New Zealand lacks (IEA, 2023a). One is planned for completion by the end of 2024. The energy strategy should be made fully coherent with the second emissions reduction plan, as well as ensuring the long-term economic and social cost per kg of reducing energy-related GHG emissions is as low as possible.

Table 5.1. Past OECD recommendations on reducing GHG emissions and actions taken

Recommendations in past Surveys (key ones in bold)	Actions taken since the previous *Survey*
Increase the emissions price to a level consistent with New Zealand's intended transition to a low emissions economy.	The supply of permits at auctions is being reduced and the price of permits in the NZ ETS has increased from around NZD 50 in 2022 to around 70 per tonne at the end of 2023, close to the minimum auction price of NZD 72 for 2026 recommended by the Climate Change Commission.
Announce a date for inclusion of biological emissions in the NZ ETS or alternative pricing and regulatory measures to reduce them.	The new government has indicated it will give farmers the tools they need to measure on-farm agricultural emissions and recognise on-farm sequestration by 2025, and that a pricing mechanism for on-farm agricultural emissions will be implemented by 2030 at the latest.
Complement rising carbon prices from progressively tightening the supply of emissions permits with targeted measures that address market failures not corrected by carbon pricing alone.	Clean car discount introduced in 2021 with a subsidy for electric vehicles and fees for higher emission vehicles was repealed in December 2023.
Support research in new mitigation technologies, especially for farming.	A Centre for Climate Action on Agricultural Emissions has been established to accelerate research, development and commercialisation of new technologies for reducing agricultural emissions. The centre has two components: a research accelerator (the New Zealand Agricultural Greenhouse Gas Research Centre) and a commercial accelerator (AgriZero, a joint 50/50 government agribusiness investment fund).
Introduce an excise duty on diesel and ensure that petrol and diesel tax/charge rates consider the environmental costs of transport. Introduce fuel efficiency and air emission standards for new and imported used vehicles.	The new government has announced it wants to replace fuel excise charges with electronic road user charges for all vehicles starting with electric vehicles and to work with Auckland Council to implement time-of-use road charging.

5.3.3. The role of forest removals in the NZ ETS needs to be revisited

New Zealand's most important GHG emissions reduction policy instrument is the New Zealand Emissions Trading scheme (NZ ETS), introduced in 2008 and covering 96% of non-agricultural emissions (OECD, 2022a). Reforms legislated in the New Zealand Climate Change Response (Emissions Trading Reform) Amendment Act 2020 moved the ETS to a cap-and-trade market. There are three main sources of supply of units: free allocations to emissions-intensive and trade-exposed (EITE) firms, government auctions and units supplied by the forestry sector. The government, although a key supplier of units via auctions, does not have full control of their supply as there is no limit on how many units forestry can supply. The overall limit on units, as set in regulation, in the NZ ETS is often referred to as its "cap". This limit covers units available by government auction (including through the Cost Containment Reserves), by other means including free allocations to Emissions Intensive Trade Exposed (EITE) firms, and approved overseas units (currently zero). This limit does not apply to units that can be earned by removals activity within the scheme, such as forestry. There are also a number of units within the scheme that pre-date the introduction of unit limits and contribute to what is referred to as the "stockpile". Legislation requires that the government in making decisions on unit and price control settings must be satisfied that these settings will ensure New Zealand will meet its emissions targets and budgets. The size of the stockpile and units earned by removals are taken into account in determining unit limits, but the limit does not apply to these categories. This is one of several complexities associated with the New Zealand scheme.

Increasing forest cover is an essential part of New Zealand's net emissions reduction strategy (Ministry for the Environment, 2022a). The Ministry of the Environment's net emissions projection assumes average forest planting of around 40000 hectares annually through to 2050, around the average of the 1980s and 1990s, a period of rapid afforestation. This target seems attainable as long as the ETS price remains high enough, as the key driver of afforestation appears to be the ETS price (MPI, 2021).

To help auction prices stay in line with what is anticipated to be needed to achieve emissions budgets, a price floor has been introduced, below which permits will not be auctioned. The 2020 reforms constrained the supply of units more, and their price rose considerably. The price rise appears to have induced a sharp rise in afforestation with 60000 hectares of new afforestation in 2022, far above plantings in the 2010s, and what is assumed in the government's emissions budget of 32000 hectares (Ministry for the Environment, 2022a). Forest removals are attractive as planting exotic Pinus radiata forests reduces CO_2 at a cost of NZD 25-50 NZD per tonne compared with around NZD 100 per tonne for many other emissions reductions options (NZCCC, 2023).

However, there are no limits on the quantity of afforestation units that may enter the ETS market, which is unique internationally (NZCCC, 2023). Relying so heavily on forest offsetting is risky. Gross GHG emissions, notably CO_2, linger in the atmosphere for hundreds to thousands of years. To be a full offset for these long-lived emissions, forests would need to remain in existence for equally as long, something no policy can be realistically expected to guarantee, especially in a warming world. If gross CO_2 emissions continue this would also require ever-increasing plantings and land-use change (PCE, 2022). It would also mean the inability to change this land to higher value uses than forests until a way is developed to transfer the carbon locked up in the trees underground or another more cost-effective carbon mitigation/sequestration alternative is found. The ETS also seems to carry a high risk of a boom-bust cycle, where the higher ETS price is boosting planting now, but the credits will not be earned for some years, at which point ETS supply will rise sharply pushing down prices and the incentive to plant as well as the incentive to reduce gross emissions. In addition, even if planting induced by the current ETS falls to that assumed by the emissions budget of 32000 hectares per annum, it will supply all the projected demand for units by the mid-2030s, at which point the ETS will no longer be effective in driving gross emissions reductions (NZCCC, 2023).

The ETS also does not appear to induce emissions removals from forestry in the most socially and environmentally efficient way. Forests are vulnerable to the risk of disease and fire, which will increase as

droughts frequency rises with climate change. The ETS mitigates the risk of fire and decay by requiring forests to be replanted or units to be surrendered but the ETS does not fully price this risk; all forests wherever they are planted receive the same number of units. Under the ETS forests earn credits according to how much carbon they are sequestering, which varies across forest types but the ETS does not distinguish between exotic and native forests in terms of risks and durability. Native forests grow more slowly but are potentially a much longer-lived store of carbon than Pinus radiata forests (PCE, 2022). Indeed, aside from their biodiversity benefits native forests are perhaps the only way to create a centuries long carbon sink and an important asset for New Zealand. Pinus radiata is usually harvested after 25 to 30 years but individual specimens have survived up to 150 years in botanic gardens in New Zealand (Woollons and Manley, 2012). New Zealand's native Kauri can grow to 50 metres in height and live for over 2000 years and many other native tree species live for many centuries. Rapid afforestation would also drive strong land-use change away from agriculture, with potential social and economic implications for rural communities, as forestry is for most of a forest's life less labour-intensive than agriculture, implying rural depopulation – particularly in the case of unharvested exotic forests grown for the primary purpose of earning carbon credits. This externality is not priced by the current ETS either.

The NZCCC recommended to prioritise gross reduction in the ETS and manage incentives for exotic forestry (NZCCC, 2023). In response, a consultation by the Ministry for the Environment (MfE, 2023) on the ETS suggested different options for reform including increasing demand for units. However, as the review notes, the effects of the proposed reforms are uncertain. The Parliamentary Commissioner for the Environment (PCE, 2022) has separately discussed issues related to the treatment of forest removals. The new government has announced it will not pursue ETS reforms further to increase certainty. However, without reforms, speculation about future policy is likely to continue, calling for the development of a specific set of policy proposals and implementing them building on the advice already received from these agencies.

One option to better incentivise gross emissions reductions of long-lived gases could be to remove forest removals entirely from the current ETS and confine issuing units for afforestation to a separate methane-based scheme discussed below. An intermediate option for example could be to use variable unit allocation accounting taking into account fire risk, social disruptions in rural communities and also the long-lived benefits of native forests. At present forest owners can choose to plant trees to earn credits but have no obligations to maintain the forest in a harvestable state. The policy framework for forest offsetting could be further improved by strengthening the forest management obligations on owners that receive ETS credits, as well as resourcing councils to improve enforcement of these obligations.

A possible approach to better match gross emissions with removals from afforestation could be to set a net biogenic methane target as well as the existing gross one and introduce a separate biogenic methane based ETS scheme that allows a limited amount of forest removals. Biogenic methane decays faster in the atmosphere than CO_2. Modelling using an alternative GWP* metric (Allen et al., 2018, 2022; Frame, 2018) rather than the international standard GWP-100 shows the timing of additional warming from an increase in methane emissions and that of additional cooling from carbon removals from exotic production forests are roughly matched, so that combining them can deliver a net zero temperature response. In addition, provided total methane emissions do not increase e.g., via an increase in animal numbers, there would be no need to continue expanding forest cover unlike when afforestation is used to offset CO_2 emissions (PCE, 2022). A further complementary policy option, provided the risk of loss to pest, disease and fire was priced in, would be to still allow native forests to earn credits in the general ETS given their much longer life more in tandem with long-lived gases.

There has also been significant price volatility, which can undermine the incentive to invest over the long run to reduce emissions. The ETS price peaked at the end of 2022 before falling sharply through to mid-2023 and then partially recovering as the market speculated on future government actions. The March, June, September and December 2023 permit auctions were all declined as the reserve price was not reached. Lower-than-expected ETS revenues have previously left a shortfall in government revenue and over time

these proceeds will decline. From late 2021 cash proceeds from the ETS were allocated to the Climate Emergency Response Fund (CERF), which funded mitigation and adaptation projects. In December 2023, the government reallocated the remaining funding in the CERF to support tax relief as part of its fiscal plan and agreed that future ETS proceeds should be used for this purpose. If the ETS achieves its aims, emissions and revenue will decline suggesting it should not be allocated to ongoing baseline spending or permanent tax cuts. Climate change mitigation and lump sum compensation for low-income households for loss of purchasing power due to higher ETS prices would seem to be a better match as the need for these will decline in tandem with emissions reductions and ETS revenue.

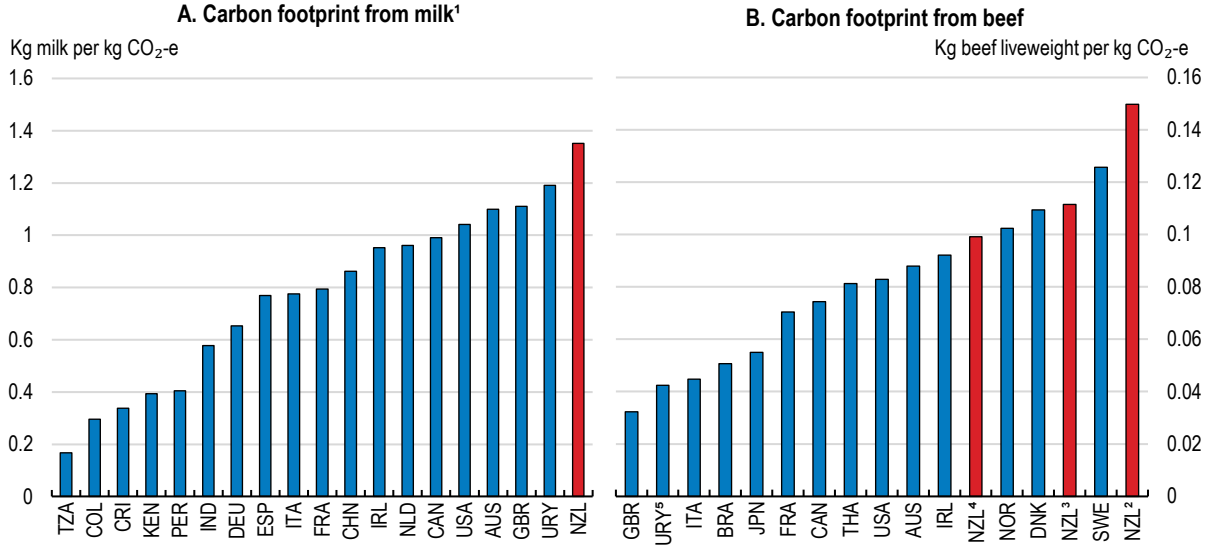
5.3.4. Reducing emissions in priority areas

New Zealand has made significant steps in improving the policy framework but gross emissions reductions are needed to meet targets. Significantly reducing emissions will require acting simultaneously in several key sectors including, agriculture, transport, manufacturing and buildings and further improving a wide variety of policy instruments from the ETS to taxation and standards.

Reducing emissions from agriculture

Agriculture contributes a high share of New Zealand's total GHG emissions so reducing these emissions is key. New Zealand is already one of the most, if not the most, GHG emissions efficient producer of milk, beef and lamb in the world (Figure 5.6) so the challenge of reducing emissions is a momentous one. The focus needs to be on further increasing on-farm GHG efficiency and also reducing absolute emissions, e.g. by reducing nitrogen fertilizer use (Reisinger et al., 2017). However, costs of mitigation is a key barrier, as is the lack of information, calling for more accurate and affordable emissions measurement, reporting and verification (MRV).

Figure 5.6. New Zealand milk and beef production is very GHG efficient



1. Fat- and protein-corrected milk. 2. Dairy beef. 3. Weighted average. 4. Traditional beef. 5. Uruguay, Argentina and South Brazil.
Source: Falconer et al. (2022); Beef + Lamb New Zealand.

StatLink https://stat.link/ospzrx

Indeed, investment in accurate and affordable MRV procedures and technologies is particularly critical for policies that depend on providing incentives for precise emissions reductions. Despite significant progress, MRV has not advanced enough to allow a detailed farm-level pricing system yet (NZCCC, 2022) which would be needed to incentivise the widest range of mitigation options. Further R&D is needed to improve

the accuracy of MRV approaches for mitigation sources, such as soil carbon sequestration where measurement is particularly tricky, and to ensure actions to reduce emissions are being rewarded (OECD, 2023c).

The pricing of agricultural emissions has been delayed by successive governments but should be introduced in some form (such as a levy, or separate agricultural ETS) to incentivise on-farm reductions in gross emissions as soon as there is sufficient improvement in MRV to make it feasible. If a separate agricultural ETS were considered, it could include free unit allocations that decline over time and keep the option to earn units for carbon sequestration by forests (and potentially other carbon sinks such as soils and wetlands) while maintaining research and technical support for gross emissions reductions. Farmers can already earn ETS units by planting forests. However, forest planting is often not their area of traditional expertise, so support for technical advice on integrating trees into farms and knowledge networks such as the New Zealand Farm Forestry Association should be scaled up.

Another key barrier to reducing emissions is a lack of viable technical solutions beyond de-stocking. Fonterra has released a plan to increase GHG efficiency within the cooperative which processes 80% of New Zealand's milk by 30%. The government, in partnership with industry, should continue to incentivise a wider set of projects that increase gross on-farm GHG efficiency including through the industry-government joint venture AgriZero, the New Zealand Agricultural GHG Research Centre, and expanding partnerships with dairy processing companies. This can involve better measurement of on-farm emissions, spreading best practices in feed and pasture quality and herd genetics and getting the sector ready for rapid uptake of new technological solutions such as methane inhibitors via feed supplements and vaccines to reducing methane (OECD, 2022b).

New Zealand's dairy processing companies have a key role in incentivising greater GHG efficiency by creating products and exports sales channels for lower-carbon milk, which can generate higher revenue to reward farmer suppliers. The government can support this inter alia through trade missions including representatives of the independent dairy companies and Fonterra. A Ministry for Primary Industries emission reduction project certification could also help facilitate farmers earning ETS credits.

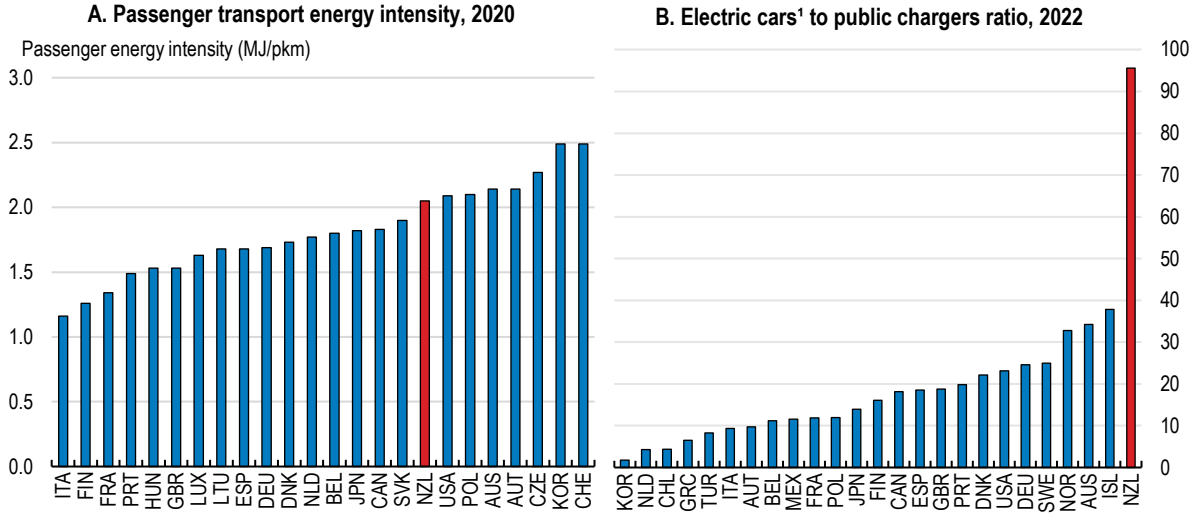
Reducing transport emissions

As noted above, New Zealand's CO_2 efficiency in transport is low by international standards and the sector contributes 18% of total emissions. New Zealand's emissions reduction plan aims to reduce emissions from this sector through electrification. The options for supporting passenger vehicle electrification need to be carefully weighed against each other in terms of cost per emissions avoided and other emissions reduction options for the sector, such as increasing public transport. Greater electrification of passenger vehicles will require a coherent investment programme on several fronts, including the expansion of secure, low-emission electricity generation to meet significant extra demand. This investment programme should be done as part of the development of the overall energy strategy for New Zealand.

New Zealand's electric vehicle to total public charger ratio looks high in international comparison (Figure 5.7) (notwithstanding that some charging points and especially slow AC ones may not be counted in New Zealand) and the Kw of public charging per electric vehicle is low. Indeed, a large share of charging is done privately at single-family homes with access to off-street parking, meaning there is limited demand for public slow AC chargers. When considering the ratio of electric vehicles to public fast charging points (>22 kW), New Zealand's ratio is much closer to other OECD countries. Nevertheless, further electric vehicle uptake is likely to slow without more public chargers to reduce "range anxiety" by providing the same level of convenience for refuelling as for combustion engine cars and for those without access to home charging. The government plans to expand the charging network are a step in the right direction but this expansion needs to be done based on careful cost-benefit analysis and weighed against other options. International experience can also help inform an efficient rollout but would need to be adapted to the New Zealand context. Korea has one of the most ambitious and innovative public charging programmes in the

world, installing chargers in pre-existing public spaces, such as streetlamps and building walls. Battery swapping stations, in which China and India are the leaders, are another alternative for investigation and may be suitable for taxis and light delivery vehicles (IEA, 2023b).

Figure 5.7. Transport is energy intensive in New Zealand, and the rollout of public charging stations has not kept up with the uptake of electric vehicles



1. Battery electric cars and plug-in hybrid electric cars.
Source: International Energy Agency.

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Even with electrification expanding, combustion engine cars will remain prevalent for many years, so it is still important to increase the average fuel efficiency of passenger cars, which is low compared with many other OECD countries (Figure 5.5), partly due to a high share of SUVs. Environmental taxes in New Zealand are a low share of total revenue and outside of some farming, forestry, and tourism activities these vehicles are a preference and not a necessity. Greater taxation of vehicles at registration according to their level of emissions and tighter fuel efficiency standards are needed to better internalise environmental externalities. A large lump-sum payment at registration reflecting the net present value of emissions over the lifetime of a vehicle may be more dissuasive than incrementally increasing fuel excise taxes.

The government repealed the 'feebate' system, in which rebates were given to individuals purchasing low-emission vehicles and fees were charged to those buying high-emission vehicles. Any new attempt at using taxation therefore needs to be regarded as fair and consider distributional consequences. Options may include exceptions from the tax for farmers and others that have a business need for higher emissions vehicles and avoiding subsidies for expensive electric vehicles that primarily benefit the urban wealthy. The extra revenue from a revised scheme could be used to fund other transport emissions reduction investment including further expansion of public transport and cycling infrastructure on routes but with a greater focus on cost effectiveness and simpler solutions than in the recent past. This would suggest a preference for routes with high demand potential (for example to schools and universities and retirement villages). There should be a particular focus on identifying and addressing bottlenecks and gaps in existing public transport routes, as even in very densely populated cities like Paris, it is often just one part of a route that is responsible for most of the delays. Finally, given New Zealand's low population density cities, electric buses on busways are often likely to be a more cost-effective option than underground, tram and rail options.

Reducing emissions from buildings

A high share of renewables in electricity generation helps keep the emissions associated with buildings in check as around two thirds of energy consumption in buildings is electricity. Nevertheless, buildings (residential and other) account for around 20% of total energy consumption – as against 28% globally (OECD, 2022c) – and 20% of this is supplied by gas and oil (IEA, 2023a). Hence, improving building energy efficiency is an important and potentially very cost-effective way to reduce or indeed avoid emissions. For example, it is far cheaper to avoid emissions using modern technology, for example by replacing standard incandescent light bulbs with LED ones that use up to 90% less energy and last 10 times longer (EECA, 2021), than building new hydro-electricity generation. Minimum insulation standards have been steadily increased but there is high potential to do more as they remain around half of those in Australia, California and the United Kingdom (IEA, 2023a). Insulation standards and other energy efficiency standards should continue to be progressively tightened.

Findings and recommendations

FINDINGS	RECOMMENDATIONS (key ones in bold]
Overall strategy for adaptation	
Until 2023, New Zealand's main response to extreme weather events damage has been ad-hoc government-funded disaster relief.	Carry out a coordinated reforms in a wide range of areas including planning, insurance and energy to increase resilience to a changing climate.
New Zealand's adaptation plan has many strong features but lacks evaluation metrics for monitoring progress.	To ensure the plan achieves adaptation in the most cost-efficient way, introduce effective reporting on the implementation and evaluation of the plan's measures using quantitative metrics and select investment projects based on quantified cost-benefit analysis.
Planning, investment and accurate insurance pricing by the Earthquake Commission and the private insurance industry requires detailed data about what is known about the risk of climate-related hazards.	**Ensure resourcing is appropriate for improving climate projections, hazard and vulnerability databases and modelling. Construct and maintain a national individual insurance claims database.**
Making insurance fit for a warmer world	
Household and firm decisions that affect their vulnerability to climate change-related hazards depend on the availability and price of insurance. Some properties at risk of sea-level rise or floodplain flooding may eventually become uninsurable by the private sector alone.	**Monitor the price and availability of insurance for climate related disasters, and, if required, stand ready with options for reform of the market, considering the balance of public and private, optional and mandatory insurance coverage, the nature of risks and household disadvantage.**
Adapting the planning system to a warmer world	
The planning system has not delivered the core objective of sustainable management of resources required by the Resource Management Act.	**Use spatial planning at national and local level more, reduce legal appeal rights, and offer more data and modelling support to local government.**
Councils struggle to raise sufficient funds for infrastructure required for adaptation. There is a large increase in the value of land on the fringe of cities when it is rezoned as residential, which could be taxed more.	Broaden the range of revenue tools for councils, including user charges and better land value capture. Introduce an incremental land-value tax on the owners of land on the city fringe or within the city boundary that is rezoned.
Local government capacity to pursue a more technically driven approach to consenting and planning that incorporates the latest modelling and data on climate-related risks is variable and partly dependent on its size.	Consider requiring collaboration between smaller rural and larger neighbouring councils and between urban councils and regional councils, especially where they share an environmentally interdependent area. Concentrate with central government responsibility for environmental data, monitoring and modelling.
Towards an even lower emission and more secure electricity supply	
The country's electricity supply is vulnerable to the "dry-year problem" that climate change will worsen. The approach to setting the overall strategy for the electricity system is too ad hoc, creating uncertainty.	Develop a long-term energy strategy including electricity informed by a cost-benefit comparison of options to reduce emissions, while securing supply, using a similar methodology.
GHG emissions reduction targets and strategy	
The first emissions reduction plan (ERP) (May 2022) failed to consider key trade-offs and questions as well as alternative emissions pathways. This reduced its coherency.	Take a more systematic approach when preparing the second ERP comparing as much as possible the costs and benefits of different emission reductions pathways using the same methodologies.
New Zealand's reduction plan is heavily reliant on carbon removals from forests. There are no limits on forestry units in the ETS, which is unique internationally. ETS pricing fails to adequately reflect the respective duration of carbon storage of native versus exotic forests, and risks such as fires.	**Develop and implement a plan for reforming the treatment of forest removals in New Zealand's emissions reduction strategy that gives clarity to the market, considering the wider costs and benefits of exotic and native forests and their potential to offset gross emissions.**
A rough temporal alignment exists between the warming caused by biogenic methane from a herd of livestock and the cooling caused by planting an exotic production forest. New Zealand's biogenic methane target is in gross terms only.	Consider adding a net biogenic methane target and allowing exotic production forests to earn credits in a methane-based pricing mechanism. In addition, consider allowing only new native forests to be registered in the NZ ETS.
ETS revenue will be allocated to tax relief but it will naturally decline as emissions are reduced.	Review the way ETS revenue is used and consider only using ETS revenue for climate change mitigation expenditure as well as lump-sum compensation to low-income households for the loss of purchasing power from higher ETS prices. The need for mitigation will decline in tandem with ETS prices and revenue.
Reducing agricultural emissions	
Agricultural emissions pricing has been delayed. Cost and a lack of information as well a lack of viable techniques for reducing emissions are barriers to increasing on-farm GHG efficiency and introducing pricing of agricultural emissions.	**Improve on-farm measurement of emissions in preparation for introducing agricultural emissions pricing. Maintain strong support for research and joint ventures to develop gross emissions reductions technologies.**
Reducing transport emissions	
The installation of public charging stations has not kept up with the expansion of the electric vehicle fleet. New Zealand's CO_2 efficiency in passenger transport is low by international standards due to high use of SUVs and other heavy vehicles.	If a wider cost-benefit analysis vis-à-vis other options including public transport shows vehicle electrification is a cost-efficient way to reduce CO_2, increase the number of public charging stations. Introduce greater taxation by vehicle emissions at registration and tighter fuel efficiency standards.
Reducing emissions from buildings	
Minimum insulation standards have been steadily increased but there is high potential to do more as they remain around half of those in Australia, California and the United Kingdom.	Insulation standards and other energy efficiency standards should continue to be progressively tightened.

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NEW ZEALAND

After a strong recovery from the pandemic, the New Zealand economy has slowed, with higher interest rates weighing on housing construction, and inflation undermining purchasing power and consumption. Monetary policy has tightened significantly since late 2021 and proved efficient at reining in inflation. Better control of government spending is needed to keep fiscal consolidation on track in the short run and restore fiscal space for ageing-related expenditures and the green transition in the long run. New Zealand also faces an investment gap in addressing the needs of a rapidly growing population.

Improving competition policies and streamlining the regulatory environment would help revive productivity growth and lift living standards in the long run. As highlighted by the recent OECD PISA study, achievement in school education has declined markedly. Inequality remains high and attendance has dropped. There is an urgent need to improve the curriculum, reform teacher education and strengthen support to teachers and schools to deliver better education outcomes. Adapting to climate change will require maintaining high insurance coverage for climate-related losses as well as changes to land-use planning and a comprehensive long-run energy strategy. The green transition needs a more rigorous cost-benefit assessment of emission reduction options.

Special features: Competition, School Education, Climate Change

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