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BASIC STATISTICS OF NEW ZEALAND, 2014

(Numbers in parentheses refer to the OECD average)[a]

LAND, PEOPLE AND ELECTORAL CYCLE

Population (million)	4.5	Population density per km^2	16.4 (34.9)
Under 15 (%)	19.4 (18.2)	Life expectancy (years, 2012)	81.5 (80.2)
Over 65 (%)	14.8 (16.0)	Men	79.7 (77.5)
Foreign-born (%, 2012)	24.1	Women	83.2 (82.9)
Latest 5-year average growth (%)	0.9 (0.6)	Latest general election	September 2014

ECONOMY

Gross domestic product (GDP)		Value added shares (%, 2012)	
In current prices (billion USD)	197.6	Primary sector	6.9 (2.5)
In current prices (billion NZD)	237.9	Industry including construction	23.4 (26.5)
Latest 5-year average real growth (%)	1.8 (0.8)	Services	69.7 (71.0)
Per capita (000 USD PPP, 2013)	34.3 (38.0)		

GENERAL GOVERNMENT
Per cent of GDP

Expenditures (2013)	42.4 (41.9)	Gross financial debt[b]	39.5 (114.0)
Revenue (2013)	42.7 (37.7)	Net financial debt[b]	5.9 (72.8)

EXTERNAL ACCOUNTS

Exchange rate (NZD per USD)	1.204	Main exports (% of total merchandise exports)	
PPP exchange rate (USA = 1)	1.468	Food and live animals	54.8
In per cent of GDP		Crude materials, inedible, except fuels	11.8
Exports of goods and services	28.7 (49.8)	Manufactured goods	7.3
Imports of goods and services	27.4 (46.4)	Main imports (% of total merchandise imports)	
Current account balance	-3.3 (0.0)	Machinery and transport equipment	37.9
Net international investment position (2013)	-64.6	Mineral fuels, lubricants and related materials	15.0
		Miscellaneous manufactured articles	12.7

LABOUR MARKET, SKILLS AND INNOVATION

		Unemployment rate, Labour Force Survey[b]	5.8 (7.9)
Employment rate for 15-64 year-olds[b] (%)	74.6 (65.2)	(age 15 and over, % of labour force)	
Men[b]	80.0 (73.1)	Youth (age 15-24, % of age group labour force)	14.6 (16.1)
Women[b]	69.3 (57.4)	Long-term unemployed (1 year and over, % of labour force, 2013)	0.7 (2.7)
Participation rate for 15-64 year-olds (%, 2013)	78.1 (71.1)	Tertiary educational attainment 25-64 year-olds (%, 2012)	40.6 (32.2)
Average hours worked per year (2013)	1 760 (1 771)	Gross domestic expenditure on R&D (% of GDP, 2011[b])	1.3 (2.4)

ENVIRONMENT

Total primary energy supply per capita (toe, 2013)	4.2 (4.2)	CO_2 emissions from fuel combustion per capita (tonnes, 2012)	7.3 (9.7)
Renewables (%, 2013)	38.0 (8.8)	Water abstractions per capita (1 000 m^3, 2010)	1.2
Fine particulate matter concentration (urban, PM$_{10}$, μg/m^3, 2011)	16.0 (28.0)	Municipal waste per capita (tonnes, 2013[c])	0.6 (0.5)

SOCIETY

Income equality (Gini coefficient, 2011[e])	0.323 (0.308)	Education outcomes (PISA score, 2012)	
Relative poverty rate (%, 2011)	9.8 (11.1)	Reading	512 (496)
Median equivalised household income (000 USD PPP, 2011[e])	22.7 (20.9)	Mathematics	500 (494)
Public and private spending (% of GDP)		Science	516 (501)
Health care (2011[c])	10.0 (9.2)	Share of women in parliament (%, April 2015)	31.4 (27.0)
Pensions (2012[d])	5.1 (8.7)	Net official development assistance (% of GNI, 2014)	0.27 (0.36)
Education (primary, secondary, post-sec. non-tertiary, 2011)	5.4 (3.9)		

Better life index: *www.oecdbetterlifeindex.org*

a) 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 29 member countries.
b) 2013 data for the OECD.
c) 2012 data for the OECD.
d) 2011 data for the OECD.
e) 2010 data for the OECD.

Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

Abbreviations and acronyms

AHC	After housing costs
ANZ Bank	Australia and New Zealand Banking Group
AS	Accommodation Supplement
BHC	Before housing costs
BLI	Better Life Index
BNZ	Bank of New Zealand
BOS	Business Operations Survey
BPS	Better Public Services
CBA	Cost-benefit analysis
CCEAGSCP	Children's Commissioner's Expert Advisory Group on Solutions to Child Poverty
CCF	Childcare fees
CP1	First commitment period
CPI	Consumer Price Index
CSSL	Canterbury Skill Shortage List
CV	Constant value
CVD	Cardiovascular disease
ECE	Early childhood education
ELSI	Economic Living Standards Index
EPF	Engaging Priority Families
ER	Employment rates
ERO	Education Review Office
ESCS	Economic, social and cultural status
ETS	Emissions Trading Scheme
FDI	Foreign direct investment
FMUs	Freshwater management units
FRILS	Fixed Reference Index of Living Standards
GDI	Gross Domestic Income
GDP	Gross Domestic Product
GFC	Global financial crisis
GHG	Greenhouse gas
GNI	Gross National Income
GWPs	Global warming potentials
HES	Household Economic Survey
HHs	Households
HNZ	Housing New Zealand
IFC	Independent fiscal council
IHAs	Independent Housing Associations
ISSL	Immediate Skill Shortage List

LAWF	Land and Water Forum
LCI	Labour Cost Index
LPBR	Lone-parent benefit rates
LPPR	Lone-parent poverty rates
LTV	Loan-to-value
LULUCF	Land-use, land-use change and forestry
MBIE	Ministry of Business, Innovation and Employment
MSD	Ministry of Social Development
MUL	Metropolitan Urban Limits
MWI	Material Wellbeing Index
NCEA	National Certificate of Educational Achievement
NIM	Non-income measures
NIMBY	"not in my backyard"
NPS-FM	National Policy Statement for Freshwater Management
NZDep	New Zealand Deprivation Index
NZIER	New Zealand Institute of Economic Research
NZS	New Zealand Superannuation
OCR	Official Cash Rate
OTI	Outgoings-to-income
PFA	Public Finance Act
PISA	Programme for International Student Assessment
PLT	Permanent and long-term
PPP	Public-Private Partnerships
PPPs	Purchasing power parities
PRR	Poverty risk ratio
QSBO	Quarterly Survey Business Opinion
RBNZ	Reserve Bank of New Zealand
RMA	Resource Management Act
SHAs	Special Housing Areas
TEOs	Tertiary education organisations
TES	Tertiary Education Strategy
VET	Vocational education and training
W&I	Work and Income
WFF	Working for Families

Executive summary

- *Main findings*
- *Key recommendations*

Main findings

Economic growth has been faster in New Zealand than in most other OECD countries in recent years. Inflation and inflation expectations are well anchored, but the current account has been in sizeable deficit for some time. Strong fiscal and monetary policy frameworks and a healthy financial sector have yielded macroeconomic stability, underpinning growth. Employment is high, in large part thanks to flexible labour markets and ample immigration, business investment is robust, and households and firms are optimistic. Well-being is high, although a considerable income gap with the top half of the OECD remains. However, bottlenecks in housing, urban infrastructure and skills, inequalities in living standards, and rising environmental pressures all pose risks for sustaining growth. The government is moving to deal with these weaknesses.

Removing bottlenecks to sustain the economic expansion. Businesses have reported increasing difficulties in finding skilled labour. However, wage pressures remain subdued thanks to immigration, policies to improve labour market matching (e.g. the Canterbury Skills and Employment Hub which has matched demand and labour supply in the post-earthquake rebuild) and skills training. Rapid population growth and a low responsiveness of supply have led to housing and urban infrastructure constraints. In particular, house prices have risen sharply in Auckland, the largest city, eroding affordability and raising financial-stability risks. Efforts to speed the housing supply response have been made, although community resistance to rezoning and densification may limit development. Environmental regulations also appear to be relatively burdensome for economic activity, including for residential investment. Finally, the foreign debt position, which reflects low private saving, has been large for some time and is an ongoing vulnerability. It calls for a continued solid fiscal position, as New Zealand faces potentially large macroeconomic shocks and longer-run pension and health spending pressures.

Reducing greenhouse gas emissions and water pollution. New Zealand faces difficult climate change challenges because of the high share of its greenhouse gas (GHG) emissions coming from agriculture, where there are few cost-effective abatement possibilities, and because three quarters of electricity already comes from renewable sources, meaning there are fewer potential gains in generation. The effectiveness of the NZ Emissions Trading Scheme, New Zealand's main climate change policy instrument, is being limited by an exemption for biological emissions from agriculture and transitional arrangements that effectively halve the carbon price faced by covered emitters. Water quality in some regions has suffered from the steady expansion of intensive dairy farming. The industry and government have responded, but it is not yet clear if these measures will prove sufficient.

Making economic growth more inclusive. Income inequality, reflecting in part unequal employment prospects, is above the OECD average. Recent welfare reforms facilitate the transition of beneficiaries into employment, but a greater focus is needed on improving the long-term outcomes of the most disadvantaged New Zealanders across the public sector. The government is taking steps to ease shortages of affordable and social housing but will need to go further to make significant headway in rolling back the large increase in the burden of housing costs on low-income households in recent decades. Obesity, cigarette smoking and poor access to health care have contributed to bad health outcomes for some groups. While educational achievement is high, children from disadvantaged backgrounds are less school-ready and more likely to leave school without qualifications. Reforms are underway to increase student attainment by improving the school readiness of these groups, enhancing teaching quality and increasing collaboration across schools.

Key recommendations

Removing bottlenecks to sustain the economic expansion

- Implement fiscal consolidation measures to reduce net debt, as planned, while continuing efforts to improve the well-being of the most vulnerable members of society. Allow the automatic stabilisers to operate fully.

- Provide guidance to regional authorities in the implementation of environmental and planning regulations, including the Resource Management Act. Reduce their economic costs and the scope for vested interests to limit competition or thwart rezoning and development that would be in the wider public interest.

- Implement infrastructure demand management strategies to reduce urban road congestion, notably congestion charging. Consider diversifying revenue sources for infrastructure funding, such as sharing in a revenue base linked to local economic activity or taxing the windfall gains that accrue to landowners from rezoning land for urban use.

- Draw lessons from the Canterbury Skills and Employment Hub (a labour-market matching scheme), trial it elsewhere and, subject to positive results, roll it out country-wide.

- More frequently update immigration skill shortage categories to reduce labour market bottlenecks.

Strengthen policies to reduce GHG emissions and water pollution

- Terminate the transitional arrangements that halve the number of emission permits (and hence their price) needed by emitters in the NZ Emissions Trading Scheme. Develop a strategy to cut agricultural GHG emissions efficiently through a combination of pricing, regulation and R&D.

- Monitor the implementation of the 2014 National Policy Statement for Freshwater Management in regional plans to ensure water quality meets goals. Provide clearer technical guidance for regional councils. Ensure that information on environmental quality is comparable and reliable, in part by passing the Environmental Reporting Bill.

Implement co-ordinated reforms to make economic growth more inclusive

- Complement the recent welfare reform by following up people going off benefit, as planned, to ensure satisfactory outcomes. Strengthen the focus of social spending on lifting the long-term outcomes of the disadvantaged, including by improving coordination across the public sector.

- Raise the supply of social housing for low-income households. Increase targeted housing subsidies for low-income households that are not in social housing.

- Adopt a comprehensive approach to reducing obesity, covering personal actions, factors that influence physical activity and nutritional practices, and improved obesity management through primary care.

- Meet the 98% participation target for early childhood education. Ensure that the education provided is of high quality, includes programmes to enhance the involvement of parents and focuses more on the outcomes of children with disadvantaged backgrounds.

Assessment and recommendations

- *New Zealand is enjoying a strong, broad-based economic expansion*
- *Policies to sustain the economic expansion*
- *Policies to enhance environmental sustainability*
- *Making economic growth more inclusive*

New Zealand has one of the highest living standards in the OECD, with all but one of the components of the Better Life Index above the OECD average (Figure 1). It stands out on health status, social connections as well as civic engagement and governance. Up until the mid-1970s, GDP per capita was also relatively high (Figure 2). However, the economy was ill-adapted to cope with the oil shocks and the loss of its major export market for agricultural products when the United Kingdom joined the European Union. Economic performance deteriorated further at that point and then worsened even more between the mid-1980s and early 1990s following a tightening of macroeconomic policies to reduce government budget deficits and debt and deep structural reforms designed to enhance long-term economic performance. Since then, New Zealand's per capita income has broadly stabilised in relation to the OECD average. Unemployment and government debt are low by international comparison. The budget is near balance and is expected to be in surplus over the coming years. The financial system is solid, and the supply of credit is supporting economic activity.

A key challenge is to extend the expansion in a sustainable way, thereby contributing to progress in closing the income gap. The main issues are: addressing shortages of skills and housing and infrastructure challenges in land transport; limiting financial risks emanating from housing; and ensuring that government finances remain sound to preserve room for manoeuvre in the event of negative shocks and to sustain national saving.

Another challenge is to lift the economic and social prospects of New Zealanders who have been persistently on low incomes and face material deprivation and multiple barriers to economic and social participation. The ranks of this group grew sharply between the mid-1980s and mid-1990s but have declined somewhat since then. The link between parents' socio-economic status and a child's educational and health outcomes is relatively close on some measures. A higher proportion of Māori and Pasifika live in chronic poverty, underperform in employment and education, are overrepresented in prison and as victims of crime, and have poorer health and access to care.

While New Zealand generally scores well on environmental outcomes, it faces considerable challenges in reducing greenhouse gas emissions owing to the predominance of agricultural emissions, which are difficult to mitigate. Nevertheless, there is scope to enhance the effectiveness of the main abatement policy instrument, the NZ Emissions Trading Scheme, and to remove barriers to the deployment of electric vehicles. Water quality has also deteriorated, mainly because of the expansion of dairy farming.

The key messages of this Survey are therefore that:

- Measures are needed to deal with shortages of skills and housing and land transport infrastructure challenges, and to sustain ongoing increases in prosperity.
- Policies should focus on improving incomes, housing, health and education for New Zealanders lagging behind – the poor, Māori and Pasifika.
- Environmental policies should ensure reduced water pollution and GHG emissions.

Figure 1. **Better Life Index,**[1] **2015 edition**[2]

A. Index summary

B. Index components
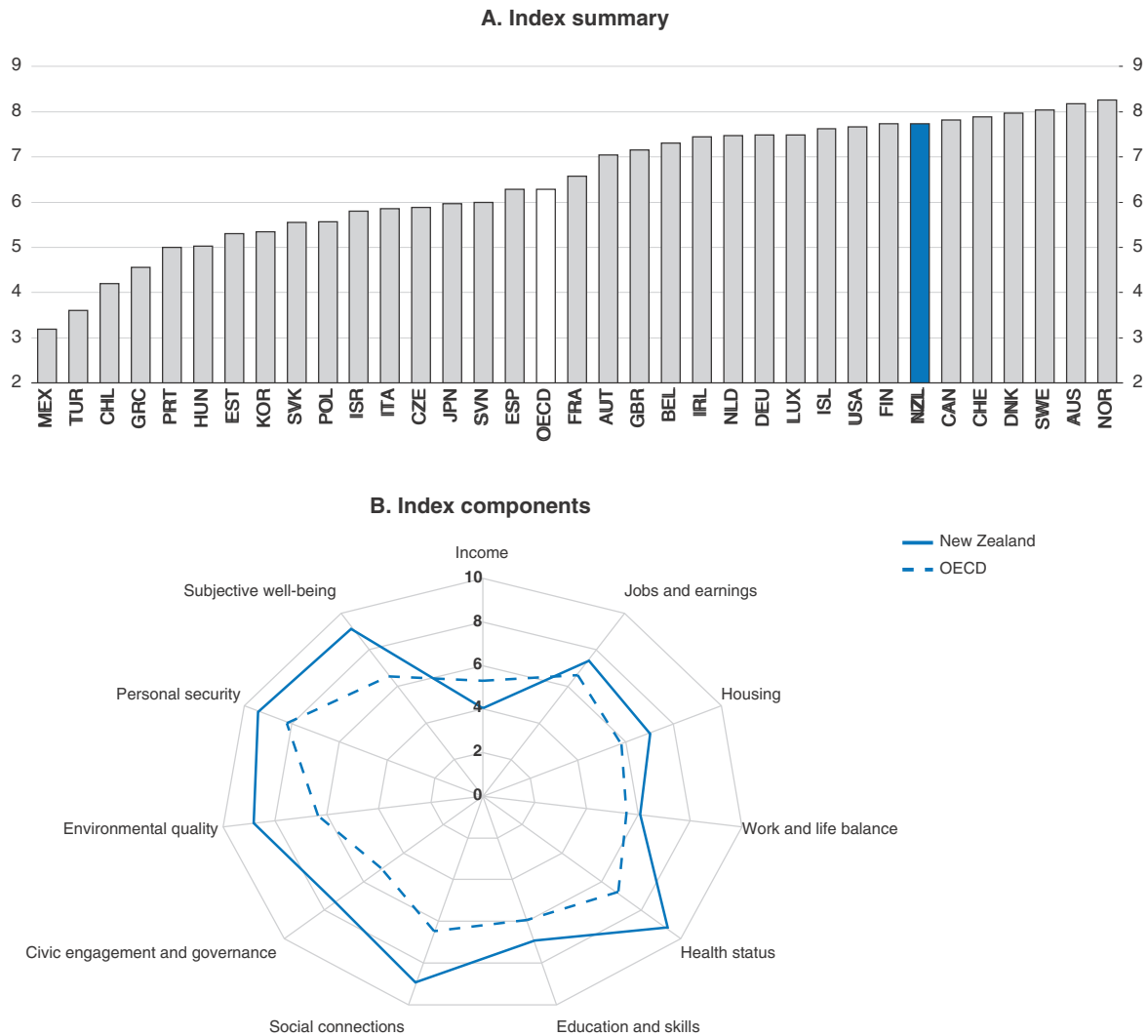
1. Each better life dimension is measured by one to four indicators from the OECD Better Life Index (BLI) set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 10 (best) and 0 according to the following formula: (indicator value – minimum value)/(maximum value – minimum value) × 10. Wealth has been dropped from the income and wealth dimension in the standard BLI because household net financial assets were used to proxy household net wealth in the standard measure, which can be highly misleading, and because national accounts data on household net financial assets are not available for New Zealand. The OECD aggregate is weighted by population. Please note that the OECD does not officially rank countries in terms of their BLI performance.
2. Data are for the most recent year available in 2015. For income, the reference year is 2012.

Source: OECD (2015), *OECD Better Life Index, www.oecdbetterlifeindex.org.*

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Figure 2. **GDP per capita**[1]

A. 1975

B. 1995

C. 2013
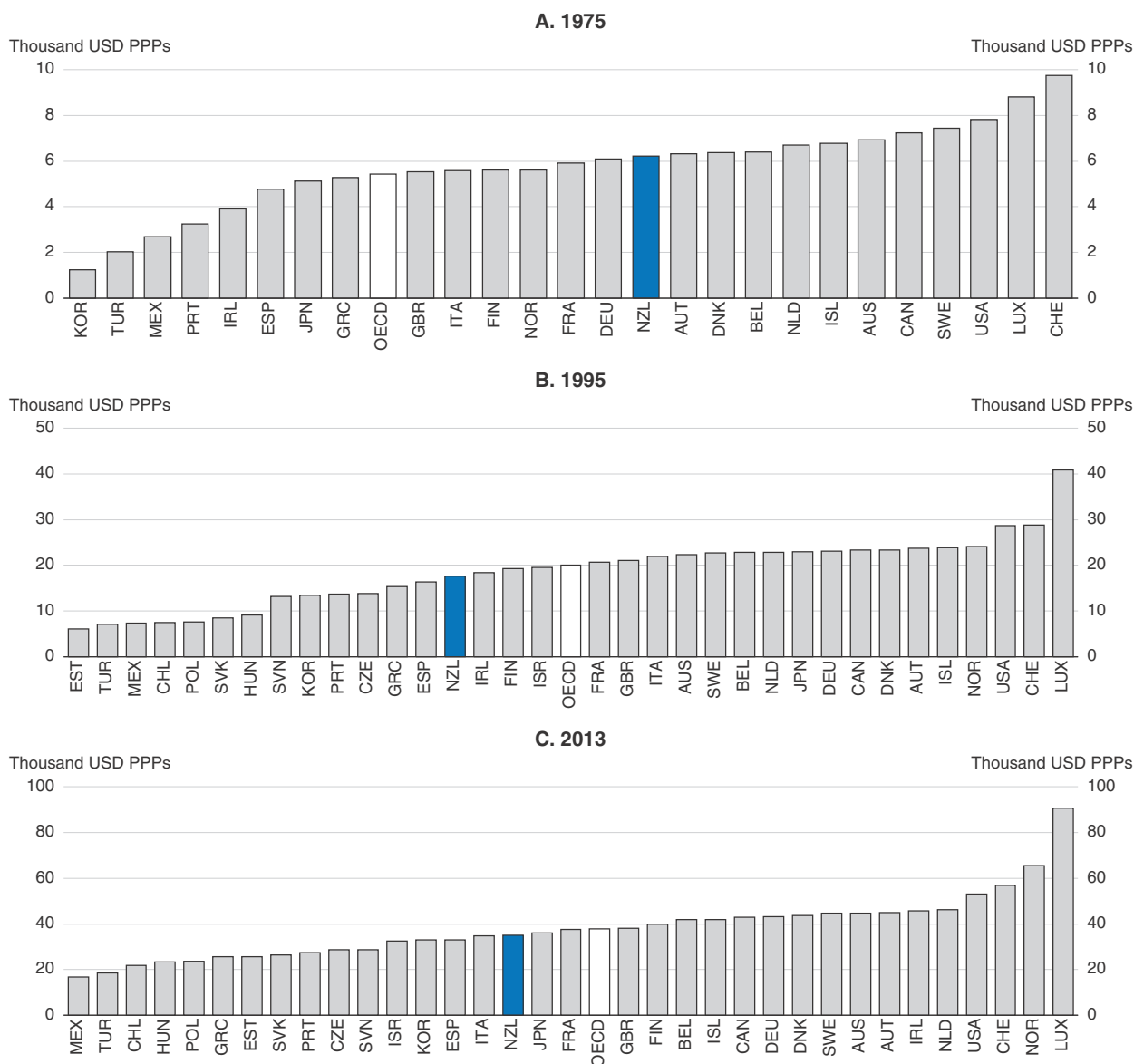
1. Nominal GDP per capita converted to USD at current PPPs. The OECD aggregate is weighted by the population.
Source: OECD, *National Accounts Database.*

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New Zealand is enjoying a strong, broad-based economic expansion

Economic growth has been around 3% over the past three years (except when a drought temporarily depressed growth in 2013) (Table 1).

● This expansion has been driven mainly by a large increase in the terms of trade, the post-2011 earthquake reconstruction in Canterbury, and construction activity in Auckland (Figure 3).

● Net immigration has increased to record rates of around 1.1% of the total population per year, easing labour-market tensions but exacerbating housing shortages in Auckland.

- The increase in the terms of trade was mainly attributable to earlier price rises for dairy products, the nation's largest export (representing one-quarter of goods and services exports). However, dairy prices have fallen by nearly one-half since the peak in February 2014. This decline has been only partly offset by oil price declines.

- The growth effect of the Canterbury rebuild is expected to wane by 2016. Infrastructure and residential construction activity are growing strongly in Auckland in response to rapid population increases and past shortages and are likely to continue to do so for the next few years.

- In per capita terms, increases in real GDP and real Gross National Income reached almost 2% and 3%, respectively, in 2014. These rates are higher than in most other OECD countries.

Table 1. **Macroeconomic indicators and projections**

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

	2011 Current prices (billion NZD)	2012	2013	2014	2015	2016
GDP	**208.5**	**2.9**	**2.5**	**3.1**	**3.4**	**3.0**
Private consumption	120.8	2.8	2.9	3.2	3.7	2.8
Government consumption	41.3	-0.9	1.9	3.6	1.4	0.3
Gross fixed capital formation	41.5	7.9	8.6	8.6	7.5	6.1
Housing	8.7	14.8	16.5	16.5	12.9	8.2
Business	20.7	13.5	5.8	8.4	8.8	5.8
Government	12.1	-6.7	7.4	1.5	-0.5	4.0
Final domestic demand	203.6	3.1	3.9	4.5	4.2	3.1
Stockbuilding[1]	0.6	0.0	0.1	0.2	0.0	0.0
Total domestic demand	204.1	3.1	3.9	4.7	4.1	3.1
Exports of goods and services	65.1	1.7	1.1	2.7	3.0	3.9
Imports of goods and services	60.7	2.7	6.3	7.9	5.6	4.2
Net exports[1]	4.4	-0.2	-1.5	-1.4	-0.7	-0.1
Other indicators						
Potential GDP		2.2	2.3	2.6	2.8	2.9
Output gap[2]		-1.1	-0.9	-0.5	0.1	0.2
Employment		0.3	1.5	3.5	2.9	1.5
Working-age population[3]		1.2	1.2	1.1	1.0	1.1
Labour force		0.7	0.8	3.0	2.7	1.1
Unemployment rate (%)		6.9	6.2	5.8	5.6	5.3
GDP deflator		-0.4	2.8	2.5	-0.8	1.5
Consumer price index		1.1	1.1	1.2	0.4	1.7
Core consumer prices		1.0	1.2	1.4	1.1	1.7
Terms of trade		-4.3	7.2	6.0	-4.1	-0.1
Household saving ratio, net[4]		2.3	2.2	3.0	3.0	3.0
Current account balance[5]		-4.0	-3.2	-3.3	-5.4	-5.7
General government financial balance[5]		-1.6	0.3	1.4	1.9	2.3
Underlying government primary balance[2]		0.6	1.7	2.0	2.3	2.5
General government gross debt[5]		41.8	40.8	39.5	37.2	34.7
General government net debt[5]		6.7	6.3	5.9	3.0	0.5
Three-month money market rate, average (%)		2.7	2.7	3.4	3.6	3.6
Ten-year government bond yield, average (%)		3.7	4.1	4.3	3.5	4.0

1. Contribution to changes in real GDP (percentage points).
2. As a percentage of potential GDP.
3. Persons aged over 15.
4. As a percentage of household disposable income.
5. As a percentage of GDP.
Source: OECD, Economic Outlook 97 Database.

Figure 3. **Factors driving the economic expansion**

A. Growth in GDP and the terms of trade
Three-year moving averages

B. Export commodity prices[1] and the terms of trade

C. The Canterbury rebuild
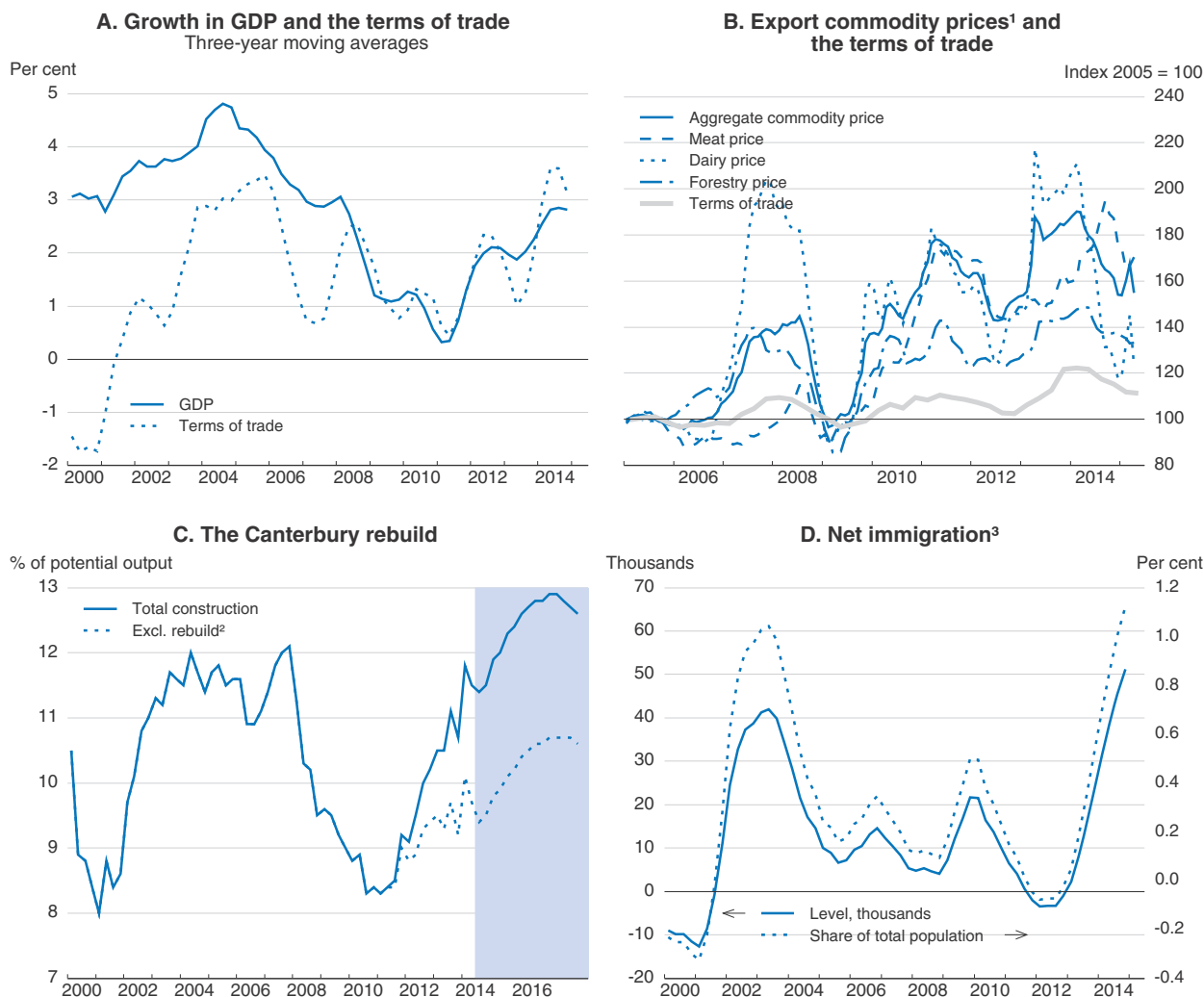
D. Net immigration[3]

1. USD series.
2. Total excluding RBNZ estimates of the direct impact of the rebuild on construction expenditure.
3. Cumulative net immigration data for the past four quarters.
Source: Reserve Bank of New Zealand (2015), *Monetary Policy Statement*, March; ANZ Bank; Statistics New Zealand; OECD, *Economic Outlook Database*.

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The increase in the terms of trade until mid-2014 underpinned a large rise in the real exchange rate (Figure 4). Increases in commodity prices and farm export volumes contributed to a reduction in the current account deficit from a peak of 7.3% of GDP in 2008 to 3.3% of GDP in 2014, as did a fall in the net income deficit, which was driven by lower interest and dividend payments abroad. Following the dairy price reversal, the current account deficit has started to widen again, and the currency has weakened. The real exchange rate was recently estimated to be overvalued by 5-15% (IMF, 2014). Continued current account deficits have led to New Zealand's sizeable net international liabilities position, which has fluctuated around 70% of GDP for the past 25 years.

Figure 4. **External sector indicators**

A. The terms of trade, real exchange rate and export performance

Index 2007 Q2 = 100

- Terms of trade
- Real effective exchange rate
- Export performance¹

B. Export growth by product category

Index 2007 Q2 = 100

- All pastoral and dairy products
- Non-food manufactured goods
- Services
- Goods & services

C. Current account balance

% of GDP

D. Net international investment position²

% of GDP

1. Export performance is measured by the evolution of the ratio of exports of goods and services to export market (defined as the trade-weighted average of trading partners' imports) volumes.
2. Year ending in March.

Source: Statistics New Zealand; OECD, *Economic Outlook Database.*

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House prices have risen markedly over the past few years and, relative to long-run averages, are high relative to income and rents by OECD standards (Figure 5). The largest increases have been in Auckland, where prices are high relative to median incomes by international comparison (Demographia, 2015). Moreover, housing affordability in Auckland is poor by historical standards, despite relatively low interest rates (Massey University, 2015). In addition, house price appreciation has boosted household debt to high levels relative to incomes (Figure 6). Housing poses some risks to the otherwise sound financial sector. The banking system is well capitalised, and funding and liquidity buffers are above required minima. Non-performing loans are below 1% of total lending (RBNZ, 2015).

Figure 5. **House prices**

A. Evolution of real house prices¹

B. House prices are high relative to long-run averages, Q4 2014²

C. Regional house prices and affordability

D. Median house price relative to median household income, Q3 2014

1. Nominal house prices deflated by the private consumption deflator.
2. Deviation of the ratio of nominal house prices/nominal disposable income per capita (or /rent prices) over the long-term average. Q4 2014 or latest available quarter.
3. The affordability index defined by the Massey University Real Estate Analysis Unit takes the ratio of the weighted mortgage interest rate as a percentage of median selling price to the average wage. The lower the index, the more affordable the housing.

Source: OECD, *Housing Prices Database*; Real Estate Institute of New Zealand; and Massey University Real Estate Analysis Unit, *Home Affordability Report*, various quarterly reports, *www.masseynews.massey.ac.nz*; Demographia (2015), *11th Annual Demographia International Housing Affordability Survey: 2015*.

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Figure 6. **Household debt and funding**

A. Household debt-to-disposable-income ratios, 2013[1]

Per cent

HUN SVN SVK CZE EST ITA AUT DEU BEL FRA GRC USA FIN JPN ESP PRT GBR KOR CAN NZL[2] AUS CHE IRL NLD DNK

B. Household debt[2] in New Zealand

Per cent

— Debt, % of disposable income
···· Debt, % of GDP

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014

C. Bank non-resident funding[3] has declined in New Zealand
Share of non-resident funding relative to total funding

Per cent

2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014

1. 2014 for New Zealand and 2012 for Korea and Switzerland.
2. Including rental properties for New Zealand.
3. A measure of the flow of offshore funding.
Source: OECD, *Financial Indicators Database*; Reserve Bank of New Zealand, *Statistics on Households*, March 2015 and *Registered Banks – S2 Banks: Funding by Maturity*, May 2015.

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Business investment has grown strongly during the current expansion, buoyed by diminishing spare capacity, high levels of business confidence and the low cost of capital. It is now 10% above the pre-recession peak, similar to the gain in the United States and Canada, but more than in most other OECD countries. The increase is broad based, although growth in machinery and equipment investment has lagged behind.

Labour market performance has been solid, with both labour force participation and the employment rate at the high end of the OECD country span (Figure 7). Following a soft patch in 2011-12, robust employment growth resumed, and the unemployment rate has fallen from 7 to 5¾ per cent recently, although this is still about 2 percentage points higher than the pre-recession trough. The share of long-term unemployment (27 weeks or more) has not yet fallen from the post-recession range of 25-30%, which is far higher than the lows reached in the mid-2000s. Nominal wage growth remains subdued, with annual increases in the Labour Cost Index (LCI) of private-sector wages running at less than 3% (below 2% after adjusting for productivity growth), slightly below the average since the global financial crisis.

Figure 7. **Labour market developments**

A. Employment and unemployment rates[1]

B. Employment and labour force participation rates,[2] 2013

C. Share of long-term unemployment[1]
Unemployed for 27 weeks or longer

D. Nominal wage growth
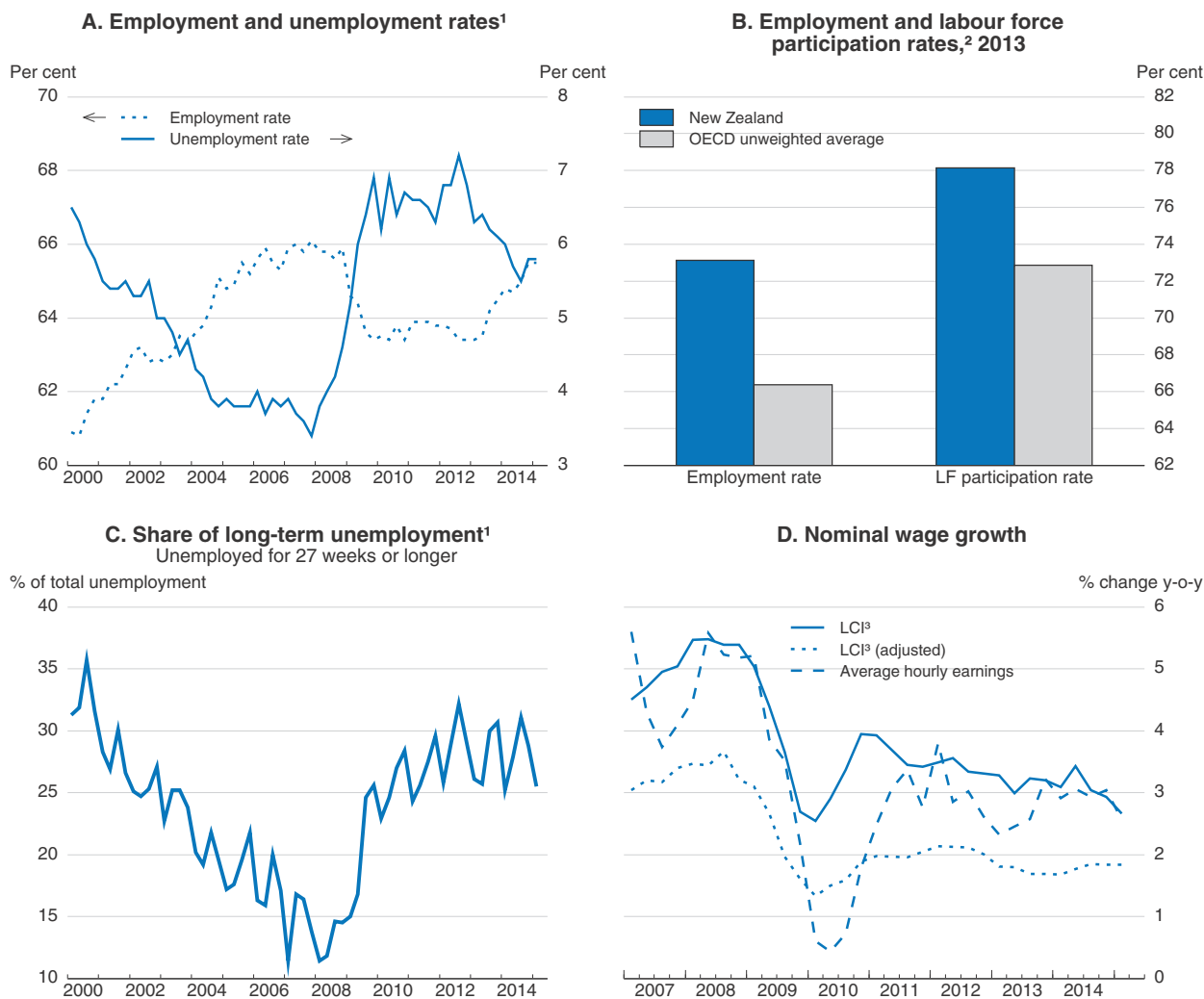
1. Population aged 15 and over.
2. Population between 15-64 years old.
3. Labour Cost Index of private sector wages. The adjusted LCI excludes increases in wages attributable to productivity improvements.
Source: Statistics New Zealand, Work, Income, and Spending and OECD, *Labour Force Statistics Database.*

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Consumer price inflation has been low since 2012 and, following the plunge in global oil prices, has fallen to near zero (Figure 8). Annual inflation for tradable goods and services has been negative since 2012 but, abstracting from temporary factors, non-tradables inflation has been around 2½ per cent since 2012. Non-tradables inflation has persistently undershot the Reserve Bank's (RBNZ's) projections, raising questions about whether there is more spare capacity than the central bank and the OECD estimate or whether actual inflation expectations are lower than the main measures suggest (RBNZ, 2014).

Figure 8. **Inflation and its determinants**

A. CPI inflation and its components

B. CPI and measures of inflation expectations

C. Output gap and QSBO cyclical indicator

D. Interest rates
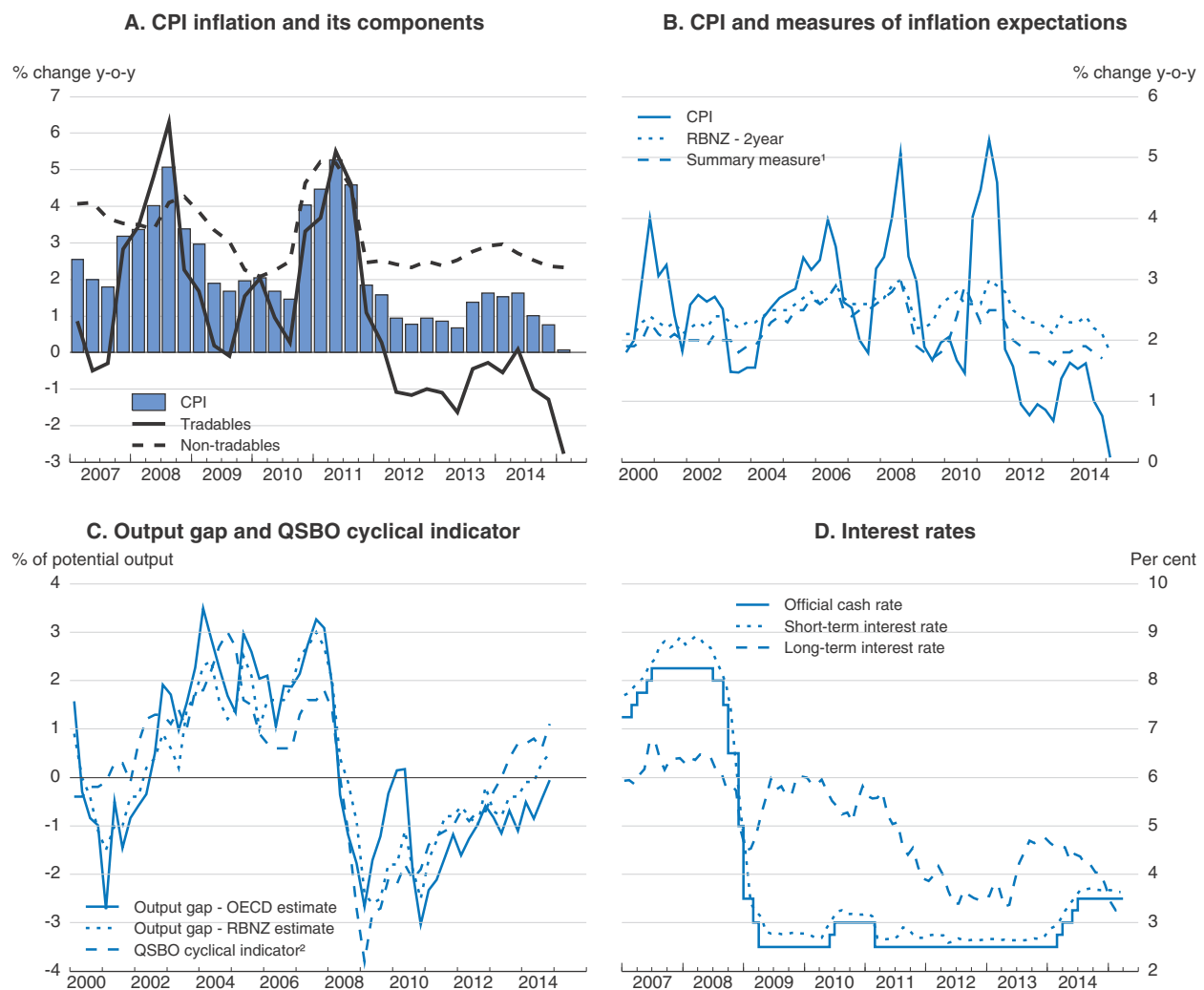
1. The summary measure is the first principle component of nine survey measures of inflation expectations.
2. QSBO: Quarterly Survey Business Opinion. The QSBO principal component indicator is a summary measure of 50 capacity series that has been fitted to a historical estimate of the output gap.
Source: Statistics New Zealand; Reserve Bank of New Zealand (2015), *Monetary Policy Statement*, March; OECD, *Economic Outlook 97 Database*.

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The RBNZ increased the Official Cash Rate (OCR) from a historical low of 2.5% in March 2014 to 3.5% in July 2014. In the face of continued low inflation and the sharp decline in dairy prices, the RBNZ has announced that it would be appropriate to lower the OCR if demand weakens and wage and price-setting outcomes settle at levels lower than is consistent with the inflation target. Tradables inflation (particularly oil prices), house price increases and the extent to which dairy farmers smooth their spending following the large recent decline in incomes could all affect inflation dynamics (RBNZ, 2014). The RBNZ's approach seems consistent with its mandate to keep inflation within a range of 1-3% on average over the medium term.

The central government is planning some fiscal consolidation to reduce "net core crown debt" (a measure of net debt) to 20% of GDP by 2020 from just above 25% now, through lower expenditures and higher revenues as a percentage of GDP (New Zealand Treasury, 2014a) (Table 2). Expenditure is expected to grow more slowly than GDP, falling to 29% of GDP in FY 2018/19 from 30.5% in 2013/14. To ensure fiscal sustainability beyond 2020, additional measures to address long-term pension and health-care costs will be required, such as raising the age of pension eligibility in line with increases in life expectancy or indexing pension benefits solely to prices rather than to wages, as recommended in previous *Surveys*. Improving the government's fiscal position in the medium term as planned is appropriate, subject to allowing the full operation of automatic stabilisers, since New Zealand faces potentially large macroeconomic shocks, as a commodity-exporting small open economy, and long-term pension and health-care spending pressures. Planned increases in public savings will also help to mitigate upward pressure on interest and exchange rates and reduce risks associated with New Zealand's elevated level of external liabilities (Figure 9).

However, care needs to be taken to ensure that consolidation does not impede efforts to improve the well-being of the most vulnerable members of society. The current government aims to do so primarily by using existing resources more effectively and efficiently. Nevertheless, some tax bases could be used to raise revenues: examples are environmental, land and capital gains taxes.

Economic growth is projected to decline from an annualised rate of over 4% in the second half of 2014 to 3% in 2016 as the boost from the Canterbury rebuild wanes, the drag from lower terms of trade takes effect and immigration comes down (Table 1). With slowing growth in incomes and wealth and net immigration easing from its very high recent rates, private consumption should decelerate significantly. Growth in business investment, on the other hand, should remain high as firms seek to ease capacity constraints in a context of solid profitability and a low cost of capital. Employment gains are also set to slow but the unemployment rate is projected to fall further to near 5%. Wage growth is projected to rise only modestly and inflation is projected to pick up to 1.8%, just below the midpoint of the inflation target range, by late 2016. The current account deficit is set to increase to 5¾ per cent of GDP, less than the peak during the past business cycle but still higher than the 3¾ per cent ratio that the IMF (2014) estimates would stabilise net external liabilities as a share of GDP in the medium term.

Table 2. **Fiscal consolidation is to continue**

In per cent of GDP (unless otherwise noted)

	Actual[1]	Projections				
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Core crown revenue	**28.7**	**29.9**	**29.8**	**29.8**	**30.1**	**30.4**
Core crown expenditure	**30.5**	**30.5**	**29.7**	**28.9**	**29.1**	**29.0**
of which: Social assistance	10.0	10.0	9.7	9.5	9.5	9.5
Social assistance related to NZ Super	4.7	4.8	4.8	4.8	4.9	5.0
Canterbury rebuild	0.4	0.2	0.1	0.1	0.0	0.0
Core crown balance[2]	**-1.3**	**-0.2**	**0.2**	**1.0**	**1.1**	**1.4**
Cyclically adjusted balance	-1.0	-0.2	0.0	0.9	1.0	1.4
Cyclically adjusted balance (with terms of trade at 20-year average)	-3.4	-1.5	-1.3	-0.7	-0.6	-0.1
Fiscal impulse (core crown)	**-0.3**	**-1.3**	**-0.2**	**-1.0**	**0.0**	**-0.5**
Fiscal impulse (core crown plus crown entities)	0.0	0.3	-0.1	-1.9	-0.3	-0.4
Fiscal impulse (core crown plus crown entities) excluding EQC and southern response pay-outs	-0.2	-0.1	-0.2	-1.2	-0.2	-0.4
Net core crown debt	**25.6**	**26.5**	**26.5**	**25.2**	**24.0**	**22.5**
Gross core crown debt	35.0	33.6	33.4	34.3	31.4	28.8
Memorandum items:						
Real GDP growth (production based)	3.5	3.4	3.3	2.7	2.3	2.1
Nominal GDP growth (expenditure based)	7.9	2.1	5.8	5.2	4.0	3.5
CPI (annual per cent change)	1.5	1.2	1.9	2.1	2.0	2.0
Ten-year government bond (per cent)	4.5	4.1	4.2	4.7	5.0	5.1

1. Fiscal years end in June.
2. Based on operating balance before gains and losses.
Source: New Zealand Treasury (2014), *Half Year Economic and Fiscal Update*, December and OECD calculations.

Figure 9. **Net international investment position**
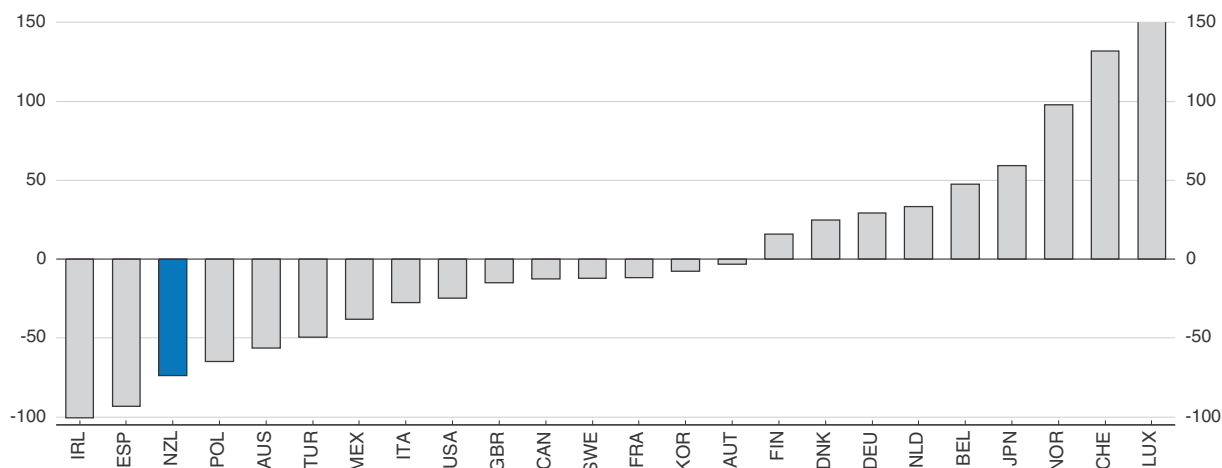
Average 2009-13, as a percentage of GDP

Source: IMF, *International Investment Position Database* for net international investment position data for all countries except New Zealand (Statistics New Zealand for net international investment position and OECD, *Economic Outlook 96 Database* for GDP data).

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There are both upside and downside risks, although some downside risks would have large potential effects if they materialised. The main downside risk is that China, which is a key export market for both New Zealand and Australia (New Zealand's other main export market), slows more sharply than projected. This would reduce global commodity and asset prices and demand for New Zealand's exports. The path of world dairy prices is particularly important for New Zealand. If they fall further, lower incomes would cause financial distress among highly leveraged dairy producers. Another downside risk is that financial volatility and global interest rates could rise faster than expected, increasing the cost of funds and the current account deficit. This would be especially problematic, given New Zealand's heavy foreign debt position. If unemployment were to rise sharply, the increased difficulty in servicing high household debt could push house prices down, further dampening demand and causing loan write-downs.

If, on the other hand, dairy prices recover – and China's demand for dairy products should rise as it urbanises and rebalances towards private consumption – then domestic incomes and growth would be boosted. Another upside risk is that net immigration may not decline as much as assumed, which would boost both demand and productive potential. Oil prices could turn out either higher or lower than the assumed USD 65 per barrel. If they fall further, it would boost activity both directly by increasing real disposable incomes and indirectly through similar effects in trading-partner economies and reduced transport costs, which would enhance the attractiveness of New Zealand as a tourist destination; an increase would have the opposite effects.

Policies to sustain the economic expansion

Overcoming skills shortages through migration and training

Given robust activity, labour markets have begun to tighten. Skilled labour has become steadily more difficult to find, with a rising net number of firms reporting hiring difficulties since mid-2010 (MBIE, 2014; Statistics New Zealand, 2015). Labour demand has been particularly strong in the construction sector, reflecting rebuilding following the Canterbury earthquakes and strong residential building activity in Auckland. Skills shortages have developed in construction, management occupations and in some specialised ICT and engineering disciplines. Despite widespread employment gains and rising vacancies, wage pressures have been subdued. This suggests that, even with tightening labour markets, skills shortages appear to have been fairly well contained, probably reflecting migration and targeted policy responses. Surging net permanent and long-term migration, especially to Auckland and Canterbury, has coincided with more arrivals with work visas, easing labour shortages.

The authorities have also put programmes in place to strengthen labour market matching in the Canterbury area, notably the Canterbury Skills and Employment Hub, which matches NZ jobseekers with employers having vacancies and, in the absence of a suitable candidate, fast tracks visa applications. Extending the lessons of the Hub to the national level could improve labour market matching, easing constraints as labour markets tighten. Recent official assessments suggest that it has had favourable effects, and the government is considering trials in other regions.

The government has also made strides in skills development by linking individual career decisions and tertiary education and training to industry needs. For instance, the Ministry of Business, Innovation and Employment's Occupational Outlook provides

information on career paths, employment prospects and educational requirements to prospective students. And the Vocational Pathways programme provides clearer information about employment prospects and more diverse ways of obtaining foundation skills to move into employment. Funding for positions in high demand, such as in engineering, has been prioritised, and ICT graduate schools are being developed. There have also been regional initiatives to provide greater information to vocational education providers regarding medium-term skills needs. A good example is Skills for Canterbury, which focuses on skills gaps for the rebuild. Continuing to develop these linkages will aid in meeting skills needs.

Migration has played a key role in labour market adjustments. Permanent work-related and temporary migration are both high as a share of the population. The free movement of labour between Australia and New Zealand has buffered the gap between labour supply and demand, but immigration from other sources has also been important. Until recently, the net outflow of New Zealanders, including skilled workers, seeking higher wages in Australia has been offset by skilled immigration from other sources. More recently, there have been fewer departures of skilled NZ citizens, which, together with numerous arrivals of skilled non-citizens, may bring longer-run benefits by complementing local labour market skills (Docquier et al, 2014). In addition, net immigration is leading to a larger economy, resulting in scale and agglomeration effects and increased international connectedness, though the size of these effects in New Zealand is much debated (Fry, 2014). However, high levels of net immigration add to demand for housing and infrastructure, where strains are already apparent in Auckland, the main destination for new arrivals.

Since the 2003 immigration reforms, New Zealand's immigration system has placed a large weight on skills shortages, employment and work experience, probably contributing to the very good record of integrating immigrants into labour markets and society. There is evidence of lower returns on skills paid to immigrants upon arrival compared with their NZ counterparts, but these gaps become insignificant after 10 years (Maré and Stillman, 2009). To further improve labour market integration there may be a need to increase the weight given to English-language proficiency in the immigrant selection process or to provide further support and monitoring of language training completions (OECD, 2014). Recent changes in student visas, which now provide work rights, are likely to aid in building soft skills, potentially further improving students' eventual labour market outcomes. Increased monitoring of skills shortage categories, which may require more frequent updating and refinement of categories, could better ensure the attraction of the right number of people with appropriate skills.

In addition, New Zealand's demand-driven model could potentially benefit from more regular updating of the immigration targets, as in Australia and Canada, and from wider tolerance ranges for the three-year immigration targets or a higher cap to allow more flexibility based on economic conditions. The current system may limit needed immigration during sustained expansions and may induce cyclical constraints on admittance. Under buoyant labour market conditions it may be more difficult to immigrate than under less favourable conditions, when pass marks for permanent migration could be adjusted downward to meet targets (OECD, 2014). However, improving the responsiveness of housing supply would be necessary before materially raising migration targets.
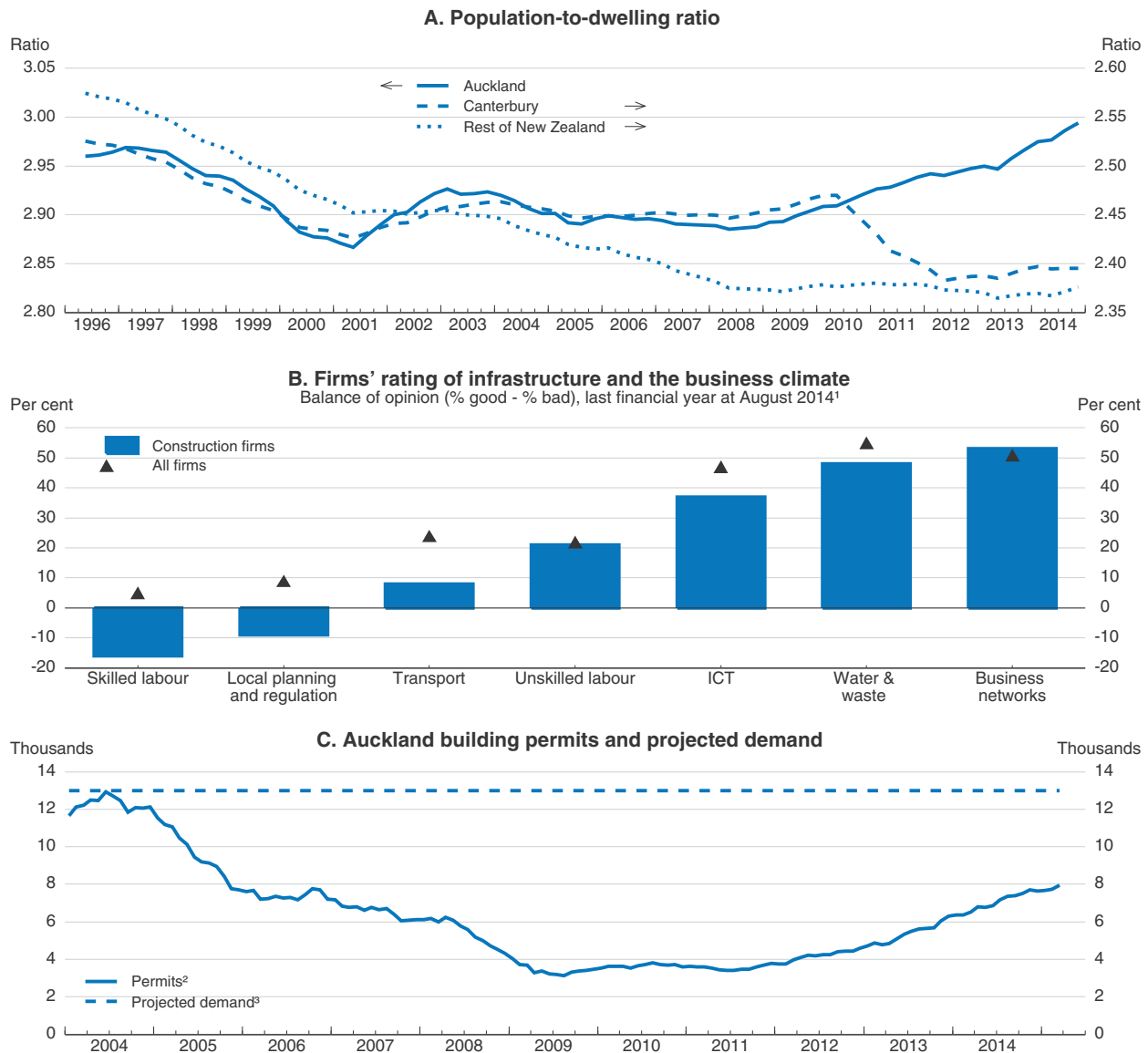
Boosting housing supply

Large net immigration has bolstered the economy's productive capacity but has also added to regional housing pressures. As highlighted in the 2011 *Survey* (OECD, 2011; Cheung, 2011), this issue is essentially confined to Auckland (Figure 10, Panel A), where the house price boom reflects, at least in part, the failure of housing supply to keep pace with demand. The responsiveness of supply to rising house prices is around average for OECD countries, but only half that of the best performing countries (Caldera and Johansson, 2013). This is problematic, as population growth has been stronger than average and somewhat more variable. Constrained supply may reduce Auckland's ability to achieve agglomeration economies by restricting labour mobility and reducing incentives for firms to locate in Auckland.

Restrictive land-use and planning regulations are a key factor behind lagging supply and the resulting high house prices (Glaeser et al., 2008; Gyourko and Molloy, 2014; Grimes and Aitkens, 2010). In addition, land-use planning has become more complex and costly over time, involving considerations of infrastructure provision, environmental sustainability and economic resilience (New Zealand Productivity Commission, 2012). These regulations, including the Resource Management Act (RMA), are highly devolved, so more central guidance would be beneficial to ensure consistency with environmental goals, as well as to reduce scope for vested interests to limit competition or thwart rezoning and development that would be in the wider public interest. The perceived quality of local planning and regulation is low relative to other factors affecting the business climate (Figure 10, Panel B).

In general, economic costs of environmental regulations are relatively high in New Zealand (Koźluk, 2014), which reflects comparatively heavy administrative burdens associated with permitting and licencing. This probably falls disproportionately on the building sector, as the majority of permits issued through the RMA are for land-use changes (New Zealand Productivity Commission, 2014). Current regulations, including land-use and planning rules, may have added between NZD 32 500 and 60 000 per dwelling in subdivisions and between NZD 65 000 and 110 000 per apartment, increasing construction times and reducing the likelihood of development, particularly of affordable housing (Grimes and Mitchell, 2015).

Efforts to improve supply responsiveness have been made in Auckland. The Auckland Housing Accord between the national housing minister and the mayor established Special Housing Areas that release new land for development, reducing consenting times and limiting appeals. The creation of Auckland Council's Housing Project Office has been instrumental in pulling together skilled planners, infrastructure and environmental specialists to speed up housing development and has permitted more integrated spatial planning, a recommendation from the 2011 *Survey*. However, skills shortages probably limit the scope to scale up this model further in Auckland and more broadly. Therefore, there may be a need to better equip local councils through improved training and increased resources to undertake the planning process and to provide more opportunities for integrated planning. The sizeable shortfall of 20 000 to 30 000 dwellings will probably continue to put upward pressure on house prices (Auckland Council, 2012). Indeed, projected annual demographic housing demand in Auckland is roughly double the pace of recent building permit issuance (Figure 10, Panel C). Beyond expanding the Metropolitan Urban Limits in Auckland, extending beyond the Special Housing Areas the limitation of

Figure 10. **Local planning and building permits**

A. Population-to-dwelling ratio

B. Firms' rating of infrastructure and the business climate
Balance of opinion (% good - % bad), last financial year at August 2014[1]

C. Auckland building permits and projected demand

1. Last financial year refers to the last financial year for which businesses had results available in August. Financial years for businesses finish on 31 March in New Zealand.
2. Twelve-month moving average of annualised monthly building permits.
3. Auckland Council's average annual projected demand over the next 30 years.

Source: Auckland Council (2012), *Housing Action Plan – Stage 1*, December; Reserve Bank of New Zealand, *Financial Stability Report*, May 2015; Statistics New Zealand, *Business Operations Survey: 2014* and Industry Sectors – Building Consents Statistics.

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appeals to those directly affected could augment the housing supply response. As a large share of planned residential development in Auckland is to continue to occur within previous city limits, it will be important to find ways to increase community support for densification. A greater central role in dealing with local objections might take some pressure off municipal governments. Freeing up public land could also make way for further developments, particularly of affordable dwellings.

Rising house prices have boosted household debt levels, which are high compared with income by OECD standards, thus increasing financial-stability risks (Figure 6, Panel A). In October 2013 the RBNZ introduced macro-prudential measures that temporarily place a 10% limit on new mortgages with loan-to-value (LTV) ratios greater than 80% during any three-month period and increased the amount of capital banks must hold against these high-LTV-ratio mortgages. In their first 12 months of operation these measures proved effective in reducing house price inflation and credit growth (Price, 2014). Following a resurgence in Auckland house prices beginning in late-2014, the RBNZ announced in May 2015 that from October 2015 banks will be required to hold more capital against loans secured on residential property that is not owner-occupied and is consulting on proposals that investors using bank loans to purchase such property will be required to have a deposit of at least 30% in the Auckland Council area. Such macro-prudential instruments are preferable to interest rate changes because they are more tightly targeted on financial stability objectives. They also avoid putting unnecessary upward pressure on the exchange rate, which would harm the tradables sector. Also from this time, the government plans to tax gains on residential property sold within two years of purchase (bought on or after 1 October 2015), unless the property is a primary residence, inherited or is part of a relationship property settlement, and to require non-resident purchasers to have an Inland Revenue Department tax number and a NZ bank account. These measures will strengthen enforcement of the tax code in relation to the taxation of trading gains on property and provide information on non-residents' property transactions.

Diversifying infrastructure funding and improving infrastructure demand management

The quality of NZ infrastructure is perceived to be low relative to local expectations (Figure 11, Panel A), and NZ firms surveyed continue to report an inadequate supply of infrastructure as the most important barrier to doing business (World Economic Forum, 2014). In the city of Auckland, while road congestion has declined, it remains significant, particularly at peak periods. Based on the TomTom traffic index (TomTom, 2015), Auckland and Wellington are considered to be the second and third most congested cities in Australasia, just behind Sydney, although the Beca Travel Time survey (2014) may paint a different picture. Congestion is estimated to cost the Auckland region NZD 1.25 billion annually compared to free flow conditions (Wallis and Lupton, 2013). New Zealand has had relatively low investment in road infrastructure as a proportion of GDP (Panel C). However, the level of investment in road projects has increased, which may alleviate shortages. Beyond transport, required water infrastructure upgrades may be constraining needed housing supply by holding back densification opportunities in Auckland.

With the central government concerned to reduce its debt, meeting these infrastructure needs will have to focus on diversifying funding sources. Local and national roads could make greater use of tolls, and Public-Private Partnerships could make more efficient use of resources. For core water infrastructure, long-run marginal cost pricing would ensure funding for capacity expansion and future upgrades but would require increasing water prices, which might be politically difficult. Local councils could also consider greater use of debt financing of their infrastructure needs, since the benefits extend over several generations. However, this would require increasing debt-servicing capacity. Options that could be considered include: i) sharing in a revenue base linked to local economic activity; and ii) taxing the windfall gains that accrue to landowners from rezoning land for urban use.

Figure 11. **Infrastructure provision and quality**

A. Perceived quality of overall infrastructure
Score from 1 to 7 (best)

B. Perceived quality of road infrastructure
Score from 1 to 7 (best)

C. Investment in road infrastructure
Average of 2002-11,[1] per cent of GDP
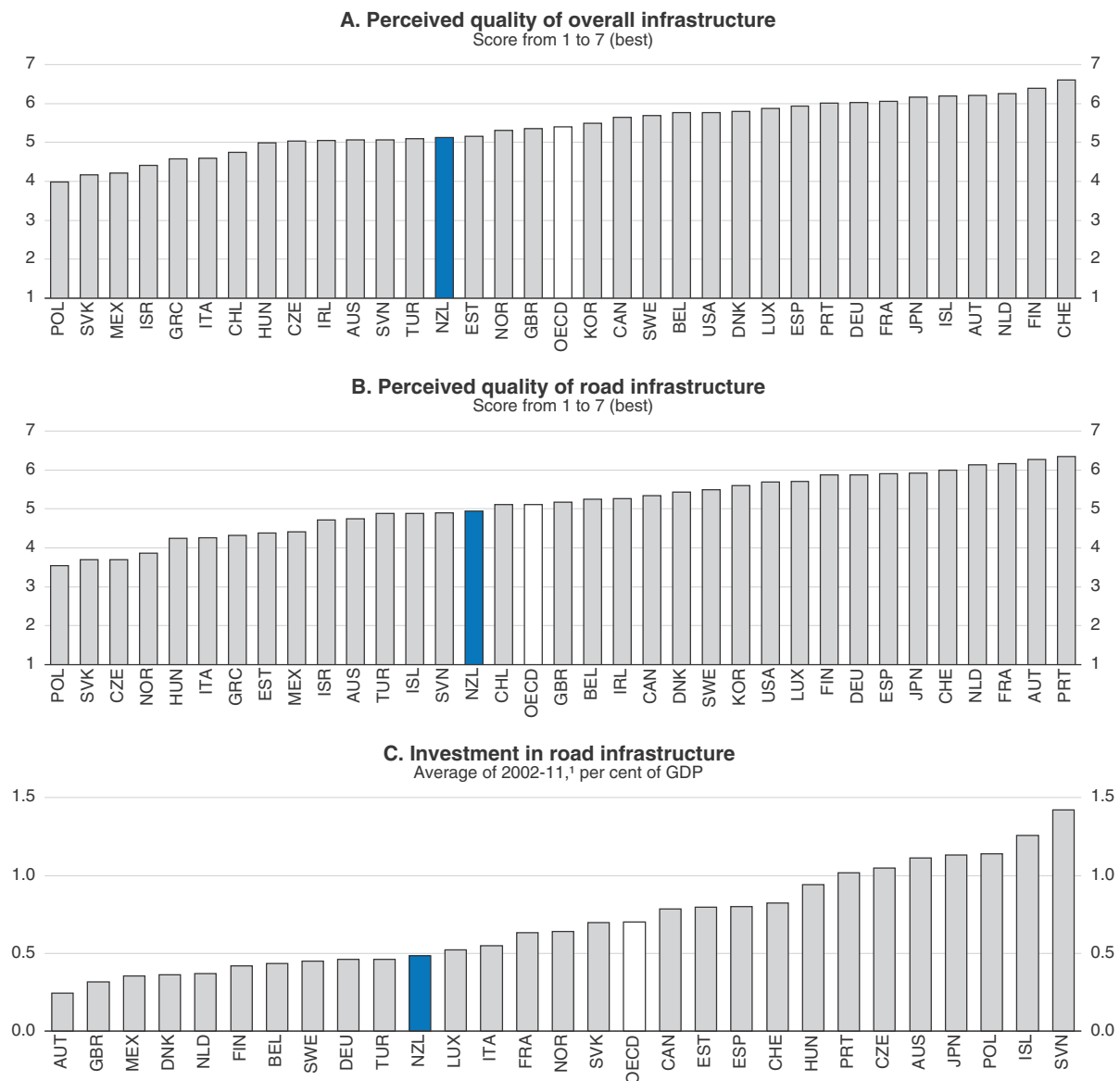
1. Or of the last 10 years available.
Source: World Economic Forum (2014), *The Global Competitiveness Report 2014-15* for Panels A and B; and OECD, *International Transport Forum Database* for Panel C.

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While additional investments in road infrastructure will probably continue to provide net benefits (New Zealand Treasury, 2014b), there are ways to better manage demand. Charging higher road tolls at peak times could spread road use towards non-peak hours. Funding additional public transport infrastructure would provide other options for commuters, reduce road congestion and help lower greenhouse gas emissions.

Recommendations to sustain the economic expansion

● Implement fiscal consolidation measures to reduce net debt, as planned, while continuing efforts to improve the well-being of the most vulnerable members of society. Allow the automatic stabilisers to operate fully.

● Provide guidance to regional authorities in the implementation of environmental and planning regulations, including the Resource Management Act. Reduce their economic costs and the scope for vested interests to limit competition or thwart rezoning and development that would be in the wider public interest.

● Implement infrastructure demand management strategies to reduce urban road congestion, notably congestion charging. Consider diversifying revenue sources for infrastructure funding, such as sharing in a revenue base linked to local economic activity or taxing the windfall gains that accrue to landowners from rezoning land for urban use.

● Draw lessons from the Canterbury Skills and Employment Hub (a labour-market matching scheme), trial it elsewhere and, subject to positive results, roll it out country-wide.

● More frequently update immigration skills shortage categories to reduce labour market bottlenecks.

Policies to enhance environmental sustainability

Reducing greenhouse gas emissions

New Zealand's greenhouse gas (GHG) emissions per capita and per unit of GDP are high by international comparison but have fallen since 1990, albeit more slowly than in most other advanced countries (Figure 12). Moreover, the emissions profile is unusual for an advanced country in that nearly half of emissions come from agriculture, where there are currently limited cost-effective abatement possibilities (Figure 13). Around three-quarters of electricity already comes from renewable sources, and although progress could be made by reducing emissions from New Zealand's single coal-fired power station and further increasing the use of low-carbon energy sources such as wind power, the prospects are otherwise somewhat limited. On the other hand, transport emission intensities are high (International Transport Forum, 2010), reflecting low use of public transport and poor average vehicle fuel economy. New Zealand is expected to over-achieve its Kyoto Protocol commitment to reduce net GHG emissions (including land use, land use change and forestry) to the 1990 level over 2008-12 and is on track to meet its unilateral reduction target of 5% from the 1990 level by 2020, taking into account the surplus achieved during the first commitment period (Figure 14). New Zealand aims to reduce net GHG emissions to 50% below the 1990 level by 2050.

Climate change policy in New Zealand is facing uncertainty while the government waits for clearer signals about intended action in major countries to reduce emissions. As New Zealand did not make a second-period commitment (2013-20) under the Kyoto Protocol, it has been excluded from international trade in Kyoto Protocol GHG units from 2015 (although New Zealand is still able to purchase units from the Clean Development Mechanism Registry). This limits the potential of the NZ Emissions Trading Scheme (ETS), the major instrument to reduce emissions, to achieve its intended aim of minimising abatement costs through trade in emission permits. In effect, the ETS has become a purely

Figure 12. **GHG emissions per capita and per unit of GDP**

Excluding removals from LULUCF,[1] tonnes CO_2-e

A. Per capita

B. Per unit of GDP
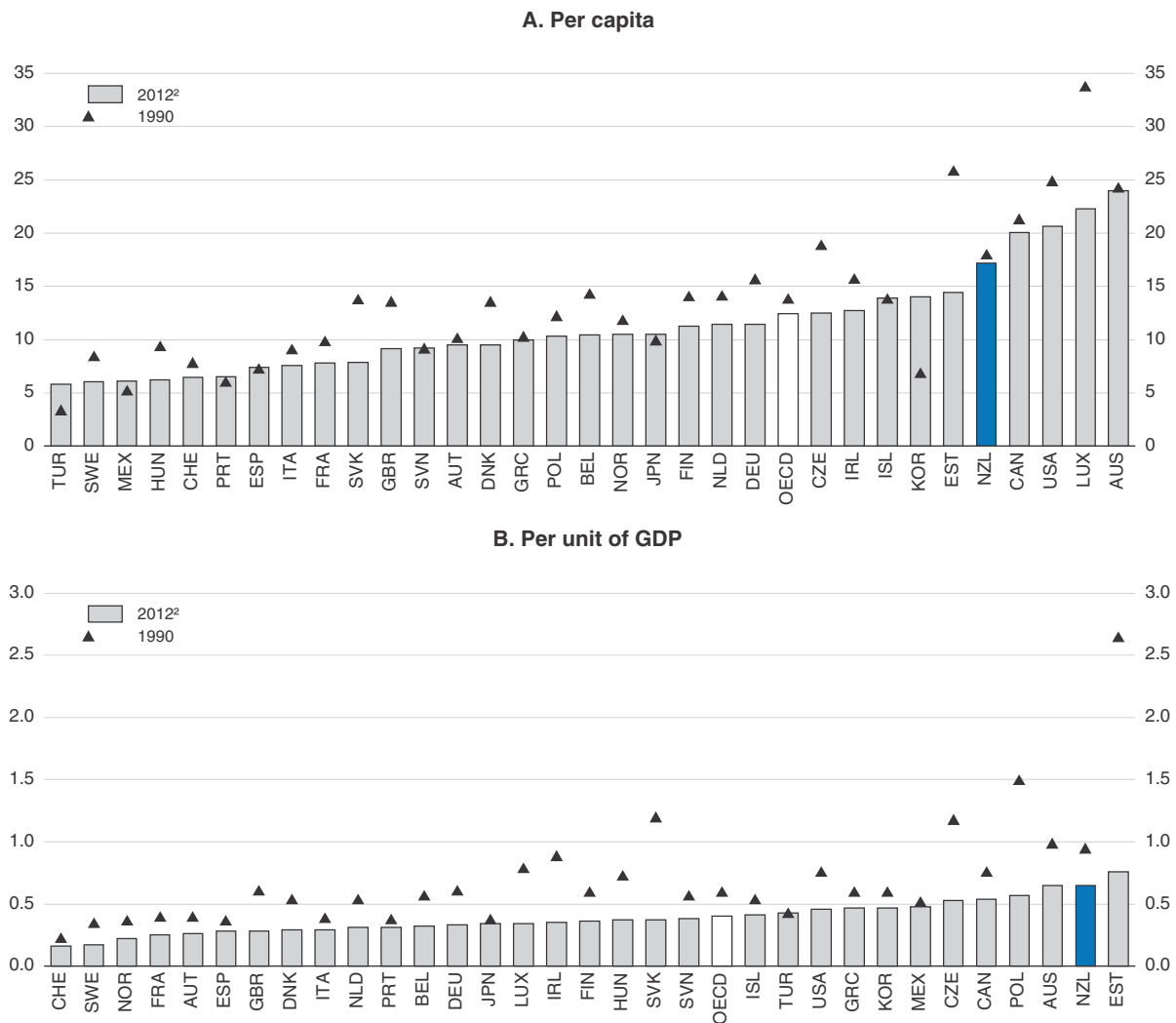
1. Land-use, land-use change and forestry; i.e. including GHG emissions and excluding CO_2 removals, using statistics from the *EDGAR Database*.
2. 2011 for Israel and Korea and 2010 for Mexico.

Source: OECD, Environment – *GHG Emissions Statistics Database.*

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domestic scheme. Transitional arrangements which halve the number of permits needed, thus halving the carbon price faced by emitters, undermine the economic and environmental effectiveness of the scheme. Emissions permit prices are about NZD 6 per tonne of CO_2-equivalent (CO_2-e) in New Zealand, approximately 60% of the price in Europe, which itself is widely regarded as too low to be effective in incentivising a shift to a green economy. Accordingly, there is little incentive to exploit lower-cost abatement opportunities in New Zealand.

Figure 13. **GHG emissions and energy mix**

A. GHG emissions by sector
Percentage share of total GHG emissions excluding LULUCF, 2012

New Zealand

Waste 4.7%
Industrial processes 6.9%
Transport 18.1%
Agriculture 46.1%
Energy 24.2%

OECD

Waste 2.3%
Industrial processes 5.9%
Agriculture 8.6%
Transport 23.2%
Energy 59.8%

B. Energy mix
Percentage share of total primary energy supply, 2013

New Zealand

Oil 33.7%
Coal 7.0%
Gas 21.3%
Nuclear 0.0%
Renewables 38.1%

OECD[1]

Coal 21.6%
Oil 39.9%
Renewables 9.8%
Nuclear 10.8%
Gas 28.7%

1. OECD average excludes Chile, Israel, Mexico and Turkey.
Source: OECD, *Environment Statistics Database* and IEA, *World Energy Balances Database*.

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Based on a modelling assumption that the NZ ETS yields a carbon price of NZD 5 per tonne of CO_2-e over the next 15 years (i.e. transitional arrangements remain in place), it and other quantifiable policy measures are projected to reduce gross emissions by only 0.4% in 2030 from a business-as-usual baseline and to reduce net emissions (i.e. taking into account CO_2 removals by forests) by 4.1% (Table 3). Net emissions are projected to grow substantially over coming decades, which will necessitate the purchase of international units to meet official targets (Figure 15). The transitional arrangements that halve carbon prices should be terminated to provide businesses and consumers with greater certainty about the future path of carbon prices. This would reduce the risk of losses from stranded emissions-intensive investments.

Figure 14. **GHG emissions and Kyoto units for 2008-12**
Million tonnes of carbon dioxide equivalent (CO_2-e), as at April 2014
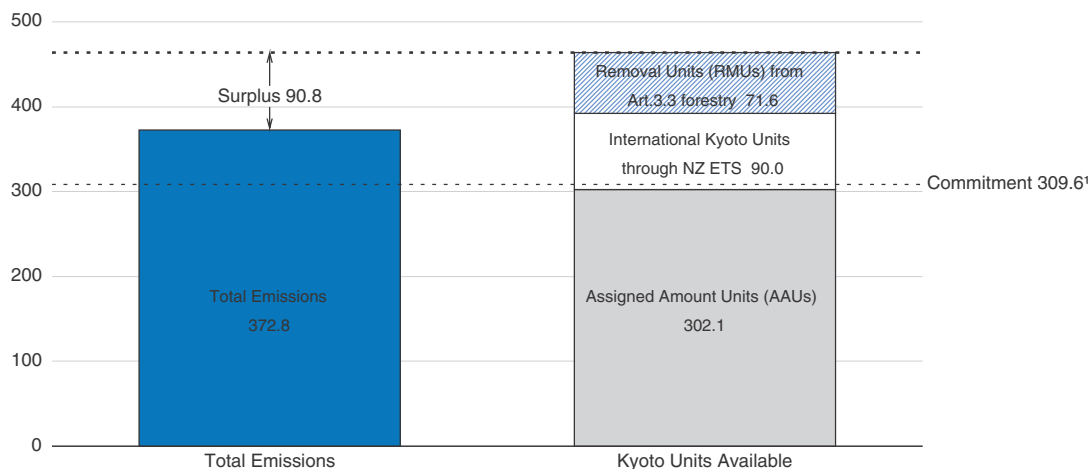
1. Commitment for the first commitment period (CP1) under the Kyoto Protocol.
Source: Ministry for the Environment (2014), "Latest Update on New Zealand's Net Position under the Kyoto Protocol", *www.mfe.govt.nz/ climate-change/reporting-greenhouse-gas-emissions/nzs-net-position-under-kyoto-protocol/latest.*

How to read this figure: Total gross emissions over 2008-12 were 372.8 million tonnes of CO_2-e (Mt), which exceeds New Zealand's CP1 commitment of 309.6 Mt. However, after allowing for forestry removal units, New Zealand meets its commitment and, including International Kyoto Units that it holds, has a surplus of 90.8 Mt of Kyoto Units to carry forward.

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Table 3. **Projected emissions in 2030 with and without measures**[1]

Sector	Without measures	With measures	Absolute difference	Percentage difference
	CO_2-e, thousands of metric tonnes			
Energy	18 360	18 311	-49	-0.3
Transport	15 904	15 900	-5	0.0
Industrial processes	6 121	6 121	0	0.0
Agriculture	39 599	39 599	0	0.0
Forestry	5 908	2 588	-3 320	-56.2
Waste	2 565	2 315	-251	-9.8
Total gross emissions (excluding LULUCF)	82 548	82 244	-304	-0.4
Total net emissions (including LULUCF)	88 456	84 832	-3 624	-4.1

1. Emissions projections under a "with measures" scenario include: the modelled impacts of the NZ ETS for the energy, industrial processes, waste and forestry sectors, including changes to the scheme passed into law in November 2012; government afforestation grant schemes; and the national Environmental Standard to control methane emissions from landfills. The international carbon price is assumed to be NZD 10 per tonne of CO_2-e, which corresponds to an effective price of NZD 5 per tonne of CO_2-e now that only one permit is required per two tonnes of emissions.
Source: Ministry for the Environment (2013), *New Zealand's Sixth National Communication under the United Nations Framework Convention on Climate Change and the Kyoto Protocol.*

Figure 15. **GHG emissions relative to targets**

Million tonnes of carbon dioxide equivalent (CO_2-e)
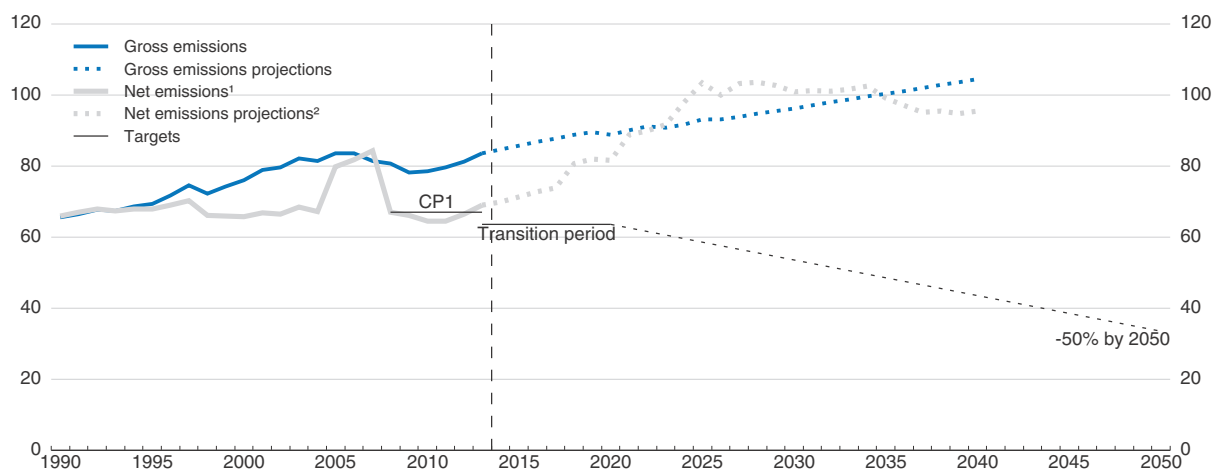
1. Net emissions take into account CO_2 removals from LULUCF. They are calculated based on the 100-year global warming potentials (GWPs) found in the Intergovernmental Panel on Climate Change's Fourth Assessment Report. No account is taken of the surplus Kyoto Protocol units that New Zealand holds and will use to meet its CP1 target and unconditional 2020 target.
2. The projections of net emissions are based on current Kyoto Protocol accounting rules. LULUCF accounting rules are likely to be different beyond 2020.

Source: Ministry for the Environment (2014), *Briefing for Incoming Ministers – Environmental Stewardship for a Prosperous New Zealand.*

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New Zealand has considerable potential to reduce vehicle GHG emissions, which are responsible for most transport emissions (19% of the total), by moving towards a plug-in hybrid/electric vehicle fleet. Such vehicles are a good fit, given New Zealand's high proportion of renewable electricity generation and its commuting patterns. These vehicles are exempt from paying the Road User Charge until 2020. However, there are few public charging points, reducing their practicality. The government should consider how it could contribute in a cost-effective way to the development of a network of charging points.

New Zealand's agricultural sector is exempt from the requirement to surrender permits for its biological emissions (those from fossil fuel usage are already covered) under the NZ ETS until such time as commercially viable and practical emission reduction possibilities become available and competitor countries make more progress in tackling their total emissions. Given the scale of agricultural emissions in New Zealand and the existence of some, albeit limited, abatement possibilities, as evidenced by the wide range of emission intensities among producers in each subsector (Ministry of Agriculture and Forestry, 2006; Boston and Chapman, 2007), the government should develop a strategy to cut agricultural GHG emissions efficiently (taking into account administrative costs) through some combination of pricing, regulation and R&D. Such a strategy would strengthen incentives for private research and development of new mitigation options (Kerr and Zhang, 2009). These incentives could be reinforced by complementing current public support for research in this area (where New Zealand is already a leading player and has established the Global Research Alliance on Agricultural Greenhouse Gases) with support for development of these options for commercialisation. Raising the marginal cost of emissions would also make native bush regeneration on marginal land (a major potential source of NZ reductions in net emissions) more attractive.

Further improving water quality

The expansion of intensive dairy farming has yielded significant economic benefits but has also had significant consequences for water quality (Figure 16). The levels of nitrogen and phosphorous in the water supply have risen, in contrast to declines in almost every other OECD country (OECD, 2013a). When these nutrients enter waterways, excessive growth of nuisance plants and algae ensues, blocking waterways, threatening fish and insect species and releasing toxins that can make the water unsuitable for consumption or recreation. While some progress is being made to reduce the environmental impact of dairying activity, water quality may worsen further before such actions generate improvements, given the lengthy delay before some discharges appear in water bodies. In addition, these policies aimed at protecting water quality may be at odds with the government's goals of boosting agricultural output. In particular, the government intends to double agricultural exports over the next 10 years and continues to subsidise irrigation through the Irrigation Acceleration Fund. As a result, even with best management practices, the dairy expansion may lead to an increased degradation of waterways (Parliamentary Commissioner for the Environment, 2013).

Figure 16. **Growth of nitrogen balances and milk production in New Zealand**
Index 1990-92 = 100
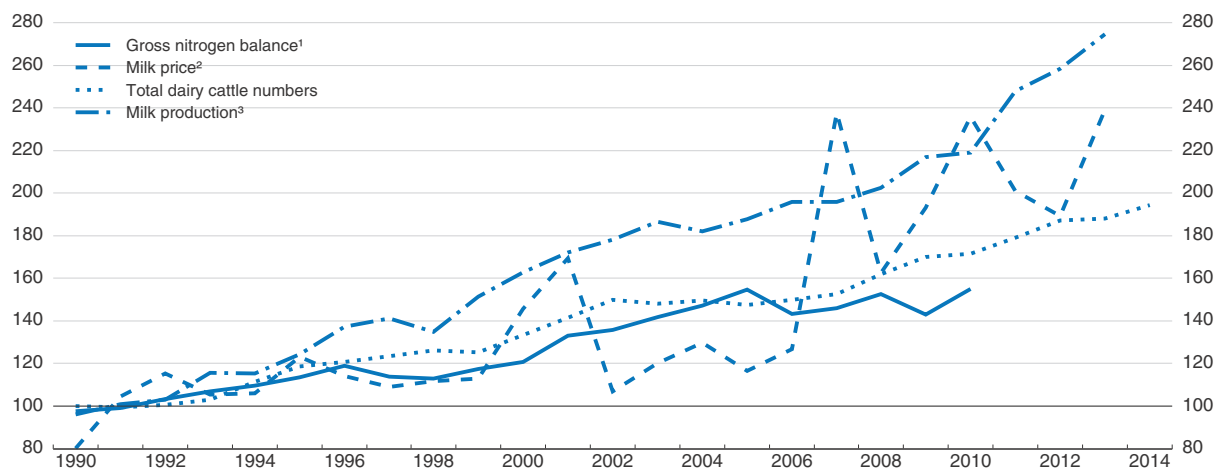
1. Kg of nitrogen per hectare of total agricultural land. The gross nitrogen balance calculates the difference between the nitrogen inputs entering a farming system (i.e. mainly livestock manure and fertilisers) and the nitrogen outputs leaving the system (i.e. the uptake of nitrogen for crop and pasture production).
2. Producer price at farm gate. The milk price used as a proxy for the world market price measures the transfers from consumers and taxpayers to agricultural producers arising from policy measures that create a gap between domestic market prices and border prices of milk, measured at the farm gate level.
3. Thousands of tonnes.
Source: OECD/Eurostat Agri-Environmental Indicators Database; OECD PSE/CSE Database, www.oecd.org/agriculture/pse; OECD Aglink Database, www.agri-outlook.org; Statistics New Zealand.

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The industry has actively encouraged good management practices (which could usefully be extended to beef and sheep producers, if necessary through regulation), most recently through the 2013 Sustainable Dairying Water Accord. Of particular note, a large share of dairy stock has now been fenced out of waterways to reduce soil erosion, which

releases phosphorous, and the government intends to have all dairy cattle excluded by 1 July 2017. However, the Accord's requirement that dairy conversions subscribe to good management practices is likely to prove insufficient to offset the increased nutrient leaching resulting from conversions.

A broad consensus has formed that water quality challenges need to be addressed. Significant strides have been made in developing a collaborative process to tackle these issues. In particular, the Land and Water Forum was established in 2009. It is composed of representatives of primary industries, electricity generators, recreational groups, environmental organisations, Māori tribes and academia and has focused on informing the future direction of water management. Following its recommendations (Land and Water Forum, 2010, 2012a, 2012b), the government established the National Policy Statement for Freshwater Management in 2011 which requires regional councils to maintain or improve overall water quality at the regional level. A 2014 amendment provided a process to set freshwater objectives and limits on water resources (discharges to water and water extractions) for all freshwater management units (FMUs) (comprised of part, one or several water bodies). Regions set goals for each FMU (swimming, wading, etc.), and the National Objectives Framework provides levels (eg. nitrate concentrations) required to achieve those goals. Goals for each FMU must be set above a specified minimum level required to ensure ecosystem and human health. The attribution of responsibilities to the regional level provides flexibility to allow degradation of a particular water body (e.g. for economic reasons), provided there are offsetting improvements elsewhere.

This system has just recently been implemented, and it is thus too early to judge its effectiveness. However, it may be difficult for regional councils to assess offsetting improvements. Therefore, the government should monitor regional implementation to ensure consistency with improving water quality. Depending on the outcome, it may have to clarify how different water quality measures and FMUs should be weighted in assessing overall regional water quality. It may also have to provide further guidance concerning FMU delineation to avoid water bodies falling below national minimum standards. If the current system fails to produce sufficient progress, the government should consider enforcing a "maintain or improve" condition, subject to achieving minimum standards at the level of individual water bodies or FMUs, with exemptions agreed at the central level.

With updates to the National Objectives Framework envisaged in 2016 and 2019, the government should continue to expand the range of attributes included. It should also develop limits on a broader range of urban contaminants, such as heavy metals, and broader measures of ecosystem health, such as the Macroinvertebrate Community Index, which proxies water bodies' life-supporting capacity (Stark and Maxted, 2007). Further investment is needed in gathering data, standardising sampling and modelling water quality. This could be supported at the national level by passing the Environmental Reporting Bill, which aims to make information on environmental indicators available nationally on a more systematic and reliable basis. As these policies will probably limit dairy farming or at least impose costs associated with obtaining permits, bank lending to the dairy sector should be monitored to ensure that these potential developments are being taken into account when assessing the ability of farmers to repay debt.

> **Recommendations to enhance environmental sustainability**
>
> ● Terminate the transitional arrangements that halve the number of emission permits (and hence their price) needed by emitters in the NZ Emissions Trading Scheme (ETS). Develop a strategy to cut agricultural GHG emissions efficiently through a combination of pricing, regulation and R&D.
>
> ● Monitor the implementation of the 2014 National Policy Statement for Freshwater Management in regional plans to ensure water quality meets goals. Provide clearer technical guidance for regional councils. Ensure that information on environmental quality is comparable and reliable, in part by passing the Environmental Reporting Bill.

Making economic growth more inclusive

New Zealand has generally done well in enabling economic and social participation of its people. Yet, as in many other countries, income inequality and poverty have increased, rising housing costs have hit the poor hardest, and the rate of improvement in many health outcomes has been slower for disadvantaged groups than for others. Gaps in education attainment have narrowed, but the influence of socio-economic background on education achievement has increased. Of particular concern are those New Zealanders who face persistently low incomes, material hardship and multiple barriers to economic and social participation. This includes children in welfare beneficiary households, who have the highest risk of material hardship and poor long-term outcomes across a range of dimensions. While Māori and Pasifika are less than a quarter of the population, they are significantly overrepresented in these groups.

NZ governments have made improving outcomes in key areas that affect well-being (income, housing, health and education) for low socio-economic households, including many Māori and Pasifika people, a top priority. Because the same individuals tend to have poor outcomes across the various dimensions of well-being, a co-ordinated multi-pronged approach is needed. In particular, there is a need to better use data and evidence to target and tailor interventions across the public sector to more effectively improve the long-term outcomes of the most disadvantaged New Zealanders. The reforms recommended here are not comprehensive but fit with the government's focus on more tailored and targeted social investment to lift the contribution of social services to long-term outcomes.

Reducing income inequality and poverty

Income inequality increased substantially between the mid-1980s and mid-1990s, when major structural reforms occurred and government budget deficits and inflation were reduced, but it has stabilised and even declined slightly since then. On average, those with low incomes after taxes and transfers experienced slow income growth, as in many other countries, while high income earners enjoyed very rapid gains (Figure 17). However, between the 1990s and 2000s growth was greater in low-income households. Disposable income inequality increased from below the OECD average in the mid-1980s to above it now (Figure 18), largely due to increases in the inequality of market incomes, but in part because redistribution through taxes and transfers declined. This reflected reforms that reduced the progressivity of the tax system and lowered benefit replacement rates (Figure 19).

Figure 17. **Growth in real household disposable income[1] across the distribution**

Total population, percentage income growth

A. Between mid-1980s and mid-1990s

B. Between mid-1990s and 2011[3]

C. Between mid-1980s and 2011[3]

1. Equivalised household incomes (i.e. adjusted for household size – total household income is divided by the square root of household size) across the distribution are measured by the full range of bottom to top income standards, as determined by the Atkinson inequality aversion parameter α (a low value corresponding to high inequality aversion). A low value corresponds to low income, zero to median income and a high value to high income. Data are for deciles and expressed in USD 1 000, at constant prices and constant 2010 purchasing power parities for households' consumption.
2. EU countries include Denmark, Finland, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and the United Kingdom. Other English-speaking countries include Canada, the United Kingdom and the United States, but exclude Australia owing to data unavailability in the mid-1980s and Ireland due to a break in the series. Country averages are population weighted.
3. 2011 or nearest available year.
Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

How to read this figure: Each curve represents cumulative income growth at different points of the income distribution. For example, low real incomes in New Zealand grew by 13% between the mid-1980s and 2011 (Panel C) while high real incomes increased by 44%, indicating that income inequality widened.

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Figure 18. **Inequality in household disposable income**
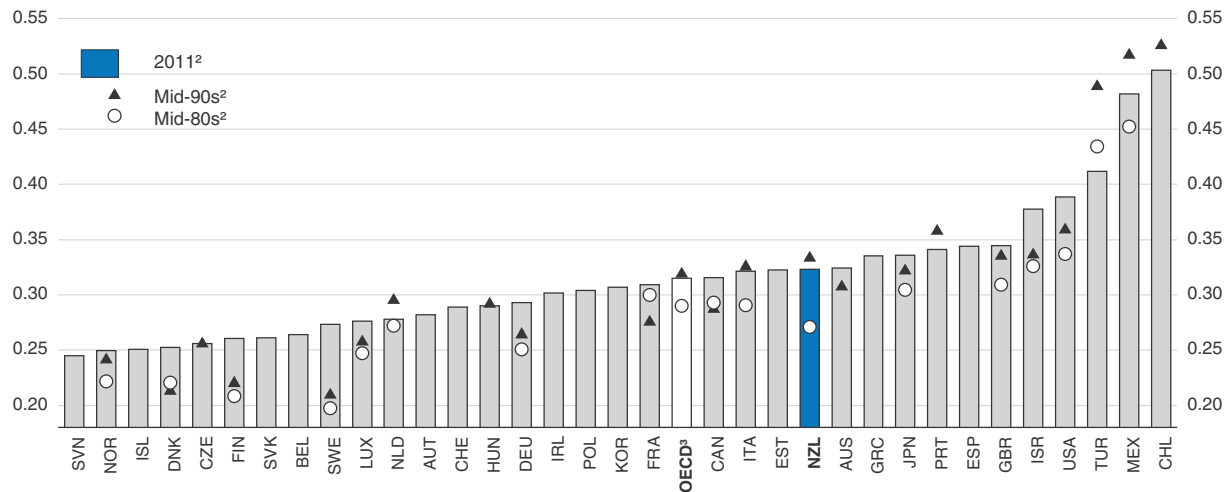
Gini coefficient,[1] total population

1. The Gini coefficient is a measure of income inequality that ranges from 0 (where all households have the same income, or complete equality) to 1 (where one household has all the income).
2. Mid-80s corresponds to the interval 1983-87, mid-90s to 1993-96 and 2011 refers to the latest available year.
3. Unweighted average of countries available for each period.
Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

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Figure 19. **Reduction of market income inequality through taxes and transfers**[1]

Working-age population

1. Difference between market- and disposable-income Gini coefficients, as a percentage of the market-income Gini coefficient.
2. Unweighted average of countries available for each period.
3. Or latest year available.
Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

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Poverty rates after housing costs also increased in the decade to the mid-1990s, especially for children, but have been broadly stable since then if the poverty line is expressed as a percentage of median income, and have even declined somewhat if it is expressed as a percentage of real median income in a reference year (Figure 20). Increases in poverty rates before housing costs have been smaller, reflecting the rising burden of housing costs on low-income households (Figure 21), and the rate is currently around the OECD average. Poor housing affordability for low-income households has been aggravated by the shift in new housing supply from affordable to high-end housing. This may be linked to rising land prices, which make the building of affordable housing uneconomic (New Zealand Productivity Commission, 2012).

Figure 20. **Poverty rates**

Percentage below selected thresholds after housing costs[1]

A. Whole population

B. Dependent children

1. After housing costs (AHC) thresholds are calculated by deducting 25% from the corresponding before housing costs (BHC) threshold as an allowance for housing costs. Each household's AHC is then assessed against the chosen threshold.
2. Constant value (CV) or "anchored" thresholds are based on the BHC median in a reference year, currently 2007.
3. The moving line or "relative" approach sets the poverty line as a proportion of the median income from each survey, so that the threshold changes in step with the incomes of those in the middle of the income distribution.

Source: B. Perry (2014), *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2013*, Ministry of Social Development, Wellington, July, Tables F.4 and F.7.

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Figure 21. **Housing costs and price distribution of new housing investment**

A. Proportion of households with housing-cost-to-income ratios greater than 30%
By income quintile

B. New housing investment
High-, medium- and low-price shares[1]

1. The construction data only include life-style, stand-alone and attached residential dwellings – apartments, which do not have individual entrances from the exterior and are typically in high-rise buildings, are excluded. For each year, the data show the share of new houses that are valued within each quartile of the value distribution for the existing housing stock.

Source: B. Perry (2014), *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2013*, Ministry of Social Development, Wellington, July, Table C.3 for Panel A; Productivity Commission calculation using Corelogic data for Panel B.

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Poverty and hardship rates are much higher for entirely jobless households than for those with someone in work (Table 4; Figure 22). Accordingly, the government has reformed the welfare system to facilitate the transition to work. The centrepiece of the reform is the "investment approach" to setting priorities for the Ministry of Social Development's Work and Income (W&I) service. Under this approach, the agency is asked to prioritise their employment-related interventions to where they are most likely to reduce long-term benefit dependency and long-term welfare costs. While the ultimate objective is to lift the long-term outcomes of beneficiaries, this narrower approach is used as a proxy for these wider economic and social benefits and, as an accountability tool, is better aligned with what W&I can control. Accordingly, priority for employment-related

interventions is given to beneficiary classes where potential net savings are greatest: youth, sole parents and jobseekers. This approach yielded considerable expected future budget savings in its first full year of operation (ending June 2013), with more than half of the 10% fall in the net present value of future liabilities in areas that W&I can influence. However, welfare reform would be more effective in reducing poverty if the investment approach were complemented by a greater focus on improving outcomes for people going off benefit. W&I is working on using longitudinal data to inform decisions about priorities in service delivery to this end.

Table 4. **Comparison of hardship rates based on income and non-income measures**

By selected individual and household/family characteristics (2012 HES),[1] per cent

	Income poverty	Material hardship[2]		
	AHC REL 50[3]	ELSI[4]	FRILS[5]	MWI[6]
Total population	**13**	**13**	**13**	**12**
Age group				
0-17	20	21	19	19
18-24	17	14	14	15
25-44	14	12	12	13
45-64	9	10	9	9
65+	7	6	8	3
Ethnicity (average over HES 2010, 2011 and 2012)[7]				
European	11	10	11	-
Māori/Pacific	23	28	31	-
Family type				
SP	44	39	34	36
2P	12	14	14	13
Number of children (average over HES 2010, 2011 and 2012)[7]				
One	19	16	15	-
Two	17	15	15	-
Three+	27	28	25	-
Main sources of income for families/households < 65				
Market	9	10	11	10
Government	64	43	42	42

1. Household Economic Survey.
2. Material hardship occurs when households have "resources that are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities" (Townsend, 1979).
3. After housing costs relative poverty rate based on disposable income less than 50% of the median.
4. Economic Living Standards Index. It ranks the population from an enforced lack perspective, in which respondents do not have essentials because of cost, and a freedoms enjoyed perspective, based on the degree of restriction/freedom for having or purchasing desirable non-essentials (while having the essentials) (Perry, 2014).
5. Fixed Reference Index of Living Standards. This is an experimental alternative to the ELSI that uses most of the ELSI items but takes much less account of what respondents want to have or do. FRILS does not use the general self-rating items that play a large part in the ELSI.
6. Material Wellbeing Index. This is a revised and updated version of the ELSI.
7. Figures for ethnicity and number of children are averages over these surveys to improve the reliability of the estimates, as some of the sub-divisions have relatively low sample numbers.

Source: B. Perry (2014), *Household incomes in New Zealand: Trends in indicators of inequality and hardship 1982-2013.*

Figure 22. **Jobless and in-work poverty rates,**[1] **2011**[2]

A. Jobless poverty

B. In-work poverty

1. Poverty rates correspond to the percentage of individuals living in households whose disposable income falls under half the median value of disposable income in their country. Poverty rates are calculated for all persons living in a household with a working-age head and at least one worker (in-work poverty rate), and for all persons living in a household with a working-age head and no workers (poverty rate among jobless households).
2. Or nearest year available.
3. OECD unweighted average.
Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

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The investment approach may have contributed to an increase in sole-parent employment rates. The proportion of sole parents with dependent children employed increased by 10.3 percentage points during the three years ending in 2014, considerably more than the 2.4 percentage points increase in the previous three-year period (to the September quarter of 2007) with a similar economy-wide employment growth rate. However, whereas there was a large increase (12 percentage points) in the proportion of such households in full-time employment in the earlier period, this share actually fell in the most recent period, with the result that there was a smaller rise in hours worked. This reflects the impact of policy settings that create strong incentives for sole parents, and

others on low incomes, to work 20 hours a week but little or none to work more. The introduction of Working for Families (WFF, a means tested benefit for households with children) has mitigated the impact of benefit abatement for working 20 hours a week since it became fully operational in 2007.

However, rates at which benefits are withdrawn as income rises are very high for people working more than 20 hours. This is reinforced by the steep abatement of childcare subsidies beyond 20 hours per week for three and four year-old children. As a result, a sole parent taking up full-time, low-wage employment faces an average effective tax rate of over 80%, a third of which reflects childcare costs (Figure 23). This impact is despite the availability of income-tested subsidies, in addition to the 20 hours subsidies, for low-income families (which cover almost 70% of the cost of childcare for those on the lowest incomes). These costs are higher than the OECD average, accounting for New Zealand's higher overall effective tax rate. W&I has also identified non-flexible childcare hours as a barrier to work and is experimenting with flexible hours for sole parents. There is a need to review policy settings to strengthen the incentives for those on low incomes to work more than 20 hours a week, which would include a review of benefit and WFF abatement rates, as well as reducing childcare costs.

Figure 23. **Effective tax rate for a sole parent moving to low-paid full-time work**

Moving into full-time employment with earnings of 67% of average earnings, including childcare costs,[1] 2012

1. Effect of childcare costs for a sole parent with two children, aged two and three.
Source: OECD, *Tax-Benefit Models Database, www.oecd.org/els/social/workincentives.*

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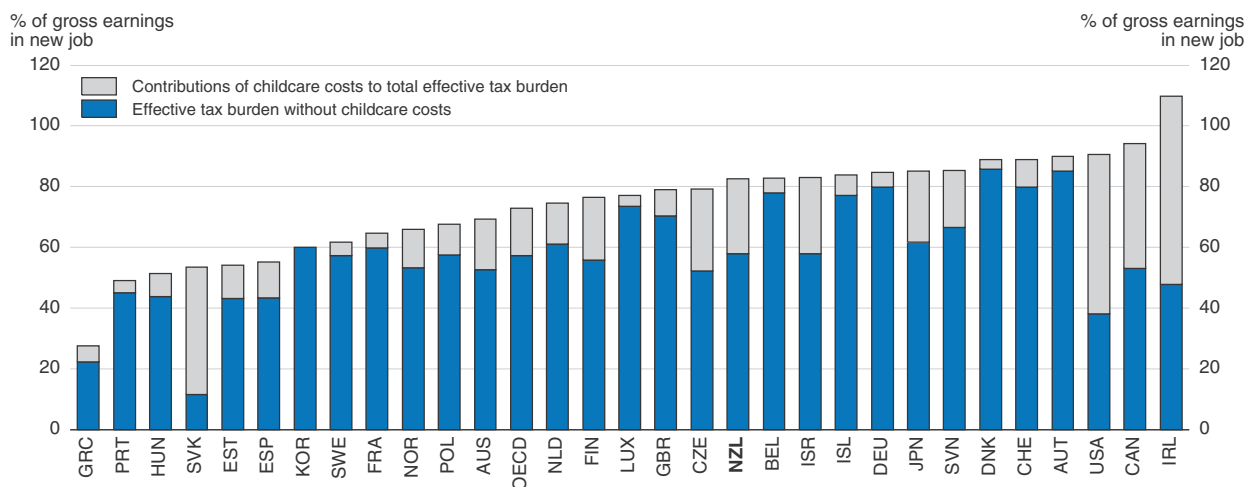
Poverty rates could also be cut by increasing social benefits, which have been falling relative to wages as they are indexed to the Consumers Price Index (Figure 24). In addition to these main benefits, most beneficiaries receive supplementary benefits (a variety of means-tested benefits available to both beneficiary and working households) targeted at vulnerable families. However, increases in supplementary benefit payments have been smaller for beneficiary households than for low-income working households owing to the introduction of Working for Families, which provides greater benefits to low-income working households than beneficiaries. In view of the high child-poverty rate in beneficiary households, priority should be given to raising income by increasing benefits and/or

supplementary benefits for welfare beneficiaries with dependent children. This would help to reduce the high relative poverty risk for sole-parent households (Figure 25), more than half of whom rely on benefits as their main source of income. Increasing main (basic) benefits and indexing them to median wages would reduce poverty across all beneficiary classes, including single-person households (below age 65), who have the second-highest relative risk of poverty.

Figure 24. **Ratio of main benefit payments to net average wage**[1]
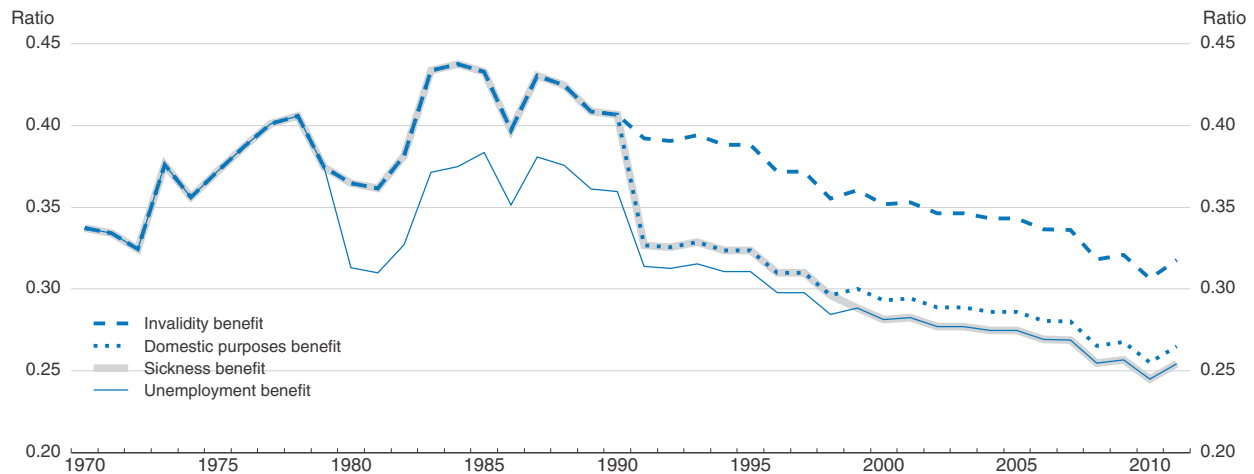
1. As most beneficiaries also receive supplementary benefits, such as the Accommodation Supplement and family tax credits, their total income is likely to be higher than shown in this figure. However, increases in family tax credits have been targeted mainly to low-income working households rather than beneficiaries.
Source: New Zealand Treasury (2013), *Working-Age (Non-NZS) Welfare – Draft Paper for the Long-Term Fiscal External Panel*, January, Figure 4.
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Figure 25. **Poverty risk ratios by household type**[1]
Based on a constant value poverty line of 60% of median income after housing costs

1. The poverty risk ratio is the ratio of the poverty rate for a particular group divided by the poverty rate of the whole population.
Source: B. Perry (2014), *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2013*, Ministry of Social Development, Wellington, July, Table G.8.
StatLink ⬛ *http://dx.doi.org/10.1787/888933220206*
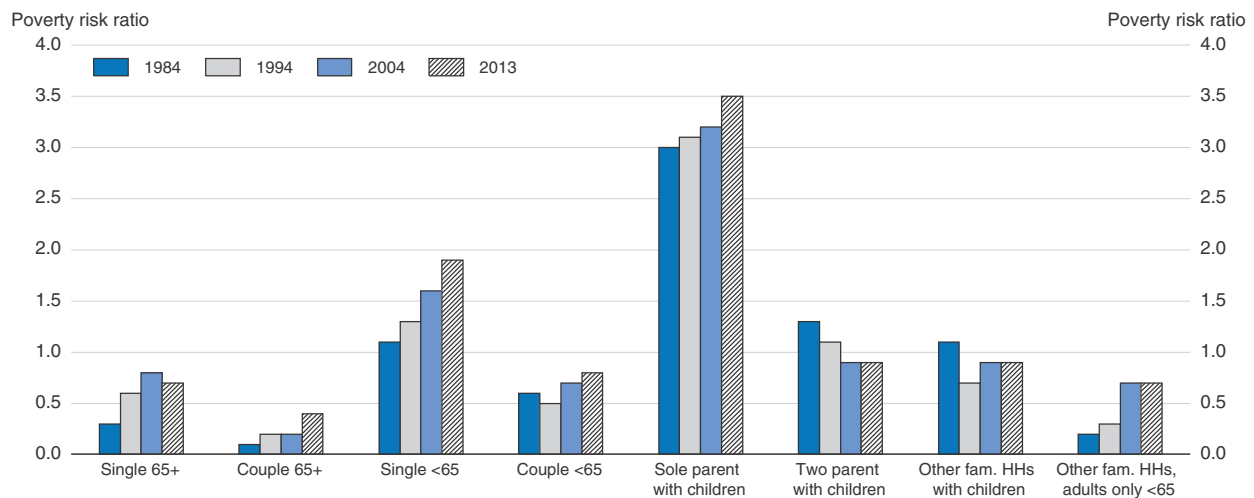
The downside of higher benefits is weaker work incentives. To counter this effect, the government should step up job-search support and activation programmes for beneficiaries for whom work is a feasible option, spending on which is low by international standards and falling (Figure 26). Increasing resources for job-search and activation programmes is one of few structural reforms identified in a recent OECD study (Causa et al., 2014) that would both increase economic growth and reduce income inequality.

Figure 26. **Public expenditure on active labour market policies per unemployed**[1]

As a percentage of GDP per capita

1. The latest available year is 2011 for Australia, Ireland, Israel, Luxembourg, Poland and Spain; and 2009 for the United Kingdom. The OECD average excludes Greece, Iceland and Turkey. For 2007, data refer to 2008 for Chile.

Source: OECD, *Public Expenditure and Participant Stocks on Labour Market Participants* and *Economic Outlook Databases*.

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Lowering the burden of high housing costs on low-income households

Reforms that reduce housing costs for low-income households have considerable potential to improve their lot. Increasing the supply of affordable housing in Auckland would benefit low-income households by reducing its prices. In addition to the land-use changes discussed above, the government and Auckland Council are working to increase the supply of affordable housing through Special Housing Areas and redeveloping social housing estates.

Social housing plays a vital role in alleviating poverty. It is more effective than Accommodation Supplement, the other main subsidy to reduce low-income households' housing costs, reflecting the much higher subsidy rates for social housing, where rents are limited to 25% of household income. The downside of income-related rents, however, is that they reduce incentives to take up employment. Jobseeker Support recipients who are social housing tenants are less likely to take up employment (only 9% did so over a recent six-month period) than non-social-housing tenants (22%). Further analysis of this difference is required to determine the extent to which it is attributable to income-related

rents as opposed to other factors, such as social-housing tenants typically having greater barriers to employment and/or less valuable skills than private-sector tenants. Insofar as income-related rents are discouraging transitions into employment, case management of social housing tenants should be reinforced.

The government is committed to strengthening the contribution of social housing to improving well-being and reducing poverty. Housing New Zealand (HNZ), the Crown owned entity that operates most social housing, is adjusting its housing stock to bring it more into line with demographic and geographical demand. Existing tenancies are being reviewed to move people paying market rents out of social housing to make room for those with greater needs.

The government has also launched a Social Housing Reform Programme, which will transfer part of the Crown's social housing stock to community providers in order to provide better service to tenants and improve the effectiveness of related public expenditure. The government believes that such providers will be more client-focused and innovative than HNZ. It will be important to closely monitor the implementation of this reform and the tenancy reviews and to assess their results in terms of: housing and social outcomes for tenants who move out of social housing; efficiency in improving outcomes for social housing tenants; and adequacy of protections to prevent private operators from taking excessive financial risks, as occurred in the Netherlands, which could result in additional fiscal costs.

The government has also committed to increasing the number of social housing units funded by the income-related rent subsidy from around 62 000 currently – 5% of the total dwelling stock, which is low compared with double-digit shares in most European countries – to 65 000 in 2017/18. This expansion is to be achieved through new supply, more efficient providers, better asset utilisation and configuration, and tenancy reviews. The government should also increase public support so that a more significant increase in the social housing stock can be achieved. Subsidising housing costs for low-income households through expanding the supply and eligibility for social housing rather than through the Accommodation Supplement (AS) has the advantage that none of the subsidy is passed through into higher rents and thus capitalised into higher land values. As the increased supply of social housing will not accommodate all low-income households, it would make sense to increase AS and reprioritise it to benefit the poorest households living in high-cost areas, provided that most of the benefits accrue to tenants rather than landlords. An empirical evaluation of AS should be undertaken to estimate its incidence on rents.

Poor housing quality for low-income households contributes to high rates of infectious diseases, such as rheumatic fever, and poor educational achievement. To reduce the incidence of rheumatic fever, people who are deemed most at risk have been given priority for social housing since 2014. The government has also been subsidising housing insulation, a programme that should be prolonged and for which the rate of take-up by landlords should be raised. The government should also oblige new tenancies to meet progressively higher quality standards, such as those required to get a pass on the Healthy Housing Index (see Chapter 2).

Improving health outcomes for disadvantaged groups

Health outcomes are generally worse for Māori, Pasifika and low socio-economic groups (Ministry of Health, 2014). In some dimensions, such as access to immunisation, inequality is diminishing; in others, such as mortality, improvements for Māori, Pasifika and low-income individuals have not been as rapid as for others (Figure 27). The causes of these differential outcomes are complex but include differences in access, use and experience of health services as well as in exposure to risk factors. Resolving these issues is a focus for the health system and government.

The higher prevalence of obesity and smoking are key risk factors for excess mortality among Māori, Pasifika and those with low-incomes (Ministry of Health, 2013). To reduce obesity, a comprehensive programme of multiple interventions is likely to be required (McKinsey Global Institute, 2014). Education and encouraging personal responsibility need to be complemented by changing the environment to encourage physical activity and better nutrition, thereby facilitating healthy behaviour. In this regard, there is scope for primary care to make a greater contribution through improved obesity management. Currently, less than half of obese adults had their weight checked at their usual medical centre in the past year, and only a quarter received advice about their weight, diet or physical activity (Ministry of Health, 2014). Healthy Families NZ, which was recently implemented in ten communities, aims to reduce lifestyle risk factors. To discourage cigarette smoking, tobacco taxes have been progressively increased by 70% since 2010, reaching the OECD average in 2011 and the highest rate in the OECD in 2015, with a further 10% rise scheduled for 2016 (TobaccoAtlas.org); each 10% increase in taxes is estimated to reduce the number of smokers by 5-7% (Isaac, 2012; Chaloupka et al., 2012). The government is also considering regulation to permit only plain, undifferentiated packets, as in Australia.

Amenable mortality (i.e. deaths from diseases that are potentially preventable given timely and effective health care) rates have declined across all groups but are substantially higher for Māori, Pasifika and low-income individuals (Ministry of Health, 2010). These differences appear to be attributable to lower health literacy and less access to primary care related to social disparities, including cost. The cost barrier could be reduced by further targeting the Very-Low-Cost-Access scheme, which provides extra funding for medical practices that keep fees below certain thresholds in high-need communities. Considerable progress has also recently been made in improving the prioritisation system for elective surgery, in line with OECD (2013b) recommendations, resulting in more services being provided to disadvantaged groups (Controller and Auditor-General, 2013).

Improving education outcomes for individuals in disadvantaged groups

Average PISA scores in New Zealand are above the OECD mean but have been declining (Figure 28). However, scores for Māori and Pasifika students are well below average and have also been falling. Moreover, the impact of socio-economic background on PISA scores is greater and has increased by more in New Zealand than the OECD average (Figure 29). While attainment has been rising for all groups, rates remain considerably lower for people from lower socio-economic backgrounds and/or of Māori or Pasifika ethnicity (Figure 30). Increasing educational attainment is very important for equality of opportunity in the long term, because parental attainment, especially of mothers, has a strong influence on how well their children do in education.

Figure 27. **Mortality ratios for disadvantaged vs advantaged groups**
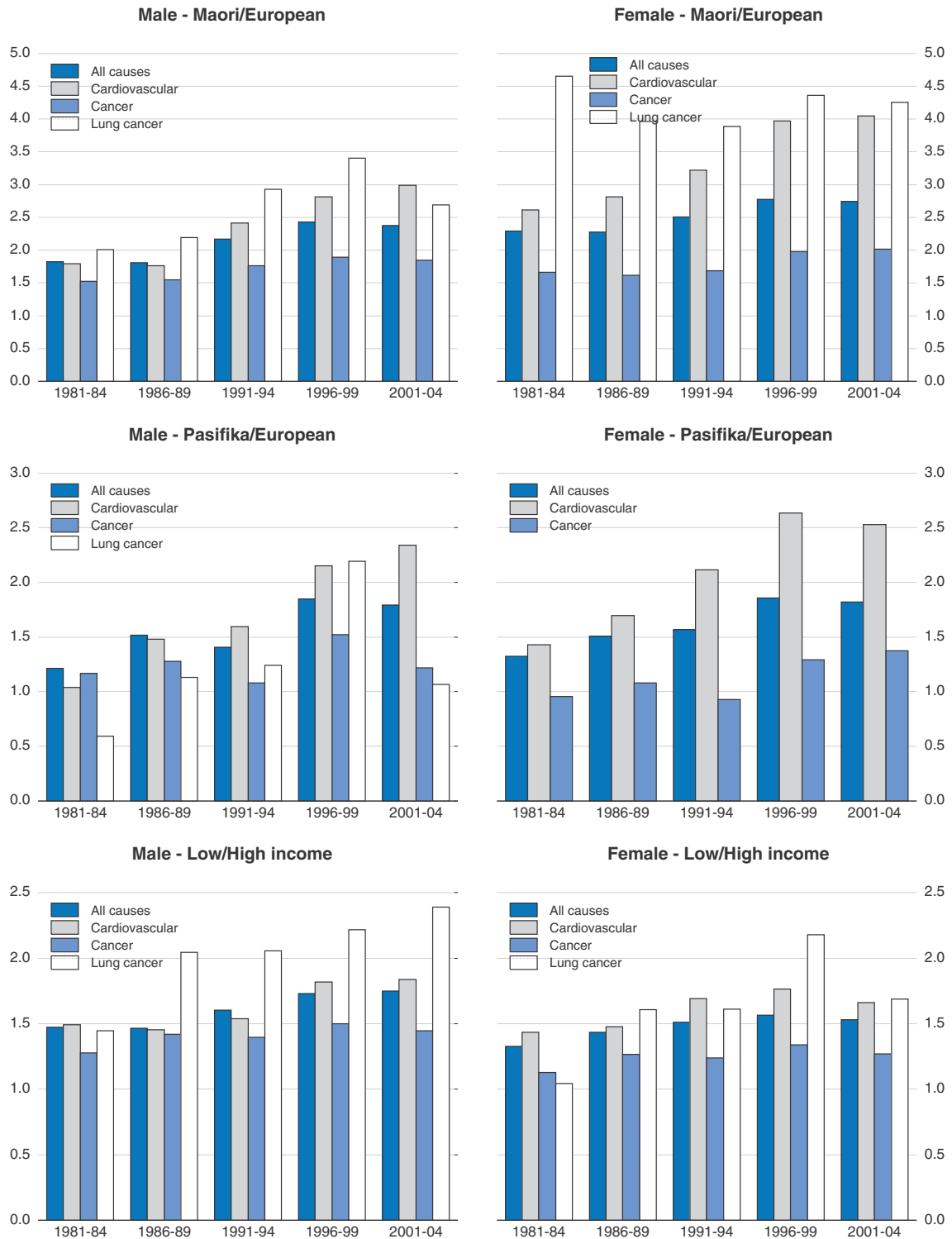
By cause of death, 1-74 years old

Source: OECD calculations based on data extracted from the New Zealand Census Mortality Study WebTable Results, *www.otago.ac.nz/ NZCMSWebTable/.*

StatLink ᴪᴪᴪ *http://dx.doi.org/10.1787/888933220228*

Figure 28. **New Zealand's average PISA scores have fallen**

Source: OECD, PISA Results, various years.

StatLink ⟐ http://dx.doi.org/10.1787/888933220236
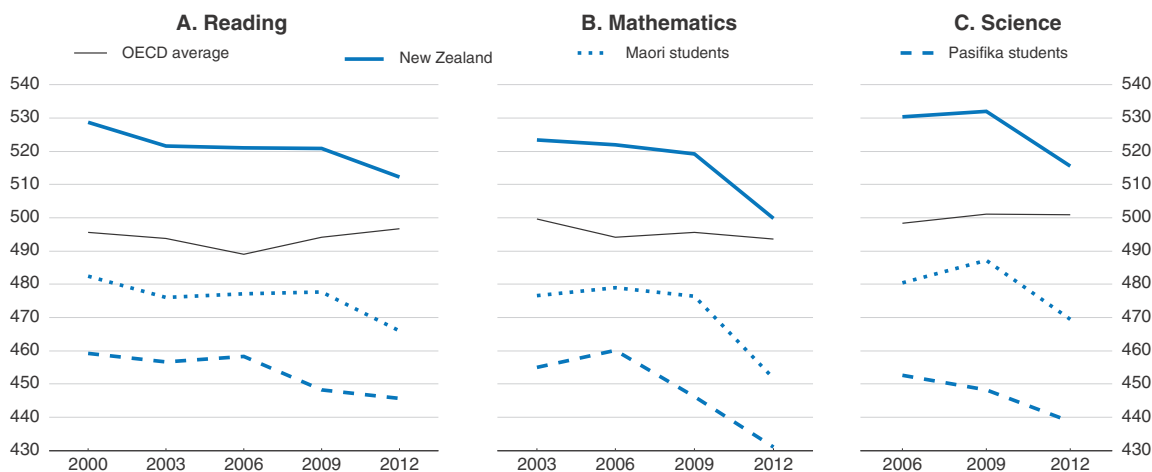
Figure 29. **Influence of socio-economic background on PISA scores in mathematics**
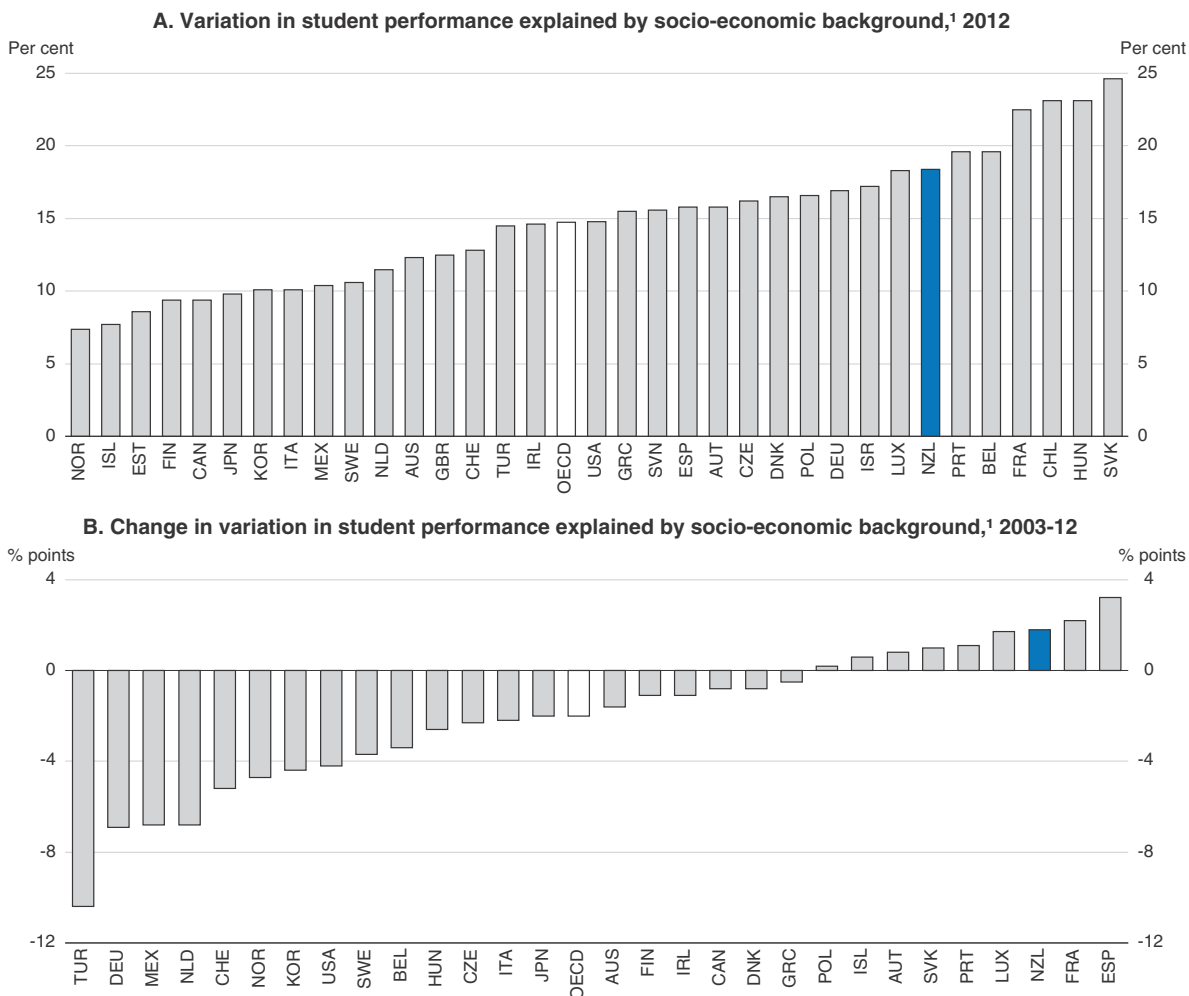
1. PISA index of economic, social and cultural status.

Source: OECD (2014), PISA 2012 Results: Excellence through Equity: Giving Every Student the Chance to Succeed, Vol. II, Figure II.1.2. and Table II.2.9b.

StatLink ⟐ http://dx.doi.org/10.1787/888933220248

Figure 30. **Educational attainment**
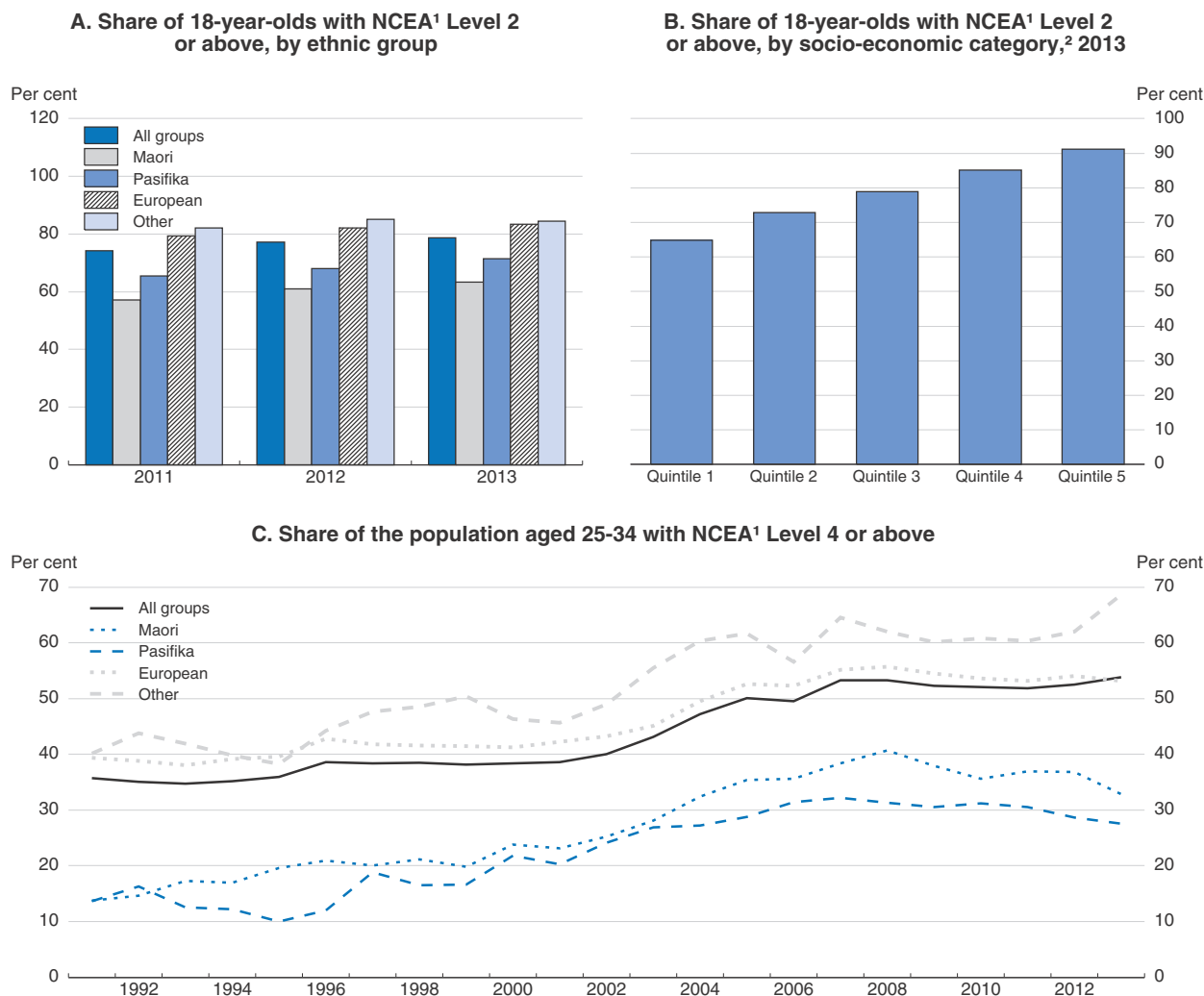
A. Share of 18-year-olds with NCEA[1] Level 2 or above, by ethnic group

B. Share of 18-year-olds with NCEA[1] Level 2 or above, by socio-economic category,[2] 2013

C. Share of the population aged 25-34 with NCEA[1] Level 4 or above

1. National Certificate of Educational Achievement.
2. Socio-economic school district rankings. Quintile 1 schools have the lowest socio-economic ranking while quintile 5 schools have the highest.

Source: Ministry of Education (2015), *Education Counts, www.educationcounts.govt.nz/statistics/schooling/senior-student-attainment/school-leavers2.*

StatLink ᵃˢᵖ *http://dx.doi.org/10.1787/888933220255*

Improving outcomes for those in disadvantaged groups is complex and requires a multifaceted approach. The main elements of the New Zealand government's current approach are:

● Increasing participation of disadvantaged groups in early childhood education (ECE) (Figure 31) and improving ECE quality. While significant progress has been made, the official 98% participation target by 2017 remains challenging. The government will also need to monitor outcomes for disadvantaged individuals and, if necessary, move to ensure that increased participation is delivering improved education outcomes for them. Programmes that combine good-quality ECE with parenting support and education, such as Engaging Priority Families, should be expanded, as they are highly beneficial (Karoly et al., 2005).

● Encouraging students to stay in school longer by improving pathways to further learning and work through the Youth Guarantee. These initiatives provide new routes to National Certificate of Educational Achievement (NCEA) Level 2 qualifications. This has increased retention in education to age 17 and attainment of such qualifications by age 18 (Ministry of Education, 2014), but these initiatives need to be evaluated for their long term effectiveness.

● Raising teaching quality, which has the greatest benefit for student learning of all factors (Alton-Lee, 2003; Hattie, 2009). A range of initiatives are underway to improve the quality of teaching, consistent with OECD work suggesting a high-quality teaching workforce is a result of deliberate policy choices carefully implemented over time. One area that could be further explored is providing increased financial support to schools with high concentrations of children at risk of under-achievement to recruit and retain effective teachers. Communities of schools are also being created to increase collaboration and improve their teaching and leadership expertise, including those with high concentrations of students from low socio-economic backgrounds. As part of this programme, a new "principal recruitment allowance" has been created to attract high quality principals to schools with the greatest achievement challenges. Improved allowances are available to schools that establish these roles to support leadership that improves school performance and achievement. Greater collaboration through communities of schools should improve teaching. These reforms are consistent with OECD recommendations (Schleicher, 2011) and will be more effective if current efforts to ensure that teachers and schools have the skills to collect, analyse and interpret data in order to support improved student outcomes are strengthened over time (Nusche et al., 2012).

Figure 31. **Early childhood education non-participation rates for children starting school**

By school decile[1] and ethnic group, December 2014

1. All schools are given a decile rating depending on the socio-economic status of the community their students come from. Decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic communities while decile 10 schools have the lowest.

Source: Ministry of Education (2015), *Education Counts* website – Early Childhood Education Participation Statistics.

StatLink ⟨⟩ *http://dx.doi.org/10.1787/888933220268*

Māori medium schools, which provide teaching and learning in Te Reo Māori (the Māori language) within Māori cultural settings, are also helping to increase Māori student achievement rates. This success seems to be based on a number of factors, including strong family and Māori community and learner engagement, high community and teacher expectations of learners, as well as affirmation of the learner's culture and identity. Adjusted for socio-economic background, 74-84% of school leavers achieve NCEA Level 2 qualifications or higher in such schools compared with only 56% in other schools. Unfortunately, for a variety of reasons, only a small minority of Māori students attend these schools, especially at upper secondary levels. These reasons include accessibility (not all regions have Māori medium schools) and shortages of Māori language teaching resources and qualified teachers who are fluent in Māori (with an associated relatively narrow range of subject choices). While teacher shortages may be expected to ease over time as some of the graduates from these schools themselves become teachers, further steps may be needed to facilitate a faster increase of quality and supply. New Zealand's Māori medium education programme is supporting improvement in quality of provision and the breadth of education pathways available to students in Māori medium education.

Recommendations to make growth more inclusive

Key recommendations

- Complement the recent welfare reform by following up people going off benefit, as planned, to ensure satisfactory outcomes. Strengthen the focus of social spending on lifting the long-term outcomes of the disadvantaged, including by improving coordination across the public sector.

- Raise the supply of social housing for low-income households. Increase targeted housing subsidies for low-income households that are not in social housing.

- Adopt a comprehensive approach to reducing obesity, covering personal actions, factors that influence physical activity and nutritional practices, and improved obesity management through primary care.

- Meet the 98% participation target for early childhood education. Ensure that the education provided is of high quality, includes programmes to enhance the involvement of parents and focuses more on the outcomes of children with disadvantaged backgrounds.

Other recommendations

- Increase welfare benefits for beneficiary households with children, and step-up job-search and activation investments, especially for jobseeker beneficiaries who are social housing tenants.

- Review policy settings to strengthen the incentives for those on low incomes to work more than 20 hours a week, including benefit abatement rates and childcare costs. Reduce further the costs (including transport and childcare) of access to primary health care for the poor.

- Provide more financial support to assist with the recruitment and retention of effective teachers and school leaders for schools with high concentrations of children at risk of under-achievement.

- Continue to strengthen existing measures to help school boards, principals and teachers use student achievement data to ensure that all students are performing well.

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ANNEX

Progress in structural reform

This Annex reviews actions taken on recommendations from previous Surveys. Recommendations that are new in this Survey are listed at the end of the relevant chapter.

Product market competition

Recommendations	Action taken since previous *Survey* (June 2013)
Abolish the government's "Kiwi share" in Telecom. Make coverage obligations contestable by other telecommunications companies and technologically neutral.	No action taken.
Pass a suitably refined Regulatory Responsibility Act, and refine the "principles of reasonable regulation" that requires minimal interpretation by the courts.	In mid-2013 the government agreed to legislate to disclose key features of all legislation, including providing information on government expectations for the development of legislation in order to facilitate greater scrutiny and support the production of legislation that is robust and consistent with good practice. Starting 29 July 2013, all committee papers seeking approval must have a disclosure statement.
Authorise the Commerce Commission to use a wider range of interventions to resolve cases more quickly. Expand the use of *ex post* evaluations of Commission decisions to assess performance.	The Fair Trading Amendment Act of 2013 included increased penalties, the introduction of infringement offences and the ability of courts to impose banning orders. The new penalties took effect 14 June 2014. New Zealand currently uses *ex post* evaluations of mergers and acquisitions on an ad hoc basis.
Move towards privatisation of SOEs.	The government sold minority shares in three energy companies and Air New Zealand.
Remove all remaining tariffs and Zespri's export monopoly on kiwifruit.	No action taken.
Consider reducing local government ownership of port assets to bring more market discipline to the sector.	No action taken.
To promote a high-performance ICT infrastructure, clarify the competition policy framework for the broadband market, and adjust regulations to ensure consistent pricing strategies for copper and fibre networks.	The government has begun the process to determine a cost-based price for unbundled bitstream access (UBA) and unbundled copper local loop (UCLL) access under the final pricing principle. Previous pricing arrangements for UBA expired 1 December 2014.
Improve the transparency of the FDI screening regime.	No action taken.
Review air service agreements to ensure capacity limits are not restricting trade growth, especially with Asian countries where limits have been reached.	No action taken.

Labour markets

Recommendations	Action taken since previous *Survey* (June 2013)
To tackle youth unemployment consider: i) reinstating a (lower) minimum wage for 16-19 year-olds; ii) extending the 90-day trial period further, say up to six months, for employment contracts.	The starting-out wage was introduced in mid-2013. It can be paid to: 16-17 year-olds in their first six months of work with a new employer; 18-19 year-olds who have been paid a benefit for six months or longer, and who have not completed six months of continuous work with any employer since starting on benefit; and 16-19 year-olds in a recognised industry training course involving at least 40 credits per year. The starting-out wage is 80% of the minimum wage.

Financial markets

Recommendations	Action taken since previous *Survey* (June 2013)
Ensure there is a streamlined regulatory framework that requires firms offering collective investment instruments to have appropriate governance structures with sufficiently stringent requirements for trustees to make sure that they are capable of discharging their duties.	The several Acts defining governance requirements for managed investment schemes were replaced with a single governance regime, the Financial Markets Conduct Act 2013, for retail managed investment schemes. It will require a licensed external supervisor and licensed managers of managed investment schemes.
Adopt a more rigorous approach to disclosure requirements for fees and expenses for collective investment instruments so as to enhance transparency and allow for easier comparability across products.	The KiwiSaver (Periodic Disclosure) Regulations 2013 required schemes to provide periodic reports on fund performance, fees, asset allocation, conflicts of interest and other matters using standardised calculation methods and disclosure statement templates by 1 July 2013. The Financial Markets Conduct Act 2013 requires managed investment schemes to produce shorter and simpler disclosures for investors that ease comparisons between products.
While recognising the current strength of the financial system, contain emerging risks to financial system stability with tighter prudential policy settings, including the deployment of new macro-prudential policy instruments. Consider implementing bank leverage ratios, permanent deposit insurance and higher capital requirements for too-big-to-fail banks.	Temporary limits on the new issuance of high loan-to-value (LTV) ratio mortgages (80% or greater) were implemented in October 2013, along with requirements for banks to hold a higher level of capital against high LTV ratio mortgages. Only 10% of new mortgage lending within a 3-month period may be in this form; however, 15% is planned to be permitted outside of the Auckland area as of 1 October 2015, reflecting more subdued housing conditions in these regions, pending consultation. The Reserve Bank also plans to establish a new asset class for residential property lending to investors (defined as any retail mortgage secured on a residential property that is not owner-occupied), as of 1 October 2015. Banks will be required to hold more capital against this asset class and from 1 October 2015 investors using bank loans to purchase residential property will be required to have a deposit of at least 30% in the Auckland Council area. The Reserve Bank has decided against implementing a leverage ratio and a charge on systemically important financial institution for now. However, capital requirements for all banks are under review.

Housing markets

Recommendations	Action taken since previous *Survey* (June 2013)
Adopt spatial planning systems for all urban areas, and reform the Resource Management Act (RMA) to better incorporate urban development needs.	The RMA was amended in September 2013. Changes included modifications to improve consenting times, introducing a streamlined process for Auckland's unitary plan, the introduction of a 6-month time limit for processing consents on medium-sized projects, easier referral to the Environmental Court for major regional projects, and stronger requirements for councils to use cost-benefit analysis in planning decisions.
Establish a comprehensive framework to value land based on cost-benefit analyses of alternative uses. Increase use of pricing mechanisms to influence the location of development (e.g. financial contributions, road user charges, congestion tolls), and improve public transit services.	No significant action taken. Some investments are being undertaken to improve public transit services. The government has reformed the development contributions regime to ensure that its policy principles (recovery of the costs of growth) are being met.
Distribute the cost of infrastructure through higher user fees on those benefitting from its services.	No significant action taken. Development contributions have been tightened so as to exclude the ability to pay for infrastructure that is not needed to service residential developments (Local Government 2002 Amendment Act 2014).
Treat KiwiSaver withdrawals for first-home purchases as interest-bearing loans or limit them to low-income members.	No action taken. Larger KiwiSaver withdrawals are now permitted. The member tax credits can now be withdrawn, and house price limits have increased in most areas (as of 1 April 2015). In addition, increased cash grants (subsidies) are offered for newly built first homes with the amount related to the purchaser's years of contributions to KiwiSaver.

Recommendations	Action taken since previous *Survey* (June 2013)
Begin regular tenancy re-assessments for all occupants of state housing, accompanied by increased efforts to help tenants achieve financial independence and self-sufficiency.	Tenancies are now being reviewed for social housing for tenants paying market rents for more than one year, and with weekly incomes greater than $500 (the income threshold varies according to the average housing costs in the region), building on the reform of 3-year reviewable tenancies for all new social housing tenants since 2011. The review is intended to ensure that social housing is available for the people who need it the most for the duration of that need.
Evaluate whether state housing tenants requiring more permanent housing provision such as the elderly and disabled may benefit from placement in specialised long-term housing facilities better adapted to their needs.	One of the key objectives of the Social Housing Reform Programme is to ensure that people who need housing support can access it and receive social services that meet their needs The programme provides an opportunity to grow specialist community providers who provide housing and other services for particular groups of people. The government has also provided funding to registered charities that provide supported housing options for older New Zealanders. Local authorities are also active in the provision of social housing for older people (pensioner housing).
Remove water rate subsidies to tenants paying market rents.	No action taken.

Innovation and business creation

Recommendations	Action taken since previous *Survey* (June 2013)
Tie public R&D funding to private-sector funding. Ensure business R&D incentives work in concert with different R&D support programmes.	The Callaghan Innovation programmes provide a range of R&D support measures from support for small and start-up companies to medium and large sized enterprises. The programme's R&D Growth Grants tie public R&D funding to private-sector funding.
Expand foreign-credentials recognition to a larger number of countries, and facilitate residency acquisition for foreign students after graduation. Foster a closer integration of education, immigration and labour-market policies with innovation policies.	As of December 2013, changes to international student visa requirements allow more English-language students studying at high-quality institutions to work part-time. The changes also provide full-time work rights during all scheduled holidays to international students and give unlimited work rights to international PhD and Masters-by-research students. Immigration New Zealand also trialled an industry partnership initiative with education providers in 2014. Providers that are part of the initiative will be able to offer streamlined and prioritised visa processing and in return will be accountable for the immigration outcomes of their international students. Plans are to roll out the partnership model more broadly in 2015.
To address equity financing gaps, shift the allocation of the NZ Venture Investment Fund to provide greater support for early-expansion stage firms. Clarify the tax treatment of venture capital investments.	No action taken.
To improve the conditions for intangible asset investments, adjust the tax treatment of patent sales to be consistent with that of other assets. Consider allowing accelerated depreciation of patent assets. Redesign the Technology Development Grants to simplify the approval criteria and ensure access to small, innovative start-ups, and continue to monitor its effectiveness.	The Technology Development Grants were replaced in mid-2013 by Callaghan Innovation grants, comprising R&D Growth Grants, R&D Project Grants and R&D Students Grants and increased funding by NZD 98 million, amounting to NZD 566 million available over four years. The new grants include simplified approval criteria, with the new Growth Grants aimed at medium- and large-sized firms, and include an expanded funding cap. R&D Project Grants are aimed at smaller companies and those that are new to R&D, while incubator support programmes assist start-up businesses. The Accelerator Programme also provides support to early stage ICT and digital technology start-ups.

Skills development

Recommendations	Action taken since previous *Survey* (June 2013)
Ensure greater ECE participation by children from disadvantaged backgrounds by a more targeted approach, such as home instruction programmes, and by refocusing child-care subsidies on low-income groups to encourage suppliers to enter into areas of low provision.	Equity Funding provides additional funding to increase ECE participation among disadvantaged groups. There are also programmes that combine good quality ECE with parenting support and education, such as Engaging Priority Families.
Provide incentives and opportunities to merge and cluster fragmented school networks so as to achieve efficiencies, particularly in administration, and educational benefits.	A reform is underway that could achieve some of these benefits through increased collaboration among schools.
Devolve funding for a greater share of overall school costs, including teacher pay, providing schools with greater flexibility to allocate resources and maximise performance.	A review of education system funding is part of the government priorities for 2015-17. This work will examine how to improve the efficiency and flexibility of funding systems.
Review current mechanisms for targeting resources to schools of low socioeconomic background.	While a formal review has not been undertaken, other New Zealand educational initiatives have been developed that seek to address disadvantage. These include the Investing in Educational Success programme, which seeks to provide more collaborative use of expert schooling resources within communities, including those with low socioeconomic background. The Youth Guarantee programme also directs additional resources to students at risk. Wider funding flexibility and targeted resource allocation will be addressed as part of a planned education system funding review.
Continue to strengthen external checks on school self-review and internal assessment processes (peer-to-peer moderation, Education Review Office review, publication of school information and national benchmarking), thereby reinforcing their twin foundations of responsibility and trust.	This process is ongoing.
Carefully promote quality-inducing school competition and innovation, keeping in check any tendency toward school segregation by imposing strong social-service obligations in exchange for government support, with objective evaluation of pilot projects in this sphere.	A key focus of the Investing in Educational Success package is to promote collaboration among schools. The greater availability of Public Achievement Information (PAI) enables richer information on student achievement and school performance. The Education Review Office has also recently completed a toolkit for parents to support parent engagement and informed decision-making. New Zealand has invested in a public information portal. Further work is also envisaged to improve publicly available information on student achievement and school performance.
Foster teaching quality by improving content of teacher training and professional development, especially as to diverse student needs, bolstering school leaders' capacity via selective hiring and training, and tying salaries and career paths to performance rather than merely seniority.	Professional learning and development is currently under review, and this will be completed early in 2015.
Consider mandating learning (in-work or formal education) up to age 18 while improving relevance of curricula and school activities for disaffected students. Make greater efforts to keep such students in mainstream education and in well-integrated classrooms.	The government has focused on lifting achievement through the 85% NCEA level 2 target for 2017. Vocational pathways, trade academies, and the Youth Guarantee programme are achieving retention benefits.
Seek community-based initiatives to reduce NEET, and apply successful lessons nationally, while providing expanded funding for training and apprenticeships in high-unemployment areas.	Local initiatives like the Mayors' Taskforce for Jobs (nationwide network of Mayors) and the Social Sector Trials (a 2011 initiative by the Ministry for Social Development) have provided an opportunity to see what works. The Māori and Pasifika Trades Training initiative has led to the formation of 12 consortia (composed of tertiary institutions, employers and iwi), including some in high unemployment areas.
Carefully evaluate youth outcomes under the Youth Service, ideally with a two-year window of follow-up, and terminate ineffective policies and/or providers.	An evaluation was published in June 2014, after 18 months of operation. The findings are very positive, with the young people covered more likely to be in education or training, to have gained NCEA level 2 qualifications or to move off benefit than under the old welfare system. Ineffective providers are automatically terminated because contracts are outcome-based.

Recommendations	Action taken since previous *Survey* (June 2013)
Strengthen the quality of apprenticeships to offer straighter paths into jobs, signal business skills needs and provide strong incentives for apprenticeship completions. Facilitate participation by disadvantaged youth, improving quality assurance, and ensuring funding adequacy and enhanced accountability for outcomes. Provide training content that is not too focused on specific skills or sectors and provide contractual and other safeguards for apprentices and employers alike. Further strengthen capacities of Industry Training Organisations (ITOs) as intermediaries charged with apprenticeship programme administration and skills leadership, including by means of adequate flexibility in meeting performance targets. Encourage the expansion of pilot group training schemes to help contain funding costs. Study the merits of funding the employer subsidy, in whole or in part, via modest sector levies.	As of 1 January 2014, the Modern Apprenticeship scheme and other apprenticeship-type training were replaced with the New Zealand Apprenticeship scheme. Under this new scheme all people over the age of 16 are eligible, whereas previously applicants had to be 16-21. Under the old scheme, apprentices had to work towards at least a NCEA level 3 qualification, whereas now they must work towards a NCEA level 4 qualification. In addition, the limit on the number of applicants who could qualify for funding under the Apprenticeship Reboot scheme was removed. The reform programme has also strengthened ITOs, the number of which has been reduced from 33 to 12 through mergers. In addition, employers now have the option of managing industry training funds directly instead of working with ITOs. Four pilot programmes have been agreed to date. Māori and Pacific Trade Training developments also help support improved participation in vocational education.
Continue to make education more job relevant by: i) provision of better information to students about labour market outcomes to enable them to make study choices via high-quality and relevant professional careers education at secondary and tertiary levels; and ii) increasing transparency and accountability in the system about programme quality and outcomes (completion rates; employment outcomes).	The New Zealand government has developed an Occupational Outlook App, released in 2014, which aims to make information on labour market demand more readily available to prospective students. The government has also established an Outcomes of Tertiary Education programme which should be helpful in publicising outcomes information. Vocational Pathways work has been assisting students to choose coherent courses through clear information about employment prospects.
Increase tertiary-sector responsiveness to labour market needs by formalising linkages between providers and employers, and directing funding to projected areas of skills shortfall, including better targeting of course offerings by providers and merit- and needs-based scholarships.	The new Tertiary Education Strategy (TES) 2014-19 focuses on increasing relevance and linking to labour market needs. The TES is used to guide government investment in tertiary education. The government has also established a number of new ICT Graduate Schools, providing better linkages between the ICT community, industry and employers, and improving the alignment and relevance of tertiary provision.
Consider boosting practical training components within engineering degrees through support for tertiary education institutions located near engineering clusters.	No significant action taken. In mid-2013 the Tertiary Education Commission released a study on the initiatives that engineering tertiary education providers are undertaking to grow the number of students and link with industry.
Collaborate with Australian tax authorities to enforce the same repayment obligations of NZ student debt-holders working there as those who remain at home.	An agreement on an information-sharing arrangement between Australia and New Zealand government authorities for the recovery of student loans has been finalised and will come into operation in 2016.

Health care

Recommendations	Action taken since previous *Survey* (June 2013)
Give sufficient spending autonomy to District Health Boards (DHBs), including responsibility for maternity and disability spending. Decentralise wage bargaining to allow the DHBs the flexibility to innovate.	The Ministry of Health retains responsibility for most maternity and disability support spending. Some primary health organisations have been given budget responsibilities for additional services (e.g. community radiology). DHBs as employers determine their wage bargaining approach within state-sector guidelines.
Evaluate whether government ownership of public hospitals, or outsourcing hospital management to an independent agency might help resolve DHB conflicts of interest and stimulate cost consciousness, efficiency and competition in the hospital sector.	No action taken.
Allow capitation payments to better "follow the patient", eliminating restrictions on access to such payments by individual physicians and practices.	No action taken.
Consider a role for wider private health-insurance coverage, with appropriate regulation and/or taxation.	No action taken.
Determine doctors' salaries within the budget envelope for hospitals set by the output-based payment system.	No action taken.

Fiscal policy

Recommendations	Action taken since previous *Survey* (June 2013)
Raise the pension eligibility age in line with longevity. Consider increasing further the KiwiSaver minimum contribution rates and indexing NZ Super benefits wholly or partly to the CPI.	No action taken.
Focus on engaging private partners in productivity-enhancing investments and practices, especially in health care and education, with careful cost benefit analysis to ensure that this leads to greater efficiencies.	No action taken in health care and education.
Target the Working for Families programme more tightly on the working poor by lowering upper income thresholds and increasing abatement rates.	No action taken.

Taxation

Recommendations	Action taken since previous *Survey* (June 2013)
Eliminate the double-taxation of trans-Tasman profits distributed to shareholders by continuing to work towards agreement with Australia on mutual recognition of imputation and franking credits for foreign investment.	In May 2014 the Australian and NZ governments responded to the joint Australian-NZ Productivity Commissions study on the trans-Tasman relationship, which included the mutual recognition of imputation credits. The two governments agreed the issue will be considered in Australia's Tax Reform White Paper.
Realign corporate, capital and top marginal income tax rates, or reduce capital income tax rates.	No action taken.
Limit the tax deductibility of losses from rental property investments by only allowing them to be offset against future rental income.	No action taken.
Implement a capital gains tax and boost environmental and property or land taxes to facilitate a more efficient and equitable tax structure.	No action taken.
Consider limiting the KiwiSaver tax credits to only low-income members. Extend automatic enrolment to all existing employees. Change the investment strategy for default funds to a life-cycle approach that is adapted to the member's age.	No action taken.

Green growth

Recommendations	Action taken since previous *Survey* (June 2013)
Improve horizontal and vertical co-ordination of sustainable development policy. Central government should set national environmental standards and provide national policy statements and technical training for local authorities.	The 2011 National Policy Statement for Freshwater Management (NPS-FM) was amended in 2014 to provide greater direction and support to help regional councils, including the National Objectives Framework to set freshwater objectives with compulsory national bottom lines for human and ecosystem health.
Improve the measurement of water abstraction and quality via evolving national guidelines. Implement water charging for domestic, industrial and agricultural uses.	The recent amendments to the NPS-FM require councils to set environmental flows and/or levels for all freshwater management units in their regions to give effect to established water objectives. This includes implementing a water quality and quantity accounting system and identifying methods to encourage its efficient use and reduce its over-allocation.
Continue to encourage the development of market-based mechanisms where possible to manage the supply and quality of fresh water. Allow water consents to be tradable. Apply pollution-rights trading to address water and air pollution, with no free rights for newcomers.	The 2014 amendments to the NPS-FM require councils to identify methods to encourage efficient use of water.
Strengthen price signals within the Emissions Trading Scheme (ETS) by phasing out transition provisions. In the meantime cap and auction domestic allocations.	No action taken.
Discontinue free emissions permit allocations to new entrants into protected energy-intensive, trade-exposed sectors.	No action taken.
Maintain afforestation grant schemes.	The Afforestation Grants Scheme has been allocated NZD 22.5 million over the next five years.

Recommendations	Action taken since previous *Survey* (June 2013)
Investigate and promote innovations (e.g. smart metering, pastoral emissions mitigation technology) proven to enhance responsiveness to ETS price signals.	The work programme exploring complementary measures, in addition to the ETS, to promote long-term emissions reductions is proceeding.
Remove the preferential tax treatment for petroleum exploration expenditures and the income tax exemption on offshore oil and gas activities for non-resident companies. For the petroleum sector, eliminate the revenue-based royalties and move to a pure profit-based regime; if significant discoveries are made, switch to a rent-based system. To ensure that proceeds are shared with future generations, clearly designate them for debt repayment or, if significant discoveries are made, for sovereign wealth fund contributions.	No action taken. The income tax exemptions which were to expire at the end of 2014 were extended until the end of 2019. The exemption now excludes operators of drilling rigs of modular construction that are installed on an existing offshore platform and includes operators of electromagnetic surveying vessels.

Thematic chapters

Chapter 1

Sustaining the economic expansion

The NZ economy has performed well over the past few years, having achieved relatively strong GDP and employment growth. However, some constraints to sustaining this momentum beyond the short term are emerging in the fields of skills, housing and urban infrastructure. Skills shortages have risen most in construction trades and management occupations. Housing shortages are most severe in Auckland, reflecting supply constraints in the face of population increases. As a result, prices are rising, reducing affordability. Urban infrastructure, particularly for road transportation, is also strained. In this respect, policy has a role to play in expanding economic capacity by reducing supply-side constraints and fostering productivity growth. At times New Zealand's fiscal policy has been expansionary during upturns. Ensuring that permanent spending or tax cuts are implemented in a sustainable manner would encourage the strong fiscal position that New Zealand needs to meet potentially large macroeconomic shocks and long-run ageing-related costs.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

New Zealand has witnessed robust growth since 2011, buoyed in part by terms-of-trade gains, despite some recent reversal, and reconstruction activity related to the 2010-11 Canterbury earthquakes. Strong job creation has encouraged high net immigration, and unemployment rates have fallen. Constraints to sustaining strong growth in the NZ economy beyond the short term are emerging in skills, housing and infrastructure. Policy can play a role in enabling the economy to address these shortages and increase prospects for productivity gains. Risks associated with high house prices and heavy external debt remain, and measures to lessen these risks could also aid in increasing the durability and underlying pace of the expansion.

The analysis in this chapter will: i) look at the extent to which labour supply has been responsive to demand, including the role of education and immigration in labour market adjustment, and whether skills shortages have emerged; ii) review the responsiveness of housing supply to strong population growth and the related regulatory framework; iii) examine infrastructure bottlenecks and funding frameworks that could facilitate increased infrastructure provision and possible demand-management practices that could enable more efficient use; and iv) assess risks to the NZ economy, particularly related to external debt, which may cut short the expansion and policy measures to address these issues.

Labour supply in the current cycle

Employment has expanded rapidly since 2012, with widespread gains by sector. One industry that has stood out has been construction, where increased labour demand reflects reconstruction activity following the Canterbury earthquakes in 2010-11 and strong residential building in Auckland. As a result, the NZ labour market has tightened. National unemployment has trended down since late 2012 but remains above pre-recession outcomes (Figure 1.1). However, unemployment rates are near all-time lows in Canterbury, reflecting demand for construction-related workers, as well as service-sector positions to support rapid population growth.

Along with rising demand for labour, skilled vacancies have trended up since late 2009. Based on online job-vacancy figures, increases in vacancies have been fairly broad based, with the largest increase in openings for technicians and trade workers (Figure 1.2, Panels A and B). However, such data may understate actual vacancies for industries where recruitment takes place outside of the two main online job boards (SEEK and TradeMe). For instance, in the information technology sector recruiters tend to use specialist online jobs boards and head hunters, which are excluded from the Jobs Online Index. In addition, skilled vacancies may understate the demands from the construction sector, given a high degree of self-employment and the industry's small scale. In any case, mirroring employment developments, skilled vacancies have risen the most in Canterbury, outpacing the national level since 2011 (Figure 1.2, Panel C).

Figure 1.1. **Unemployment rates by region**

Source: Statistics New Zealand.

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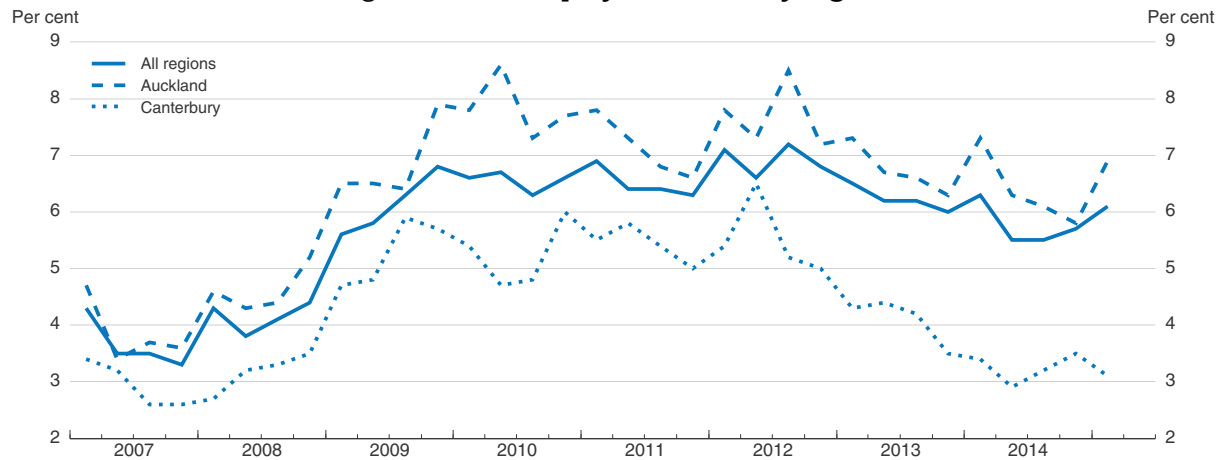
Figure 1.2. **Skills shortages**

Index of skilled vacancies, trend series, January 2009 = 100

A. By industry

B. By occupation

C. By region
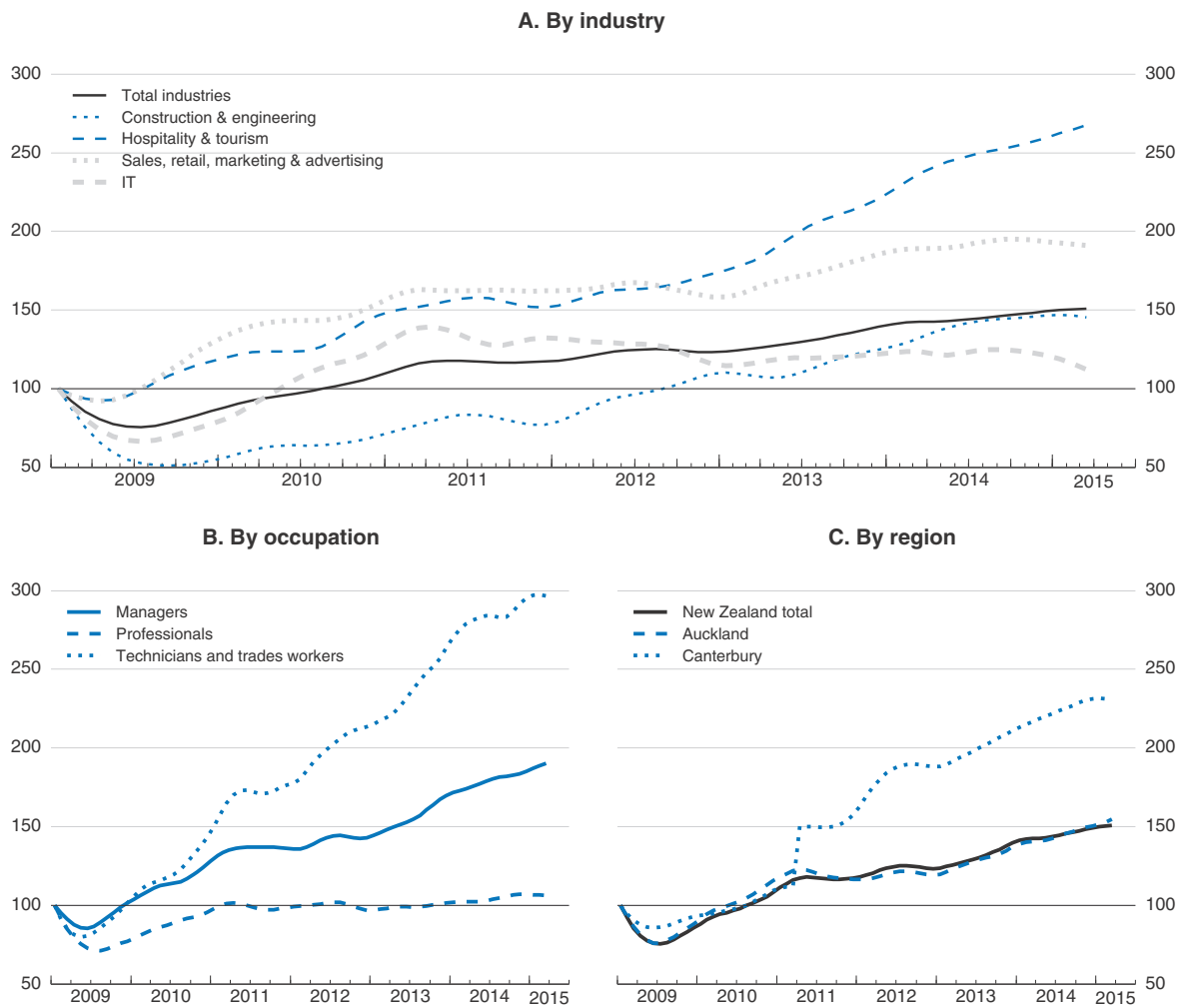
Source: Ministry of Business, Innovation & Employment (2015), *Jobs Online Monthly Report*, March.

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According to the New Zealand Institute of Economic Research's (NZIER) Quarterly Survey of Business Opinion, skilled labour has become steadily more difficult to find, with a rising net number of firms reporting hiring difficulties since mid-2010, but labour appears to be easier to source than during the years leading up to the 2008-09 global recession. Although businesses report increased difficulties in hiring both skilled and unskilled labour across the country, shortages are most acute in Canterbury (MBIE, 2014a). Furthermore, Statistics New Zealand's Business Operations Survey (BOS) for 2014 showed that construction vacancies were some of the hardest to fill, although the degree of difficulty is less severe than in 2008 during the last construction cycle (Figure 1.3).

Figure 1.3. **Businesses with hard-to-fill vacancies**

Last financial year at August 2008 and 2014[1]
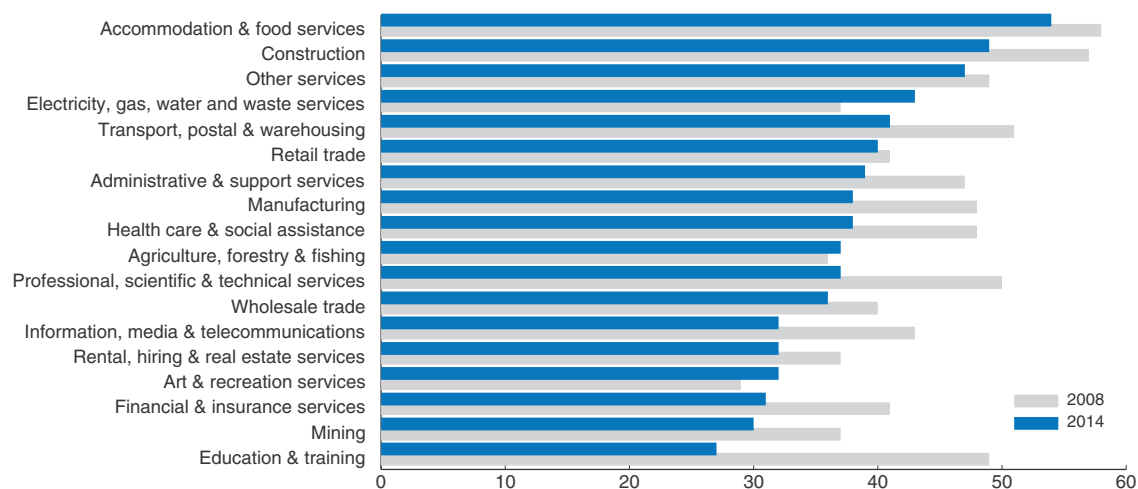
1.   Last financial year refers to the last financial year for which businesses had results available in August. Financial years for businesses finish on 31 March in New Zealand.

Source: Statistics New Zealand, *Business Operations Survey: 2013* and *Business Operations Survey: 2014.*

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According to the conventional definition, skills shortages tend to occur when employers are unable to recruit staff with required skills at the going rate of pay. In order to attract more staff when facing a shortage, employers tend to offer increased wage rates for required skills, which eventually encourages individuals to acquire skills in high demand. This is consistent with results from the BOS: as a result of hard-to-fill vacancies, roughly 40% of respondents increased salaries and raised advertising and recruitment spending, and a third increased training and/or redefined existing jobs (Statistics New Zealand, 2014). Yet, despite widespread employment gains and rising vacancies, wage pressures have been fairly subdued. While stronger construction wage growth has occurred in Canterbury, aggregate construction wage growth (based on the labour cost index) does not appear to be significantly out of line with other industries (Figure 1.4). A similar lack of wage pressures from the construction sector was also witnessed during the last construction boom in 2000-09 (Department of Labour, 2011). This suggests that, despite tightening labour markets, both skilled and general labour shortages appear to have been fairly well contained.

Figure 1.4. **Wage rates[1] by industry and region**

Year-on-year percentage growth rate
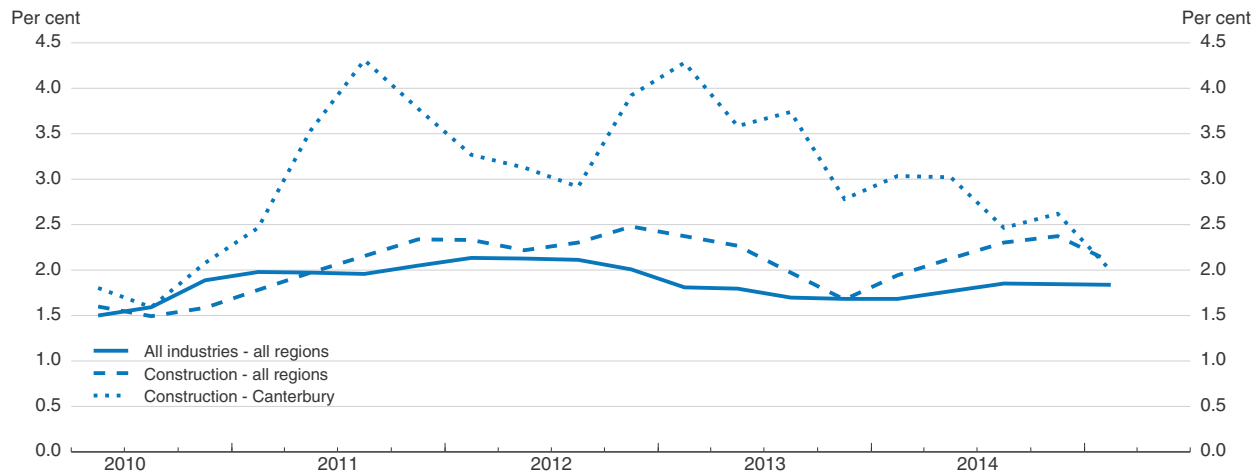
1. All salary and wage rates.
Source: Statistics New Zealand.

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Skills shortages and the role of education and training

Data on skills premiums suggest skills shortages are limited in aggregate, but that higher returns to health, engineering, ICT and management degrees may suggest some shortages in these fields. Returns to tertiary education (both university Type A and college Type B) relative to secondary school in New Zealand are comparatively low (OECD, 2014a), and tertiary wage premiums have moderated slightly in the latest data (for 2012) compared with those for 2000. While these low returns and their moderation since 2000 may reflect the country's low productivity, with wage rates reflecting the marginal product in a competitive market (OECD, 2013), measurement issues are also important. Tertiary returns are evaluated relative to secondary returns and the latter may be boosted by a large stock of tertiary vocational education and training (VET) non-completers in New Zealand. In addition, a large share of tertiary-educated immigrant inflows may at least initially experience lower earnings than their native-born counterparts, lowering tertiary returns directly. Although these factors may account for roughly half of the gap in tertiary returns relative to the OECD average, after their removal New Zealand's private returns to tertiary education remain relatively low (Zuccollo et al., 2013). It is also important to note that these data are only collected for one's highest degree; therefore, they do not account for the potential contribution of previous degrees to tertiary returns.

Earnings premiums vary considerably by field of study. The highest bachelor-degree premiums are in health, engineering, information technology and management (Figure 1.5). New Zealand tends to graduate a low share of engineering students compared to other countries (OECD, 2014a). In response to these potential engineering skills shortages, the government has expanded engineering positions in universities and reduced applicable tuition fees. Wage premiums are also associated with ICT, but it is unclear from the labour data whether skills shortages have become more prevalent, as the frequency of reports of hard-to-fill vacancies in these disciplines has tended to decline

Figure 1.5. **Earnings premium five years after study**

Percentage gap over median earnings for level 1-3 certificate
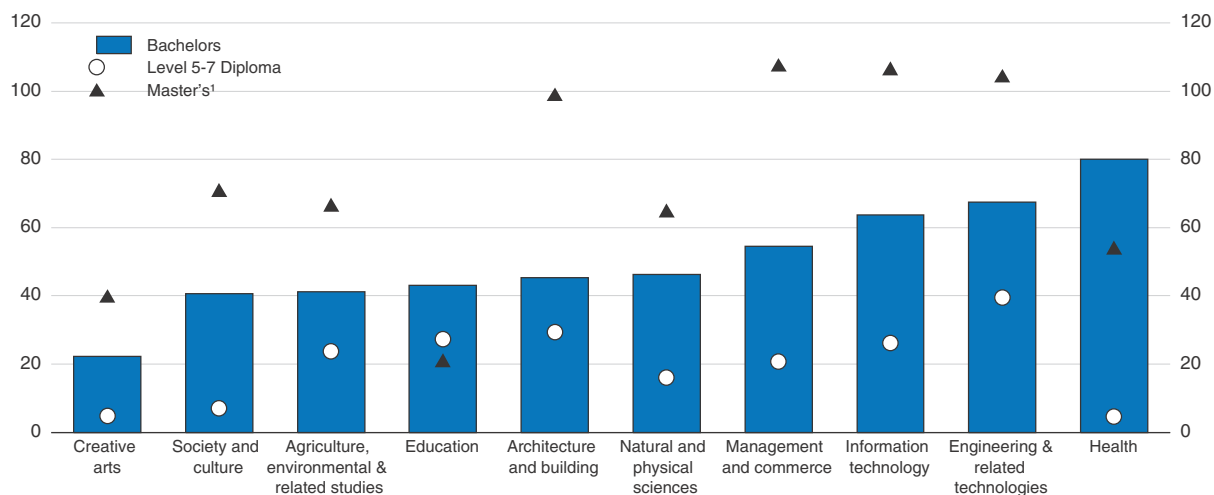
1. The lower earnings premium for Master's graduates in education than Bachelor's graduates results from a move towards part-time employment amongst the Master's graduates in the study.

Source: Mahoney et al. (2013), *Moving on Up – What Young People Earn After their Tertiary Education*; OECD calculations.

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since 2008. However, reports of shortages (e.g. New Zealand Productivity Commission, 2014a) may reflect experience and industry relevance. There may also be a need for higher-level skills, with entry into advanced research programmes lower than in best performing countries, particularly when excluding international students (OECD, 2014a). In the services sector, more effective use of ICT could improve labour productivity. Firms that produce or use ICT intensively te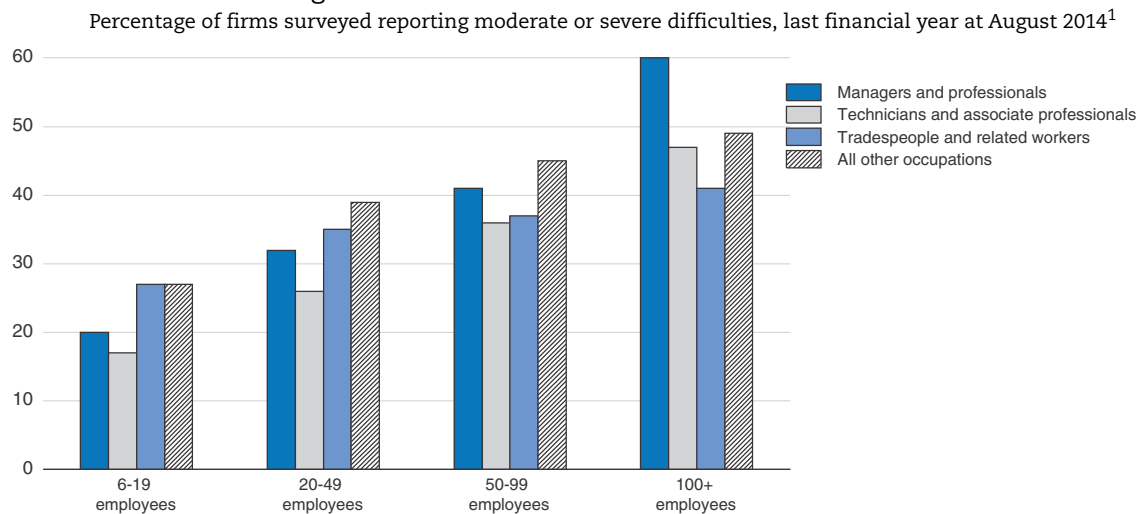nd to have higher productivity than others, and the uptake of ICT may be limited by these skills shortages or a lack of managers with ICT know-how (New Zealand Productivity Commission, 2014a). The government has responded by announcing in its 2014 Budget plans to establish ICT graduate schools in Auckland, Christchurch and Wellington, close to high-technology companies, to enhance university-industry linkages and internship opportunities. This may better prepare ICT graduates for employment and ensure that these degree programmes remain relevant to the marketplace.

Shortages of qualified managers have been most evident in large firms, and these may be constraining business scale in New Zealand (Figure 1.6). This could be costly, as large NZ firms are more likely to export, face greater competition, adopt new technology, innovate and have better outcomes in terms of sales growth, productivity and profitability (Statistics New Zealand, 2015). In addition, a lack of managerial resources was the most frequently cited factor hampering business innovation, which may have constrained productivity growth more generally. These results also appear to hold true on a cross-country basis: firms with greater assessed managerial quality also tend to have higher productivity, profitability and growth rates and are less likely to exit due to bankruptcy (Bloom et al., 2012).

Figure 1.6. **Firm size and recruitment difficulties**

Percentage of firms surveyed reporting moderate or severe difficulties, last financial year at August 2014[1]

1. Last financial year refers to the last financial year for which businesses had results available in August. Financial years for businesses finish on 31 March in New Zealand.

Source: Statistics New Zealand, *Business Operations Survey: 2014.*

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New Zealand's policy environment is generally conducive to competition and managerial quality, with comparatively low product market regulations and employment protection legislation (Figure 1.7). In such an environment, surviving firms should be better managed and more productive. Graduates of business and administration are also numerous as a share of the population relative to other countries (OECD, 2013); however, better equipping a broader range of graduates of other disciplines with management or soft skills may be required. In addition, implementing p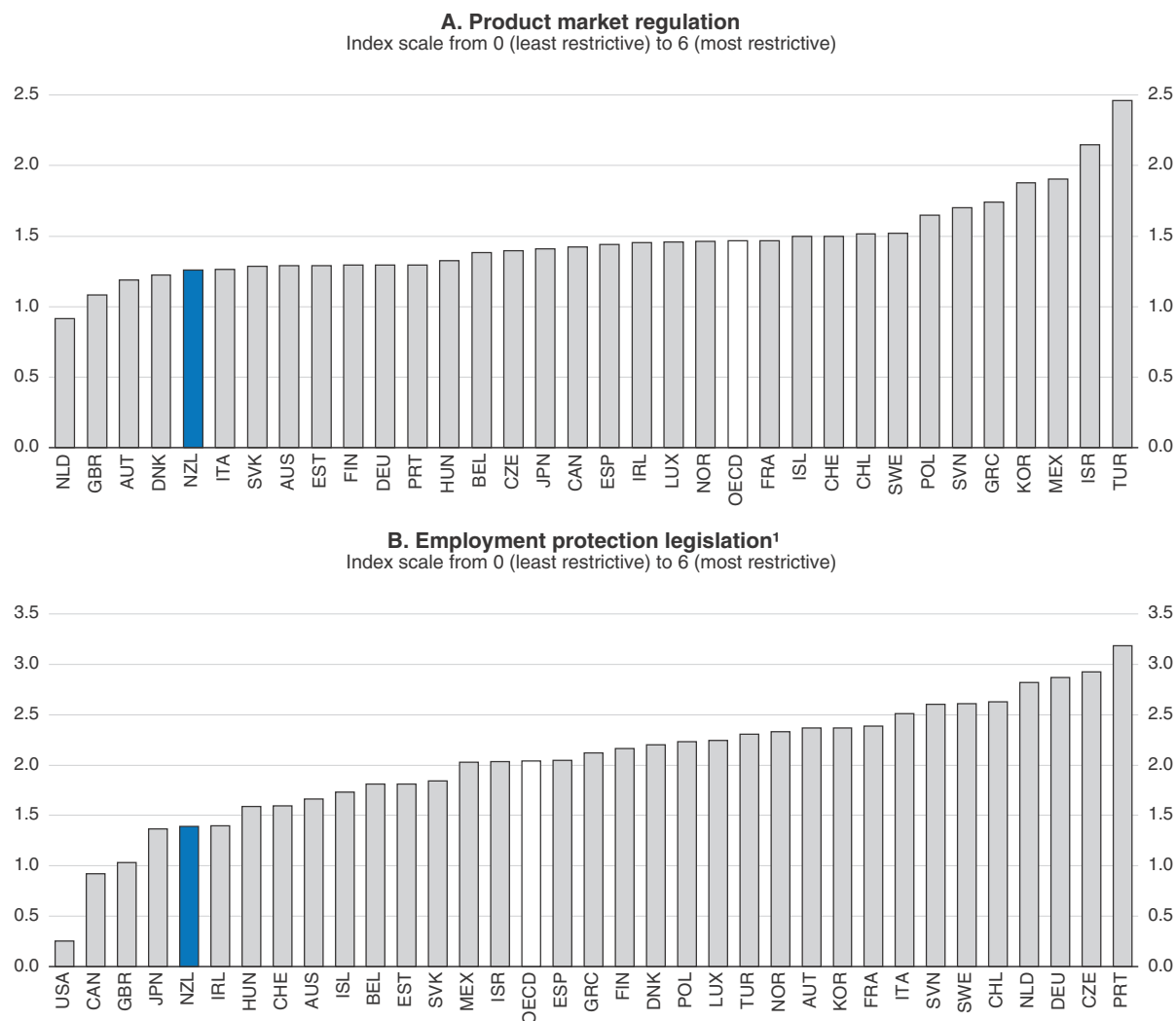olicies that could foster greater competition in the domestic market could also be positive for growth. For instance, foreign multinationals appear to have better management practices than NZ firms, which is also true of other host countries (Bloom et al., 2012). Such firms appear able to call upon better management practices in different situations; enabling further foreign direct investment (FDI) may therefore lead to spill-overs in terms of management expertise. Improving the FDI screening regime, by reducing complexity and restricting the scope of investments considered sensitive, could potentially aid in increasing competition and business scale, thereby encouraging higher productivity growth.

Concerned that low returns to tertiary education may reflect students' poor degree choices, the government has increased the amount of information that students have when making career choices, including the Occupational Outlook, which provides information on career paths, employment prospects and educational requirements to prospective students. The Vocational Pathways programme has also been implemented to provide clearer information about employment prospects and more diverse ways of obtaining foundational skills to move into employment. In addition, the government has published data on graduate outcomes across fields and levels of study; however, centralising such information to make it more readily available to students could help. Regional initiatives, such as the Work Force Skills Roadmap for the Auckland Construction Sector, provide information to VET providers regarding medium-term construction skills needs. Skills for Canterbury focuses on skills gaps for the rebuild. Continuing to develop these linkages will probably aid in addressing skills needs.

Figure 1.7. **Regulations affecting the business climate, 2013**

A. Product market regulation
Index scale from 0 (least restrictive) to 6 (most restrictive)

B. Employment protection legislation[1]
Index scale from 0 (least restrictive) to 6 (most restrictive)

1. Protection of regular workers against individual and collective dismissals.
Source: OECD, *Product Market Regulation* and *Employment Protection Legislation Databases.*

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Migration and targeted initiatives have reduced skills shortages, particularly in Canterbury

Migration plays a key role in labour market adjustments. Both permanent, work-related immigration and temporary migration are high compared with other OECD countries (Figure 1.8). While permanent immigration reflects more than just work-related movements, a large share of these migrants originally entered on a temporary basis (OECD, 2014d). In addition, the free movement of labour between Australia and New Zealand has buffered the gap between labour supply and demand. While there tends to be a net outflow of New Zealanders, including skilled workers, because of longstanding income differentials, this brain drain tends to be offset by skilled immigration from other sources. Migration also feeds into New Zealand's international development agenda. Short-term workers from the Pacific are admitted through the Regional Seasonal

Figure 1.8. **Overall migration**

A. Permanent immigration
Per cent of total population, 2012

B. Temporary labour migration
Per cent of the labour force
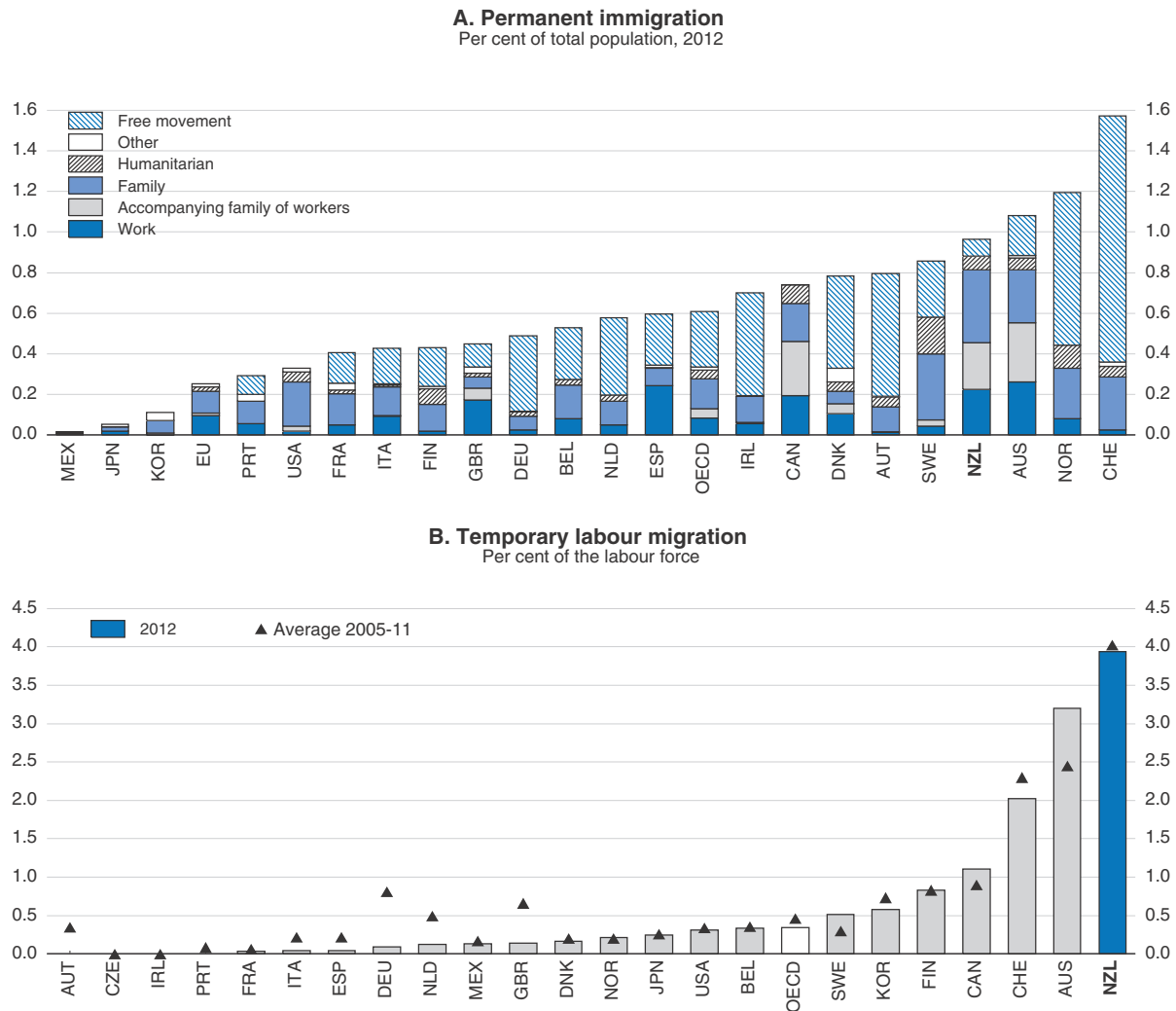
Source: OECD (2014), *International Migration Outlook* and *International Migration Database.*

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Employer programme to fill seasonal labour shortages in the horticulture and viticulture industries. While in New Zealand these temporary migrants can receive broader skills training through targeted programmes such as Vakameasina (OECD, 2015b).

A key element of population growth in this cycle has been the strong rise in net permanent and long-term (PLT) migration (Figure 1.9), and its recent strength has probably helped to limit labour shortages and reduce overall wage pressures. This partly reflects an increase in arrivals with work visas, suggesting that more migrants may participate in the labour market in this cycle, thereby adding to the economy's productive capacity. Moreover, fewer departures of NZ citizens and a modest increase in return migration have also contributed to domestic labour supply, reflecting improved job prospects at home and weaker employment growth in Australia. In the medium term, greater arrivals of non-citizens and fewer net departures of NZ citizens, both of whom tend to have higher education levels than non-migrating New Zealanders, will probably bring longer-run

Figure 1.9. **Permanent and long-term migration**
March data

A. Arrivals and departures

B. Arrivals by visa status[2]

C. Net immigration[1] by region

D. Net emigration[3] to Australia and employment growth
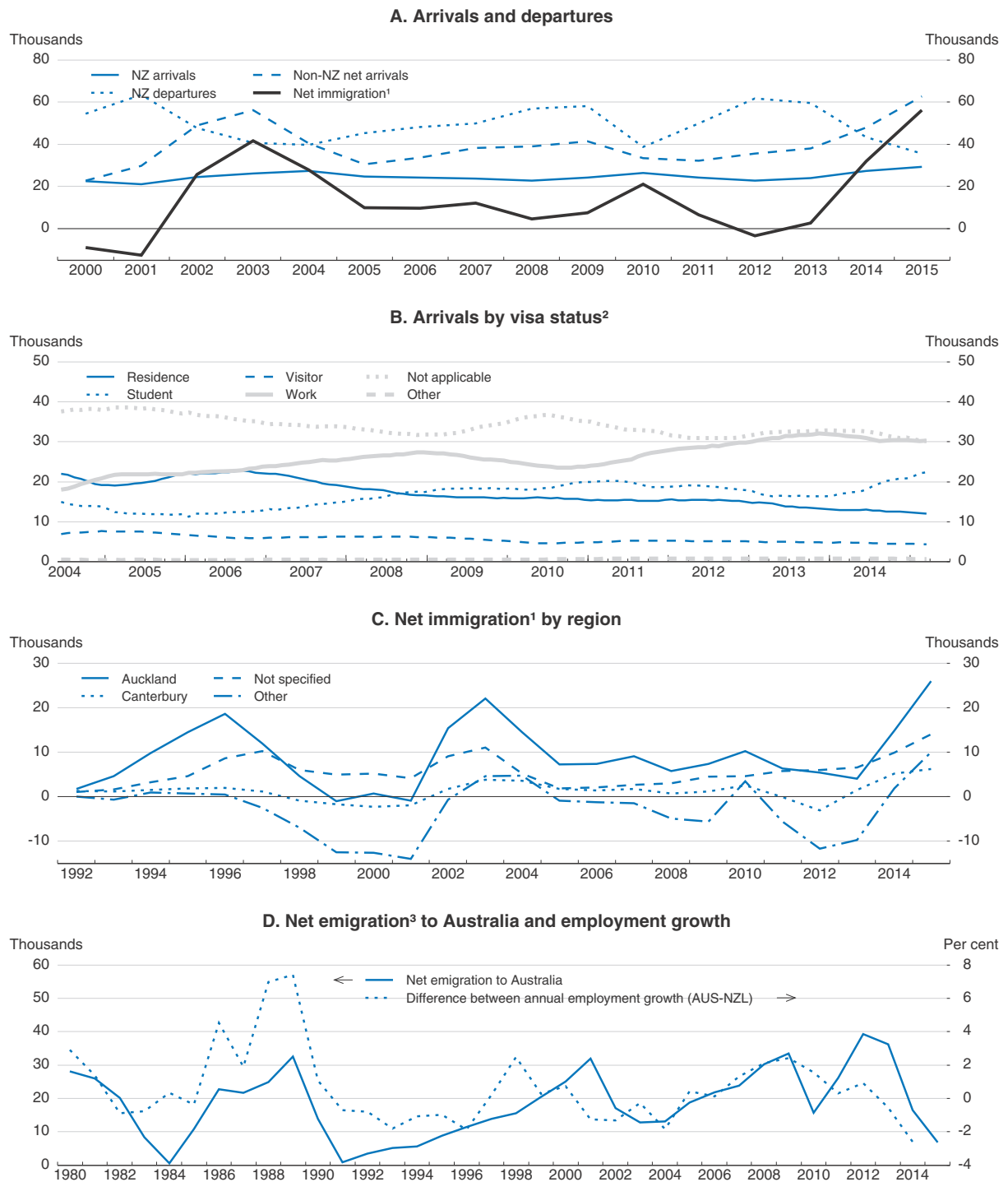
1. Arrivals of overseas migrants in New Zealand for a period of 12 months or more as well as of NZ residents returning after an absence of 12 months or more, minus the departures of NZ residents for 12 months or more and of overseas visitors after a stay of 12 months or more.
2. Twelve-month moving average annualised.
3. NZ citizens returning from Australia after a stay of 12 months or more minus NZ citizens departing for Australia for 12 months or more.
Source: Statistics New Zealand, *International Travel and Migration Database.*

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benefits by complementing local labour skills (Docquier et al., 2014). Higher shares of migrants also tend to be of working age and therefore are more likely to participate in the labour market than the resident population. Furthermore, immigration can lead to a larger economy, resulting in scale and agglomeration effects and increased international connectedness, though the size of these effects in New Zealand is much debated (Fry, 2014). However, high levels of net immigration add to demand for housing and infrastructure, where strains are already apparent in Auckland, the main destination for new arrivals.

Since the 2003 reforms, New Zealand's immigration system has placed a heavy weight on skills, employment and work experience, probably contributing to the very good record of integrating immigrants into labour markets and society. There is evidence of lower returns on skills paid to immigrants upon arrival compared with their NZ counterparts, but these gaps become insignificant after 10 years (Maré and Stillman, 2009). These wage differentials may indicate lower human capital, potentially related to soft skills, local labour market knowledge, language abilities or imperfect transferability of skills. To further improve labour market integration it may be beneficial to increase the weight given to English-language proficiency in the immigration process or to provide further support and monitoring of language training completions (OECD, 2014d). Recent changes in student visas, which now provide work rights, will probably aid in building soft skills, thereby boosting human capital, potentially further improving students' eventual labour market outcomes. Increased monitoring of skills shortage categories, which may require a more frequent updating and refinement of categories, could better ensure the attraction of the right number of people with appropriate skills.

In addition, New Zealand's demand-driven model could potentially benefit from more regular updating of the immigration targets, as in Australia and Canada, and from wider tolerance ranges for the three-year immigration targets or a higher cap to allow more flexibility based on evolving economic conditions. The current system may limit needed immigration during sustained expansions and may induce cyclical constraints on admittance. Under buoyant labour market conditions it may be more difficult to immigrate than under less favourable conditions when pass marks for permanent migration could potentially be adjusted downward to meet targets (OECD, 2014d). However, improving the responsiveness of housing supply would be necessary before materially raising migration targets.

While most migrants settle in the Auckland region, rising numbers have gone to Canterbury since 2011 to fill skilled labour vacancies for the rebuild. This is shown by a rapid expansion in Essential Skills visas over this period, both for construction-related and other jobs. In addition, the net migration of NZ construction workers to Greater Christchurch, which had been negative over 2011-12, has turned neutral or slightly positive recently (MBIE, 2014a), suggesting that formerly expatriate New Zealanders and more NZ citizens who would have typically emigrated to other countries may also be working on the rebuild. Given its pressing and time-limited character, immigration is the best way to meet these labour shortages.

To facilitate the reallocation of labour to Canterbury for the rebuild, the government started several initiatives in order to improve labour market matching and to speed up the immigration process. This includes the Canterbury Skill Shortage List (CSSL), which is a temporary occupational shortage list for medium- to high-skilled jobs and is similar to the

Immediate Skill Shortage List (ISSL) at the national level, although it undergoes more frequent updating. It applies to occupations where it is deemed that there are insufficient numbers of New Zealanders or training completions to fill skills demand. Jobs on the CSSL do not require a labour market check before employers can recruit migrants and obtain for them an Essential Skills visa. The majority of the jobs awarded through CSSL are in construction, engineering and trades (OECD, 2014d).
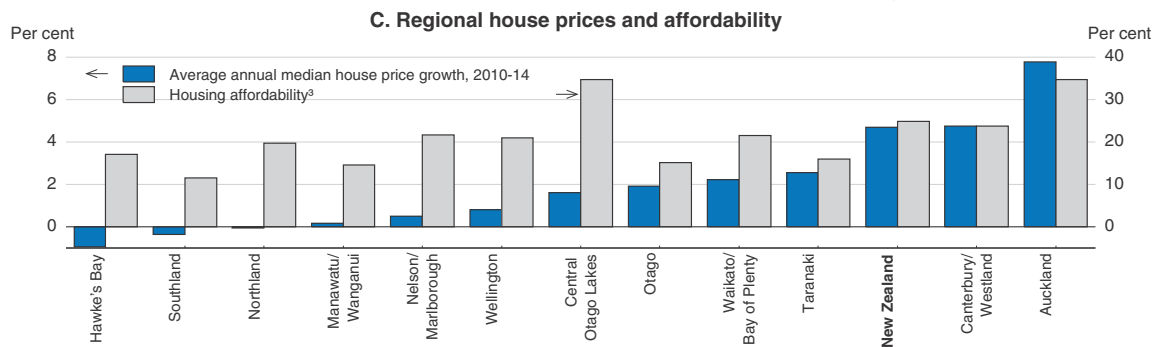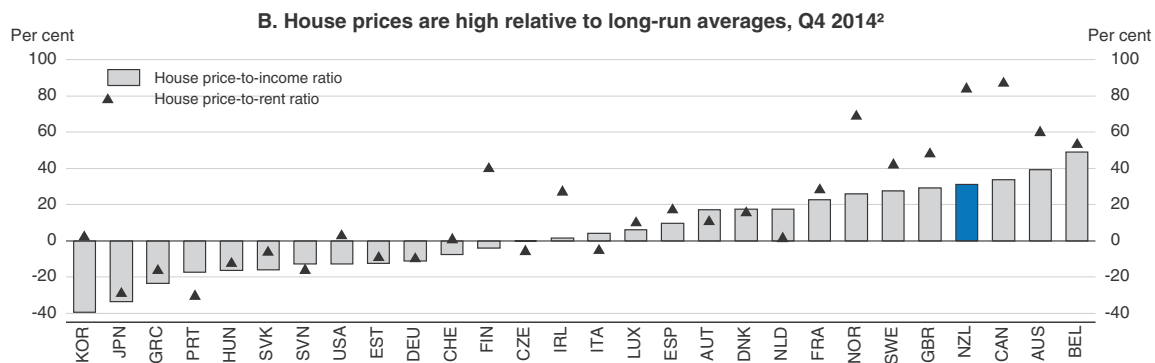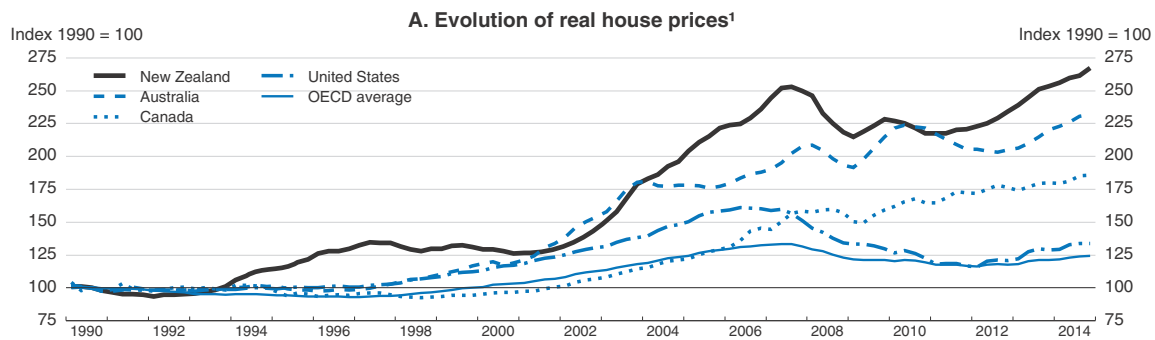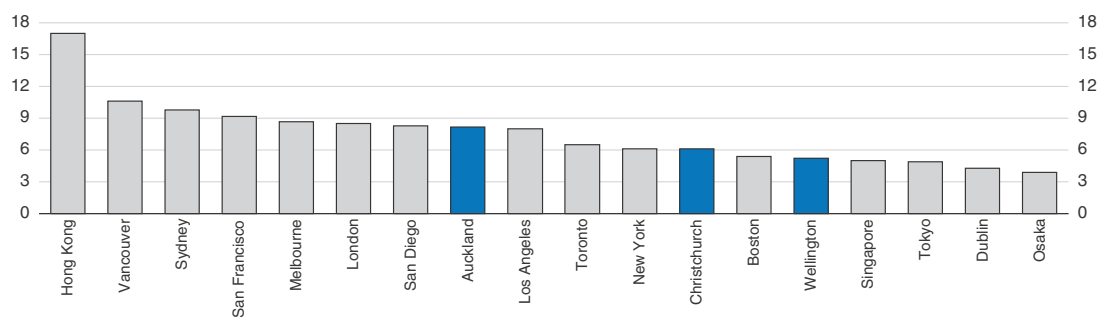
A second initiative has been the Canterbury Skills and Employment Hub ("Hub"), which is focused on speeding up the labour market matching for semi-skilled and unskilled occupations, which typically fall outside of CSSL, but higher skilled occupations can still be listed. The Hub first matches NZ jobseekers (including beneficiaries) with employers seeking vacancies, before a migrant can be hired. If no suitable New Zealander or permanent resident is identified, the Hub then provides a letter in support of an Essential Skills visa application, which enables the application to be fast tracked. Other initiatives for the rebuild have included providing relocation assistance (NZD 3 000) for the unemployed to relocate to Canterbury for full-time positions (up to a maximum of 1 000 applicants) and extending the right to work for English-language students in Canterbury since 2012; however, part-time work rights are now a feature of student work visas more broadly. The maximum duration of Essential Skills visas for lower-skilled occupations will be raised from one to three years for applicants between July 2015 and December 2016, for work in Canterbury. In addition, from 1 July 2015 onward, holders of these visas working in Canterbury will be able to change employers without having to apply for a Variation of Conditions on their visas, provided they remain in the same occupation. These changes should help to reduce labour market frictions and provide immigrants with greater job security and protection against potential exploitation.

The determination of shortage lists for both CSSL and ISSL is fairly labour intensive, reflecting poor information on jobseekers and vacancies, and the procedure for obtaining essential skills visas may be overly complex (OECD, 2014d). In the case of ISSL, which is applied nationwide, the shortage list is updated at an annual frequency and as a result may not respond as quickly to evolving labour shortages as CSSL. This may impede matching at a national level if the labour market tightens more broadly in the cycle, constraining overall output and productivity. Extending the lessons of the Hub to the national level could improve labour market matching, easing constraints as labour markets tighten. Recent official assessments suggest that the Hub has had favourable outcomes, and the government is considering trials in other regions.

Housing supply and population growth

Strong net inward migration has bolstered the economy's productive capacity but has also added to regional housing pressures. House price increases have been considerable over the past few years, and, relative to long-run averages, prices are high compared to income and rents by OECD standards (Figure 1.10). The largest increases have been in Auckland, where prices are high relative to median incomes (Demographia, 2015) by international comparison. Here, housing affordability is poor by historical standards, despite relatively low interest rates (Massey University, 2015).

Figure 1.10. **House prices**

A. Evolution of real house prices[1]

B. House prices are high relative to long-run averages, Q4 2014[2]

C. Regional house prices and affordability

D. Median house price relative to median household income, Q3 2014

1. Nominal house prices deflated by the private consumption deflator.
2. Deviation of the ratio of nominal house prices/nominal disposable income per capita (or /rent prices) over the long-term average. Q4 2014 or latest available quarter.
3. The affordability index defined by the Massey University Real Estate Analysis Unit takes the ratio of the weighted mortgage interest rate as a percentage of median selling price to the average wage. The lower the index, the more affordable the housing.

Source: OECD, *Housing Prices Database*; Real Estate Institute of New Zealand; and Massey University Real Estate Analysis Unit, *Home Affordability Report*, various quarterly reports, *www.masseynews.massey.ac.nz*; Demographia (2015), *11th Annual Demographia International Housing Affordability Survey: 2015*.

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As highlighted in the 2011 *Survey* (OECD, 2011; Cheung, 2011), the Auckland house price boom reflects, at least in part, constrained housing supply, which has failed to keep pace with demand. A large share of the population growth and immigration has been centred here (Figure 1.11, Panel A), resulting in significant increases in house prices. Empirical evidence has shown that New Zealand tends to experience stronger long-run population growth effects on house prices than other OECD countries (Caldera and Johansson, 2013), which might reflect constrained supply. In particular, the responsiveness of supply to rising house prices is around average for OECD countries but roughly half that of the best performing countries. This is problematic, as New Zealand's population growth has been faster than average and somewhat more variable (Figure 1.11, Panel B).

Figure 1.11. **Population growth**

A. By region
Percentage contribution to the average national population growth over 2003-13

B. Cross-country comparison
Average 2003-13,[1] per cent
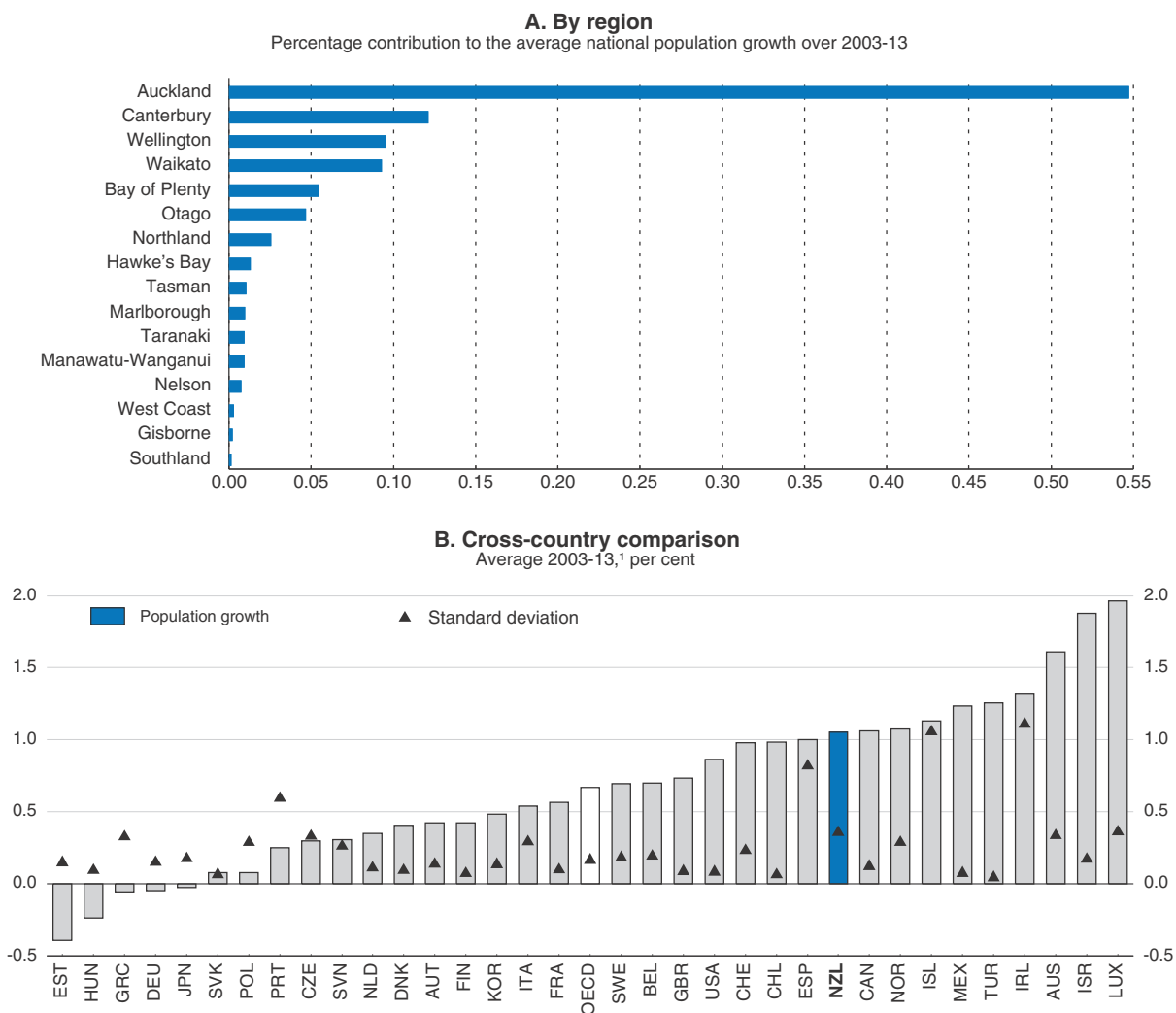
1.   Or last 10 years available.

Source: Statistics New Zealand, *Estimated Resident Population for Regional Council Areas, at 30 June*, Table DPE051AA; OECD, *Population Statistics Database*.

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The recent strength in population growth has been driven by robust net PLT migration, while the natural increase has been the lowest since 2005 (MBIE, 2014b). House price pressures from heavy net PLT migration may be more subdued than in past migration cycles, as a large share of net migration has resulted from fewer NZ citizens leaving the country and more returning. According to McDonald (2013), lower net departures of NZ citizens have roughly half the impact on house prices as an equivalent increase in net arrivals of non-citizens. Despite this, constrained supply may lower Auckland's ability to attain agglomeration economies, through restraining labour mobility and reducing incentives for firms to locate there. In addition, rising house prices could act to dampen growth during the cycle by reducing competitiveness. In particular, rising house prices could increase the wage rates that employers need to offer to attract or retain labour, increasing costs for businesses that have limited ability to substitute cheaper capital. In the absence of an increase in productivity, unit labour costs would deteriorate and could reduce Auckland's competitiveness. Such a scenario seems to have occurred in France, for example, a few years ago (Egert and Kierzenkowski, 2010).

Supply responsiveness should continue to be targeted for improvement

The price responsiveness of housing supply in New Zealand may be lower than in best performing countries due to the time it takes to deliver building sites and complete dwellings. The responsiveness of supply depends not only on geography and urban characteristics, but also on land use regulations and planning restrictions. These regulations may have been increasingly binding in Auckland where the soon to be expanded Metropolitan Urban Limits (MUL) have been a constraint on supply. This has been reflected in land prices in and near Auckland, which have grown faster than in other regions and account for roughly 60% of the price of a home, relative to 48% elsewhere (New Zealand Productivity Commission, 2014b) and may have contributed to increasing further the already high number of people per dwelling relative to other regions (Figure 1.12).

Figure 1.12. **Population-to-dwelling ratio**
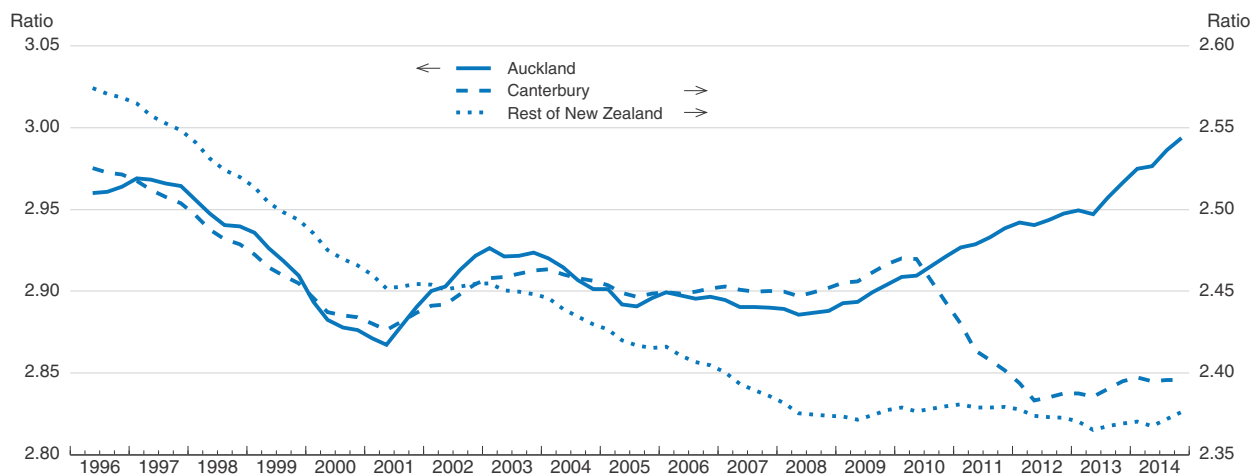
Source: Reserve Bank of New Zealand, *Financial Stability Report*, May 2015.

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Furthermore, land values just inside the MUL have been between 8 and 13 times those outside (Grimes and Liang, 2007). In supply-constrained markets, a large share of the adjustment to increased demand occurs in the price dimension rather than in increased supply (Glaeser et al., 2008; Gyourko and Molloy, 2014). This is consistent with results for New Zealand, with local authorities with low supply elasticities tending to have high price responses to demand shocks, probably due to regulatory constraints (Grimes and Aitkens, 2010). According to a Demographia (2015) survey on housing affordability, which considers house prices in major metropolitan areas in several advanced economies, all cities with housing markets considered severely unaffordable had some form of restrictive land use policies in place.

NZ land-use planning takes place at the local council level, and, as highlighted by the New Zealand Productivity Commission (2012), planners have had to deal with a wider range of issues through time, from land use planning initially to a broadening mandate that incorporates infrastructure provision, environmental sustainability and economic resilience. Therefore, there may be a need to better equip local councils to deal with more complex land-use planning. Regulations, including the Resource Management Act (RMA), are highly devolved, so more central guidance would be beneficial to ensure consistency with environmental goals, and to reduce the scope for vested interests to limit competition or thwart rezoning and development that would be in the wider public interest. Further guidance could also limit unnecessary duplication of efforts at local levels and business uncertainty related to varying application of regulations across regions. Furthermore, extensive rights of appeal inherent in the RMA increase development uncertainties.

While regulations are essential to ensure that externalities, such as those impacting the environment, are properly taken into account in economic decisions, designing and implementing them in a way that is most friendly to competition and entry is crucial to minimise their economic burden, which, in general, is relatively high in New Zealand (Figure 1.13). This does not appear to be related to their perceived stringency but reflects relatively high administrative burdens associated with permitting and licensing (Koźluk, 2014). While this would likely apply to a broad range of economic activity, the building industry has probably borne a large share of the costs, with the majority of permits processed through the RMA being for land use changes (New Zealand Productivity Commission, 2014b). For residential construction current regulations, including land-use and planning rules, may have added between NZD 32 500 and 60 000 per dwelling in subdivisions and between NZD 65 000 and 110 000 per apartment, increased construction times and reduced the likelihood of development, particularly of affordable housing (Grimes and Mitchell, 2015).

In the Housing Action Plan, the Auckland Council identified a shortfall of 20 000-30 000 dwellings and a need for 13 000 dwellings to be built each year for the next 30 years (Auckland Council, 2012). Although there is uncertainty around these estimates, with new census figures potentially supporting a slightly lower shortage (Auckland Council, 2013), much larger shortfalls could be estimated if the average number of people per household in Auckland were closer to the lower country-wide average (BNZ, 2015). Overall, most shortage estimates are within or close to the lower end of the range provided in the Housing Action Plan (BNZ, 2015). While building permits have risen, they are still running below projected demographic requirements. This said, some progress is being made to release land for development and speed up the consenting process, which should improve the supply of land in the medium to long term. In particular, the Auckland

Figure 1.13. **Burdens on the economy due to environmental policies and policy stringency**
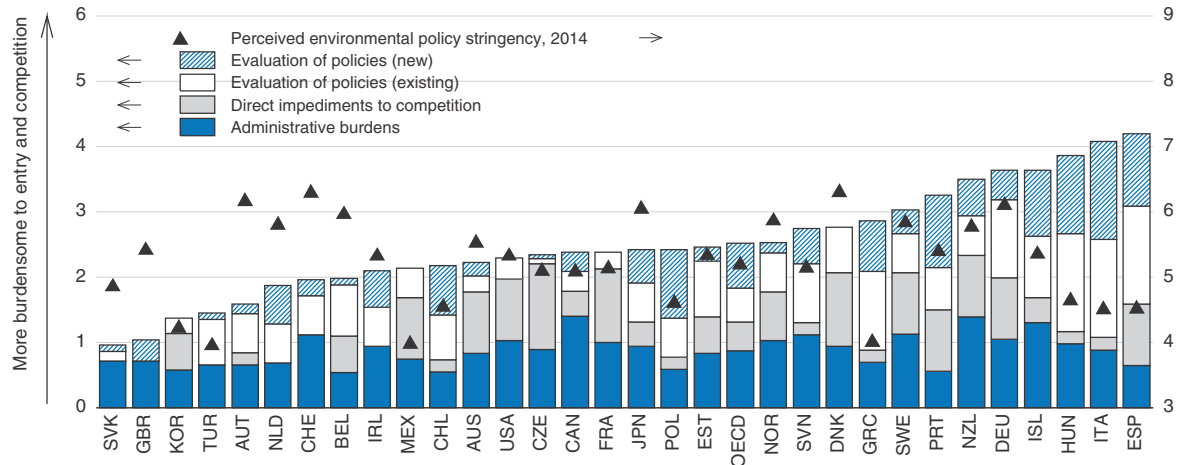
Source: T. Kozluk (2014), "The Indicators of the Economic Burdens of Environmental Policy Design – Results from the OECD Questionnaire", *OECD Economics Department Working Papers*, No. 1178, ECO/WKP(2014)74; World Economic Forum (2014), *Executive Opinion Survey*; and OECD calculations.

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Housing Accord (approved in September 2013) between the national housing minister and the mayor focuses on accelerating housing supply, until the Auckland Unitary Plan becomes operational in 2016. Through the Accord, Special Housing Areas (SHAs) have been created, which offer a fast-track consenting process, rather than having to comply with the timelines set out in the RMA, with limited appeals, and this should speed development.

The creation of the Auckland Council's Housing Project Office to implement the Housing Accord has been instrumental in pulling together skilled planners, infrastructure and environmental specialists to quicken housing supply and has permitted more integrated planning, a recommendation from the 2011 *Survey*. However, skills shortages probably limit the scope to scale up this model further in Auckland and more broadly. Therefore, there is a need to better equip local councils through improved training and increased resources to undertake the planning process and provide more opportunities for integrated planning.

While the Metropolitan Urban Limits will be expanded through the Proposed Auckland Unitary Plan, a large share of the development envisioned over the next 30 years is to occur within previous city limits, which contains some greenfield land, but a significant portion is to take place through infilling, rezoning and building high-rise structures. However, countering community resistance may prove difficult. Densification objectives in the Auckland Unitary Plan were significantly scaled back during the consultation phase, largely reflecting resident opposition to rezoning. Several commentators have pointed out that NIMBYism ("not in my backyard") has played an important role in slowing the pace of housing supply and in reducing densification and has resulted in the proposed Plan having stricter zoning in some areas than was previously the case (e.g. NZIER, 2014; Auckland Council, 2014).

To raise supply and encourage densification it will be important to find ways to increase community support for densification. A greater central role in dealing with local objections might take some pressure off municipal governments. There may also be a need to extend beyond the SHAs the limitation of appeals to those directly affected to augment the housing supply response. Overall, industry analysis supports the view that unless

significant rezoning takes place, and is accepted by residents, goals of developing within established urban areas to meet annual targets for new dwelling construction will not be met (MBIE, 2013). In addition, freeing up crown and council land could also make way for further development, particularly of affordable dwellings.

Increasing resources in the construction sector has tended to reduce labour productivity growth

The current economic expansion has been characterised by a shift of labour into the construction sector, both for the Canterbury rebuild, as well as for rising residential construction in Auckland. This domestically focused cycle to date has likely placed downward pressure on aggregate productivity and competitiveness through shifting resources towards less-productive industries. Overall, New Zealand's past productivity growth has tended to be below the OECD average, which reflects a combination of below-average within-industry productivity gains and a greater movement of employment towards lower-productivity industries (Meehan, 2014). For the construction sector in particular, the level of productivity is lower than average, and its growth has been weak compared to other industries, both factors that have helped to lower overall productivity growth.

One factor probably affecting productivity in the construction sector is the small scale of firms. As New Zealand tends to experience more frequent house price cycles with shorter expansion periods than many other OECD countries (Bracke, 2013; André, 2010), this may increase planning complexities and builder uncertainty (which could restrict construction), and limit the incentives for firms to grow to scale. Nevertheless, as in other OECD countries, house price expansions have tended to lengthen over time, which may have decreased uncertainty in recent years. In addition, the Canterbury rebuild, which will last for several more years, has also probably provided increased certainty to builders in this cycle. Another issue in New Zealand has been the limited availability of land and preferences for customised designs, which may have reduced incentives for firms to grow. In general, after concerns over skilled labour, construction firms are least happy about local planning and regulation (Figure 1.14). Therefore, by committing a forthcoming supply of land, such as through the SHAs in Auckland, builders may achieve the lower uncertainty needed for firm expansion. Overall, the relatively low rate of productivity growth compared to best performing countries and other NZ industries may also highlight a continued need to promote training and skills development, including apprenticeships, in the construction sector.

Continued attention to reducing housing risks is needed beyond encouraging supply

On a cross-country basis NZ house prices are high compared to incomes and rents (Figure 1.10), which may have boosted household debt levels. High house prices and heavy household debt levels (Figure 1.15) make the NZ economy susceptible to large external shocks. Such a shock could drive a large increase in unemployment, leaving households unable to service their debts, which could in the extreme affect financial stability. Large declines in house prices, which would erode household net worth, could result in lower consumption and overall GDP growth. In addition, a large swing in foreign investor sentiment could cause a sudden stop in the international capital flows that fund a large share of NZ debt, which could also result in financial instability, given the existence of a maturity mismatch between domestic debt, which tends to be for longer durations, and

Figure 1.14. **Firms are concerned about skilled labour and the quality
of local planning and regulation**

Balance of opinion (% good-% bad), last financial year at August 2014[1]
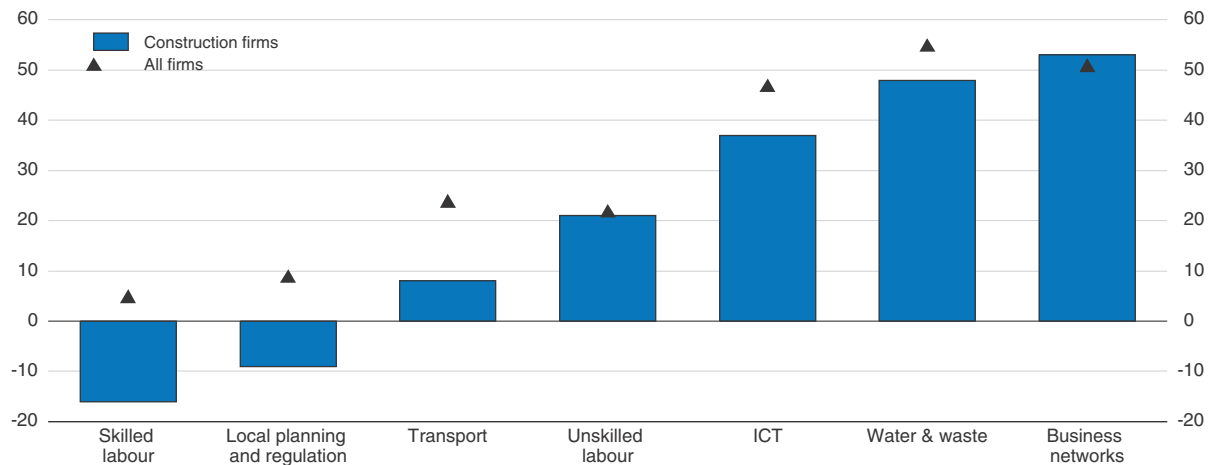
1. Last financial year refers to the last financial year for which businesses had results available in August. Financial years for businesses finish on 31 March in New Zealand.
Source: Statistics New Zealand, *Business Operations Survey: 2014* and OECD calculations.

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Figure 1.15. **Household debt[1] in New Zealand**
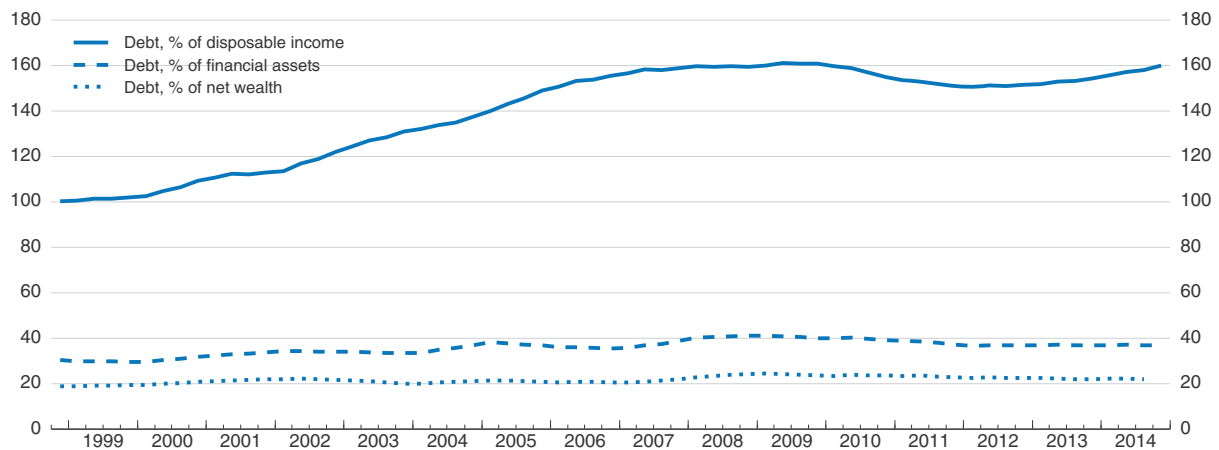
1. Including rental properties.
Source: Reserve Bank of New Zealand, *Statistics on Households.*

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foreign funding, which tends to be at shorter maturities. While NZ banks have built up sizeable buffers to better protect against such shocks, in an environment of global financial uncertainty, the large share of offshore funding makes them vulnerable to increases in risk premiums. This could result in rising borrowing rates and debt servicing costs in New Zealand, which could curtail investment and potential output growth. Although such scenarios are unlikely, given New Zealand's strong institutions, robust economic performance and progressive increases in core funding ratios since 2010, they are nonetheless another risk that could derail the current expansion.

In October 2013, the Reserve Bank of New Zealand (RBNZ) introduced macro-prudential measures to help to slow the rate of credit and house price increases and reduce financial-stability risks associated with rising house prices. It temporarily placed a 10% limit on new mortgages with loan-to-value (LTV) ratios greater than 80% during any three-month period. Given the imbalance in some markets, this policy was also viewed as a way to reduce demand-side pressures to give supply time to catch up so as to limit the extreme peaks in the house price and credit cycle (Rogers, 2014). The RBNZ also increased the amount of capital banks must hold against such high-LTV ratio mortgages.

In their first 12 months of operation these measures proved effective in reducing house price inflation and credit growth. While a true counterfactual is unobservable, estimates suggest that this policy may have reduced annual house price growth by 3.3 percentage points and household credit growth by 0.9 point and had a relatively negative impact on house sales as of March 2014 (Price, 2014). Restrictions on LTV ratios tend to be associated with sizeable reductions in housing transactions and slower house price gains, while their effect on restraining credit growth tends to be more moderate (Galati and Moessner, 2014; Igan and Kang, 2011; Cerrutti et al., 2015). Furthermore, these studies show that restrictions on LTV ratios tend to reduce house price growth more than measures focused on lowering debt-to-income or debt-service-to-income ratios, and tend to have a slightly less negative impact on credit growth; however, in both cases the effects are moderate. Macro-prudential instruments are preferable to blunt changes in policy rates because they are more tightly targeted on financial stability objectives and limit additional pressure on the exchange rate and the export sector. Based on estimates presented in RBNZ (2013), a decline in house price growth of this size from the reduction in high-LTV lending would result in weaker household consumption expenditure and would reduce inflation by roughly the same amount as a 30 basis point hike in the policy rate.

The effectiveness of lowering LTV ratio limits may tend to fall through time as lenders circumvent the restrictions (Cerutti et al., 2015; Crowe et al., 2011). For instance, there is a possibility of leakage to non-institutional lenders (such as lending from family members), offshore creditors or non-deposit-taking institutions, as the restrictions apply only to registered banks. The RBNZ has implemented additional rules, such as restricting loan top-ups that would push borrowers over the LTV limits, as well as engaging in moral suasion with banks to limit leakage. In addition, allowing 10% of mortgage loans to have high-LTV ratios and implementing this policy only temporarily may also reduce incentives for unregulated lenders to enter the market, given the uncertainty about the payoffs (Rogers, 2014). To date there has been no evidence of significant leakage, with the possible exception of inter-family lending support.

Lower LTV ratios may have undesirable distributional effects. The burden of lowering LTV limits tends to fall disproportionately on first-time home buyers and poorer individuals. While measures have been increased to offset some of these distributional consequences, these policies may also act to reduce the effectiveness of the LTV restrictions. In particular, house price thresholds for both KiwiSaver Homestart grants (subsidies available for first-time homebuyers who are members of KiwiSaver) and Welcome Home Loans (loans that require lower down payments and are backed by mortgage insurance provided by Housing NZ) were raised as of 1 April 2015 in most regions, and KiwiSaver Homestart grants were doubled in the case a new home (rather than an existing home) was purchased, which may make it relatively more affordable for such households to purchase a home. While Welcome Home Loans present minimal risks

to financial stability (Rogers, 2014), they nonetheless lead households to be more susceptible to falling into negative equity positions following a large economic shock that results in house price declines.

The recent doubling of KiwiSaver Homestart grants for new homes only could add additional pressure to already strained construction sectors in some regions by distorting choice. KiwiSaver savings withdrawals for first-time home purchases have been increased to permit the withdrawal of the member tax credit as of 1 April 2015, in addition to all personal and employer contributions. All KiwiSaver savings withdrawals will be permitted for use as an initial deposit on a home as of 1 June 2015, which facilitates purchasing an unconstructed new home. One potential alternative to counter such equity considerations of LTV restrictions would be to ensure that rental properties are a better substitute for homeownership, as discussed in Chapter 2.

Despite these past macro-prudential measures, a resurgence in Auckland house prices since late-2014 has occurred, increasing financial stability risks. As a result, the RBNZ plans to establish a new asset class for residential property lending to investors (defined as any retail mortgage secured on a residential property that is not owner-occupied), as of 1 October 2015, as defaults and loan losses for these types of loans tend to be higher when house prices decline (RBNZ, 2015). From this time, banks will be required to hold more capital against this asset class and investors using bank loans to purchase such residential property will be required to have a deposit of at least 30% in the Auckland Council area. These measures should help to reinforce the stability of the financial system. To reflect more subdued housing conditions outside of Auckland, additional high-LTV ratio lending (up to 15% of new loans from 10% previously) will be permitted in these areas as of 1 October 2015, pending consultation, which should help lessen the distributional consequences of these restrictions outside of Auckland. Also from this time, the government plans to tax gains on residential property sold within two years of purchase (bought on or after 1 October 2015), unless the property is a primary residence, inherited or is part of a relationship property settlement, and to require non-resident purchasers to have an Inland Revenue Department tax number and a NZ bank account. These measures will strengthen enforcement of the tax code in relation to the taxation of trading gains on property and provide information on non-residents' property transactions.

Providing infrastructure to support the economic expansion

After a period of underinvestment from the 1990s to mid-2000s, non-residential investment has picked up, particularly in the government sector (Figure 1.16). Nevertheless, some infrastructure shortages remain, namely in Auckland. New Zealand has had relatively low investment in road infrastructure as a proportion of GDP (Figure 1.17). While the level of investment in road projects has increased, which may alleviate some of these shortages, these deficits may have led to perceptions of comparatively low-quality infrastructure (Figure 1.18), even if some improvements have occurred. Perceived quality is relatively low for road and rail infrastructure relative to local expectations, while port and aviation infrastructure rank favourably compared with other OECD countries (World Economic Forum, 2014). When asked about the most problematic factors for doing business, NZ firms most frequently cite an inadequate supply of infrastructure.

Figure 1.16. **Public and private non-residential construction**

As a percentage of GDP
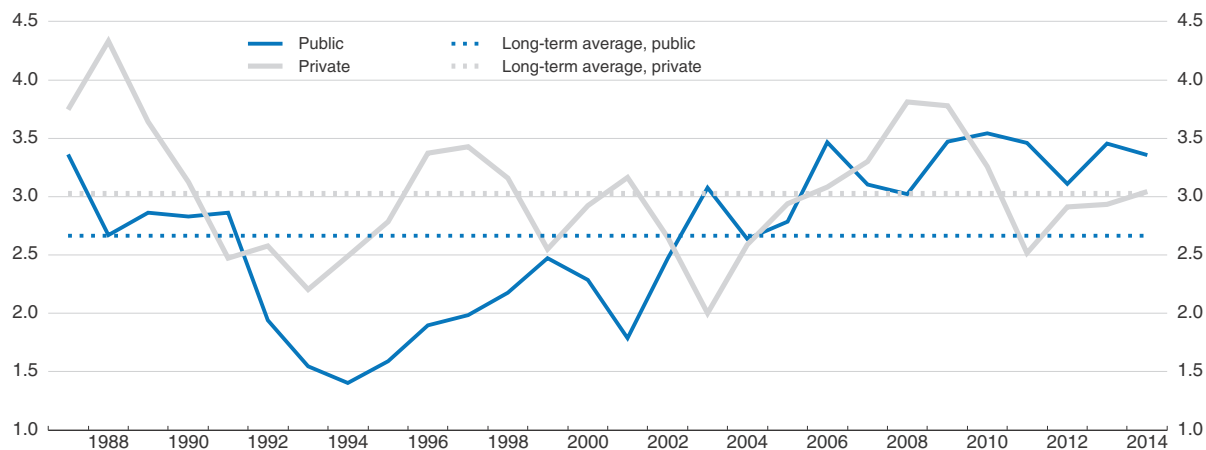
Source: Statistics New Zealand.

Figure 1.17. **Investment in road infrastructure**

Average of 2002-11,[1] per cent of GDP
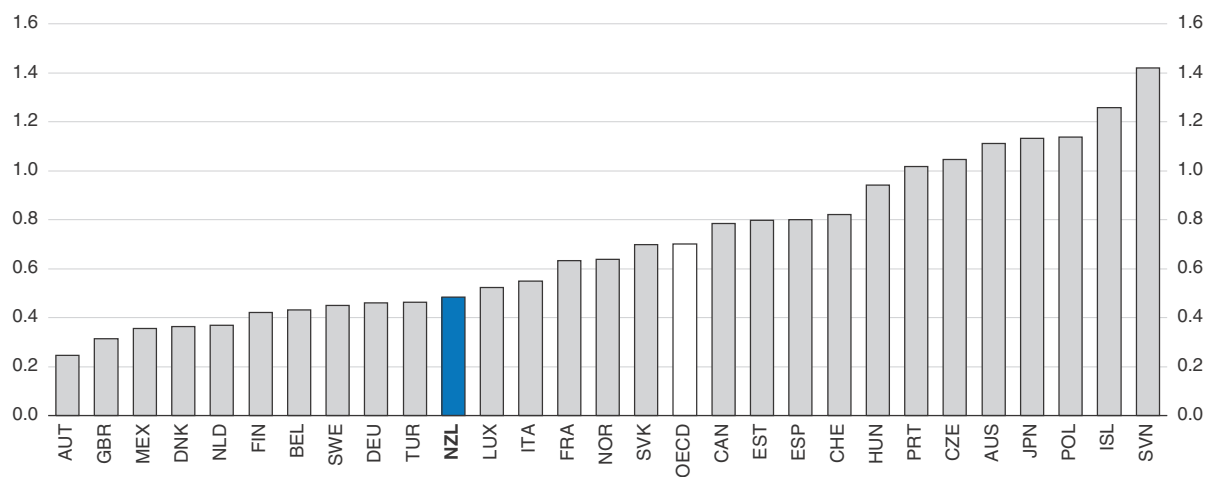
1.   Or of the last 10 years available.
Source: OECD, *International Transport Forum Database.*

Infrastructure is both a concern for the short-run dynamics of the business cycle, as well as the long-term prospects for economic and productivity growth. In the short run, while constraints bind, this may lead to higher production costs and lower overall productivity growth. In the medium to long run, prolonged shortages may deter private investment and erode incentives for firms to locate or remain in New Zealand. Given the pressures on urban infrastructure, particularly on transportation in this cycle, the focus of this section is primarily on urban road infrastructure and public transportation provision; however, in the medium to long run a broader range of infrastructure investments are probably needed to support continued economic growth. In this respect, the establishment

Figure 1.18. **Views on quality and supply of infrastructure**

A. Perceived quality of overall infrastructure
Score from 1 to 7 (best)

B. Perceived quality of road infrastructure
Score from 1 to 7 (best)

C. The most problematic factors for doing business in New Zealand
Per cent of responses[1]
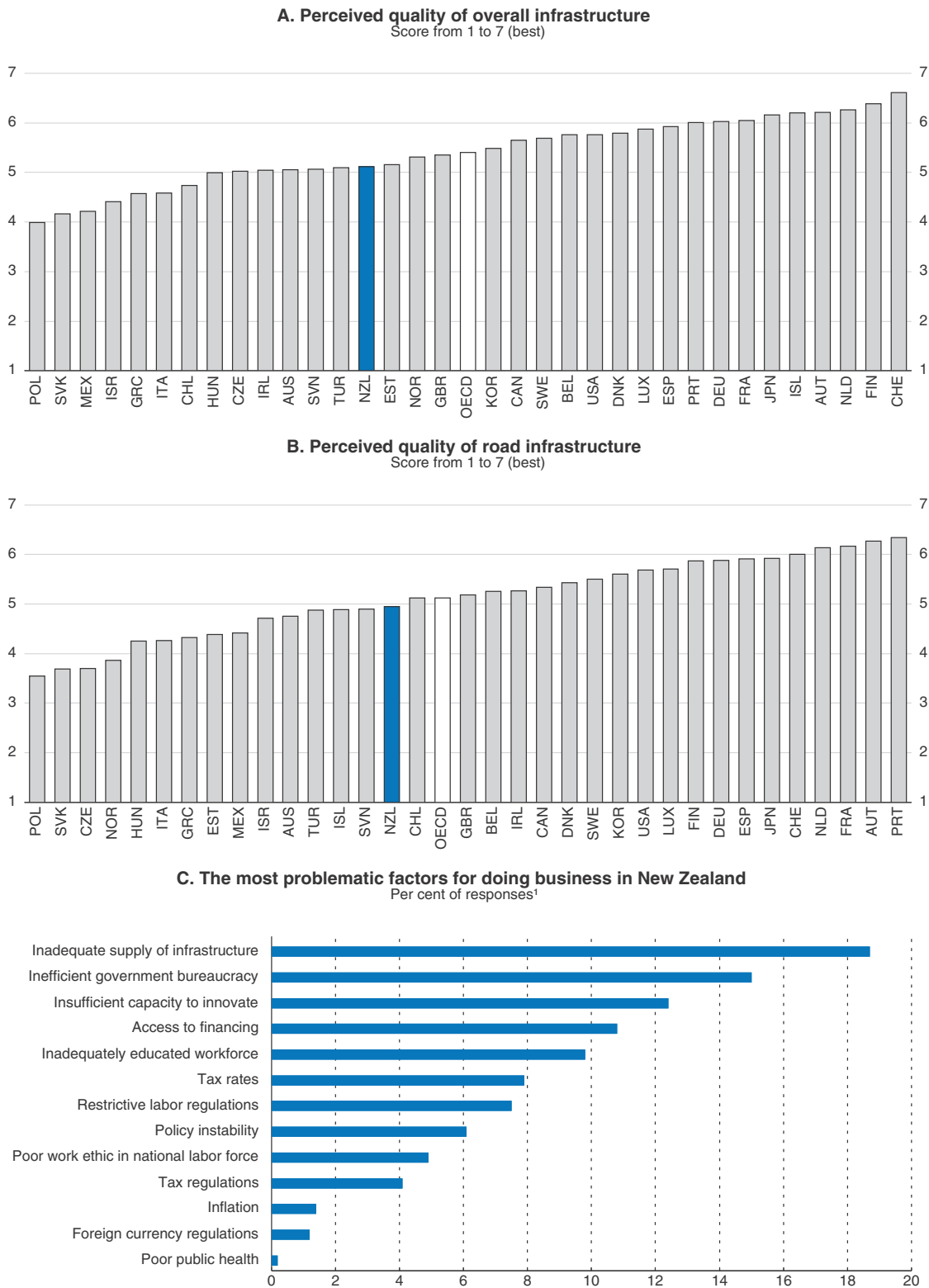
1. Respondents were asked to select the most problematic factors for doing business and to rank them between 1 (most problematic) and 5. The bars in the figure show the responses weighted according to their rankings.

Source: World Economic Forum (2014), *The Global Competitiveness Report 2014-15.*

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of National Infrastructure Plans since 2010 and initiatives to gather evidence and data on infrastructure quality and use (Evidence Base) are positive steps in planning for longer-run infrastructure needs. Continued efforts to collect information on the quality and use of infrastructure where they are currently unavailable, or not transparent, would also aid in future planning. Overall, these initiatives should support increasing coordination between infrastructure sectors and help provide clarity to the private sector regarding infrastructure provision.

Congestion and the variability of travel time remain an issue in large urban areas

One issue that has arisen in the last few cycles and remains an issue during this expansion, particularly given strong population growth, is road congestion. Driving remains the primary means to get to work in New Zealand, accounting for nearly 80% of trips, and this share has increased through time (Figure 1.19). Use of public transportation (bus, trains and ferries) remains low.

Figure 1.19. **Evolution of mode of journeys to work**

Full-time workers 6-9:30 am, includes combined modes
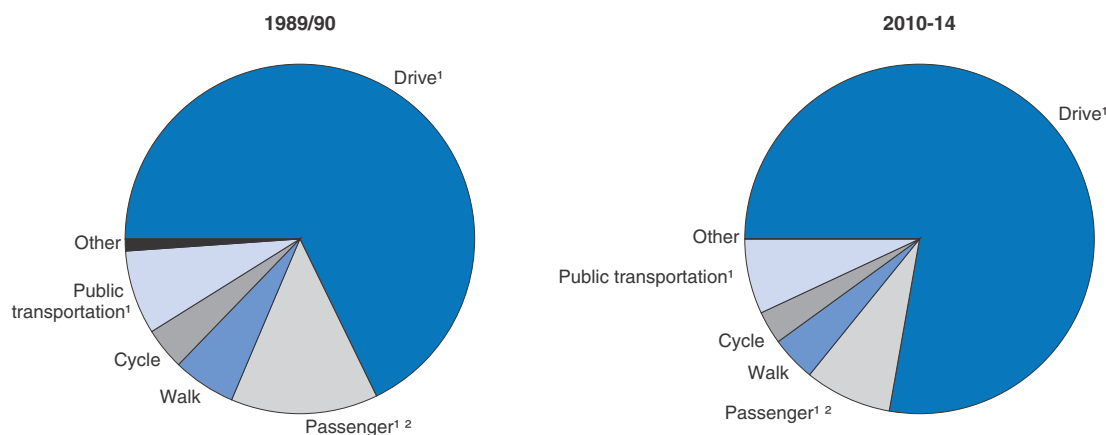
1. And combined modes.
2. Passenger refers to passengers in private vehicles.
Source: Ministry of Transport, *New Zealand Household Travel Survey*.

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Nevertheless, the length of delays appears to have declined since 2009, although a recent deterioration has been noted in 2013 (Figure 1.20). Over the past 10 years there has been a broad-based increase in capacity utilisation on highways as measured by the number of vehicle kilometres travelled per kilometre of public highway. In recent years, based on this metric, the largest increases have been in the Auckland and Canterbury regions (NIU, 2015). Based on the TomTom traffic index (TomTom, 2015), Auckland and Wellington are considered to be the second and third most congested cities in Australasia, just behind Sydney when considering the ratio of peak to off-peak travel times. This is despite the fact that several Australian cities have higher populations. However, the Beca Travel Time survey (2014) suggests that there may be less congestion in New Zealand than in Australia, although the data are not strictly comparable as they are for cities in Australian states instead of for individual cities, as in New Zealand. Congestion is estimated

to cost the Auckland region NZD 1.25 billion (NZD 250 million) annually based on comparisons with free flow (full capacity) conditions (Wallis and Lupton, 2013). Beyond congestion, travel predictability is also relatively low in Auckland, particularly during evening peak periods, which may make it difficult for businesses to plan and may reduce the overall well-being of workers.

As highlighted by the New Zealand Treasury (2014b), past underinvestment in road infrastructure, such as highway projects, led to a temporary period of large social returns to such projects. Even if the benefits of investing in roads have probably fallen, reflecting the increased amount of road building, further investment is still likely to bring net benefits. However, *ex post* cost-benefit analysis (CBA) on past motorway projects in Auckland based on changes in land values have suggested much larger benefits than

Figure 1.20. **Road congestion and variability of travel**

Average of March and November Surveys
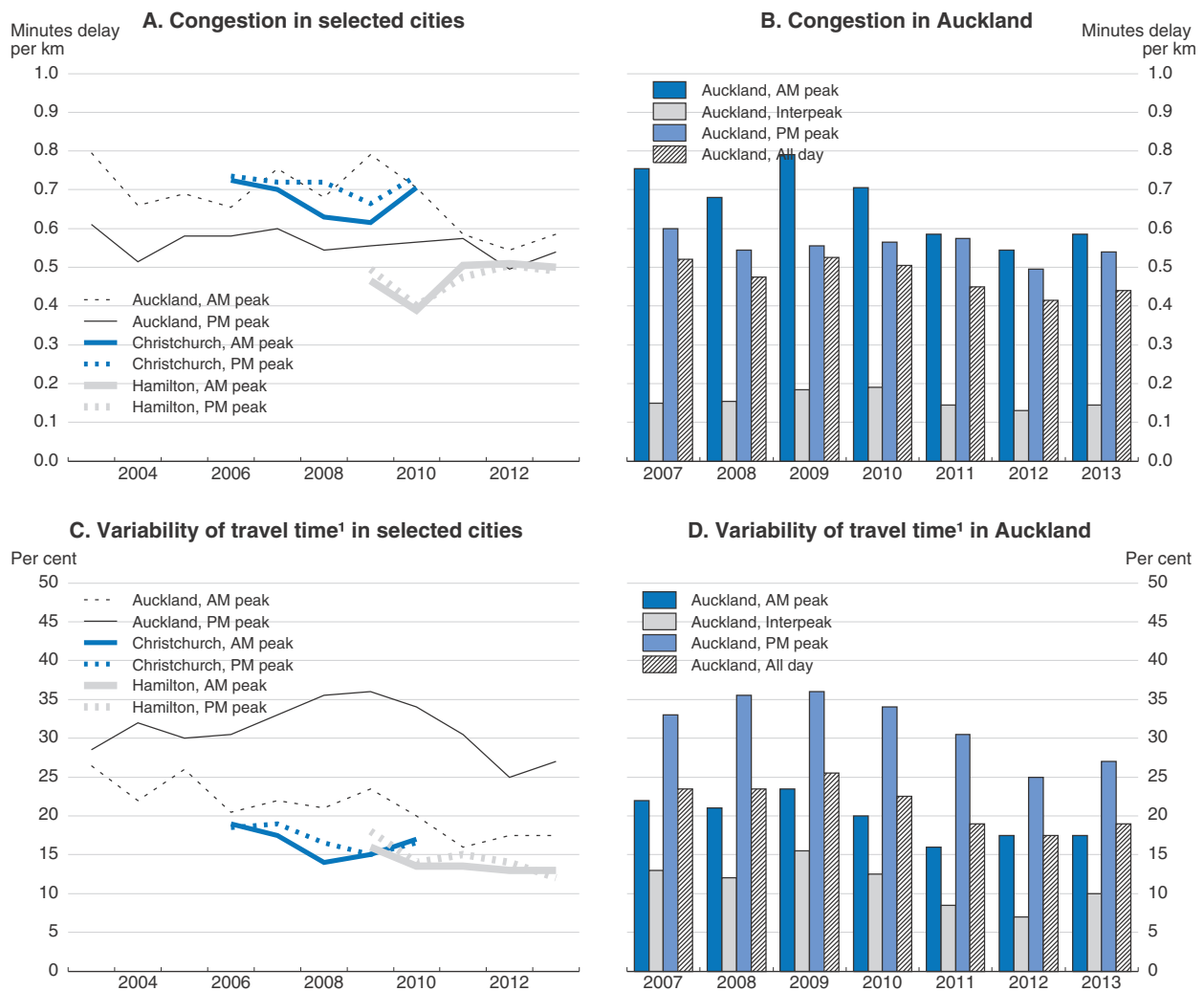
1. Based on the weighted coefficient of variation of travel time on measured roads. Weights on individual roads are based on the amount of travel time on that road as a share of total travel time.
Source: Ministry of Transport.

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originally assessed based on *ex ante* CBA (Grimes, 2008). These benefits may have arisen from increased agglomeration or unforeseen private investments that followed the infrastructure development, as such benefits are excluded from CBA. Therefore, there may be a need to assess a broader range of potential benefits from such projects than what is currently incorporated into traditional CBA.

Diversify infrastructure funding by making more use of user-based funding and land value capture

While there may be net benefits from additional investment in roadbuilding projects, there remains the question of how best to fund them. Given the disproportionate benefit that flows to direct users of local and national roads, user-based funding may better allocate the costs of such developments, and such costs could contribute to better demand management (OECD, 2007). While toll usage has increased in New Zealand, tolls tend to be used only on select, newly developed national highways; however, complementing traditional funding models with such user-pay methods in urban areas, could help reduce financial pressures on local governments of such infrastructure provision. Such charges are equitable in that those who consume infrastructure and services pay for their use; however, there may be some groups disproportionately affected. Therefore, if necessary, the overall tax/transfer system could be adjusted to provide some offset to such charges for disadvantaged groups.

Continuing to explore opportunities for Public-Private Partnerships (PPP) could also provide prospects for efficiency gains and may therefore provide greater value for money compared to traditional procurement (OECD, 2008). Since the National Infrastructure Unit was established in the Treasury in 2009, the number of PPPs has expanded, and more partnerships are being considered, including at local levels, if projects are of sufficient scale, such as in Auckland (Hodges et al., 2013). Over 2012-14, roughly NZD 1.5 billion in PPP projects were initiated in New Zealand (representing roughly 1% of nominal investment activity, which compares to around NZD 66 billion in Australia (representing roughly 4% of nominal investment activity) (Drew, 2014), highlighting that New Zealand's level and share of PPP projects in total investment is relatively low but growing. Since the cost of borrowing by the government is lower than for the private sector, there is a need to ensure that such projects bring value-for-money gains or better outcomes and have clearly defined outputs. Affordability considerations also need to take into account the government's intertemporal budget constraints when assessing the ability to pay for the privately provided infrastructure over time.

These value-for-money improvements depend on the extent to which risk is shared between the private and public sector, performance management and output-based specifications are included in PPP contracts, the existence of competition and private sector expertise (OECD, 2008). To date, most projects in New Zealand have involved risk sharing with most PPPs involving the private sector in the design, building, financing and operation and/or maintenance of the infrastructure project, and most have clear outcome targets. As further projects are undertaken, there will be a need to continue to verify that projects provide good value for money and involve adequate risk sharing between the public and private sectors. In addition, ensuring that subsequent monitoring is undertaken, particularly when the PPP is involved in the longer-run provision of public services, can help enable positive outcomes.

Public transportation provision and infrastructure required for new residential developments tend to result in property price increases in the area that is serviced by the new infrastructure; similarly, rezoning land for urban use results in large windfall gains to existing land owners. Therefore, there may be an opportunity for the tax system to capture some of the resulting increased value or rent (e.g. through betterment levies) to pay for required infrastructure (land value capture). In this case, value capture could be used to help fund the broad range of infrastructure needs required to service the new land, develop roads and public transportation and provide schools and other public facilities. While a large share of this has typically been provided by development contributions and through property taxes over time, such contributions can lead to reduced affordability (New Zealand Productivity Commission, 2012). In addition, sharing in a revenue base linked to local economic activity could also enable local governments to reap more of the benefits of population growth. These additional revenue sources could help the Auckland region in particular to fund the infrastructure required by its growing population.

The amalgamation of Auckland's seven district councils and the regional council into a single unitary authority in 2010 has enabled the region to achieve improved scale and governance to better address infrastructure issues, particularly related to urban water management (OECD, 2015a). Despite this, infrastructure probably remains a constraint on needed housing supply by holding back densification opportunities in Auckland, such as for needed upgrades to storm and waste water infrastructure. Relying more on long-run marginal cost pricing could ensure capacity expansion and future upgrades are adequately factored into the cost. However, this would require increasing water prices, which might be politically difficult. The current focus on short-run marginal costs may also place a relatively large weight on new home developers, through development contributions, to pay for infrastructure in new developments, which contribute in part to eroding affordability. While development contributions have been tightened recently so as to exclude the ability to pay for infrastructure that is not needed to service the residential development (Local Government 2002 Amendment Act 2014), given that the benefits from infrastructure developments extend over several generations, local councils could also consider greater use of debt financing of these costs to promote inter-generational equity and reduce the current burden.

Demand management strategies could encourage a better use of existing infrastructure

Complementing the additional investments in road infrastructure with better mechanisms to manage the demand on the network is essential to improve efficiency and reduce costs, particularly in Auckland, where the level of congestion and variability of travel times during peak hours is high. Such pricing could better ensure that drivers internalise the marginal social costs they impose on other drivers by entering the network and slowing down their travel times. Placing a cost on travel during peak periods could incentivise drivers to travel at different times (off peak), if they are not required to be on the roads, or could encourage more carpooling and use of public transportation.

There are different methods that could be implemented to charge for congestion, including cordon or zone pricing, or alternative tools that could also deal with congestion, including value-based pricing (or partial facility pricing), full facility pricing or pricing parking. With cordons the focus is on charging for entry or travel in a congested zone. With such pricing mechanisms, public transportation could be used as a lower-quality alternative to car travel. In the case of value-based pricing (or partial-facility pricing), which is more frequently used in the United States, drivers choose whether to drive on

higher-quality roads or lanes with less congestion, or use the free, more congested routes. Given heterogeneous consumers, such a policy could be welfare improving. Overall, both cordon pricing or value-based pricing lead to better outcomes than when there is no pricing in place, and value-based pricing could potentially perform better by offering more choice (OECD, 2010). Nonetheless, full-facility pricing schemes, where all lanes are priced and tolls vary based on the time of day, tend to outperform value-pricing schemes in terms of making efficient use of the road network. Alternatively, additional charges on parking could also lead to a reduction in overall congestion as it may lower the number of commuters; however, it may not lead to as strong incentives to alter travel time as would be the case with a true congestion charge.

At the same time, there will be a need for further investments in public transportation, such as rapid transit, to provide more options to commuters who wish to avoid paying the congestion charges. This could also aid in reducing greenhouse gas emissions. In areas that are poorly serviced by public transportation, or where concerns over equity arise (i.e. if costs fall disproportionately on lower-income households), transfers could provide a partial offset of the costs.

Reducing external imbalances

Continued current account deficits have led to New Zealand's sizeable net international liability position (Figure 1.21). Despite fluctuating over time, the long-run position has been stable at around 70% of GDP. Even so, banking risks are somewhat reduced by New Zealand's institutions, including a flexible exchange rate, which acts as a buffer, and the fact that external loans tend to be denominated in NZ dollars (reducing exchange rate risk) or hedged by NZ banks mitigates the risks. In addition, as previously mentioned, capital ratios have been progressively increased, also making banks more resilient to potential shocks. However, in an environment of global financial uncertainty, the large share of offshore funding makes NZ banks vulnerable to changes in investor sentiment and increases in risk premiums.

Figure 1.21. **Net international investment position**
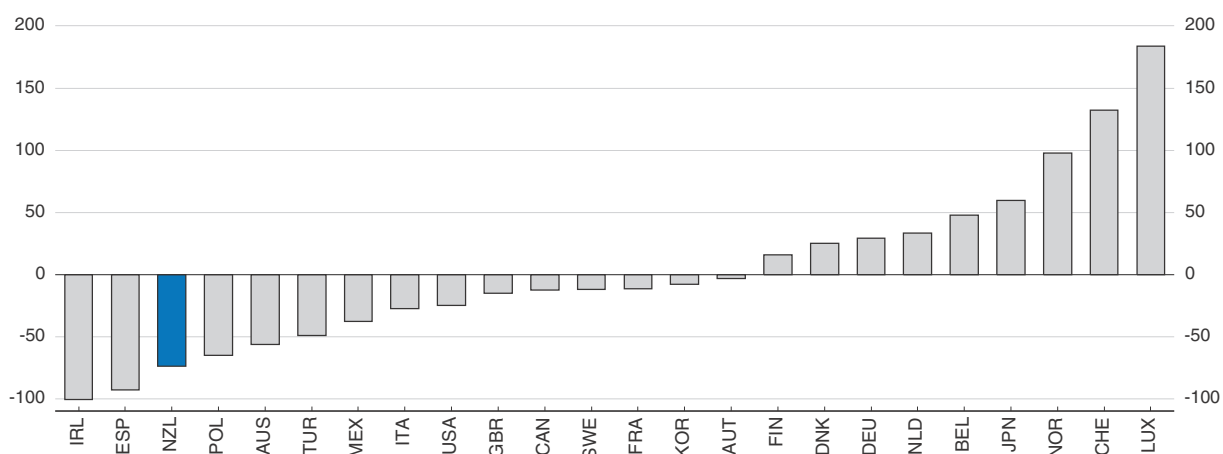
Average 2009-13, as a percentage of GDP

Source: IMF, *International Investment Position Database* for net international investment position data for all countries except New Zealand (Statistics New Zealand for net international investment position and OECD, *Economic Outlook 96 Database* for GDP data).

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As shown by Cheung (2013) in a cross-country analysis, there is a significant (positive) long-run relationship between the level of net foreign liabilities and the level of interest rates. Therefore, the NZ position may result in higher funding costs than otherwise, which may dampen private investment and exports through the positive impact that interest rates have on capital inflows to fund debt, bidding up the exchange rate. While the main cause of New Zealand's low share of exports in GDP is likely to be its distance to markets, which limits its participation in global value chains (de Serres et al., 2014), the trend appreciation of the effective exchange rate since 2000 has also probably played a role, resulting in a falling export share (Figure 1.22). Therefore, efforts to improve the external balance through higher saving could help not only to reduce external risks to growth, but also to aid in a longer-run rotation of demand towards interest-sensitive, higher value-added activities such as exports and business investment.

Figure 1.22. **Share of exports**
Per cent of GDP

A. Average 2005-14
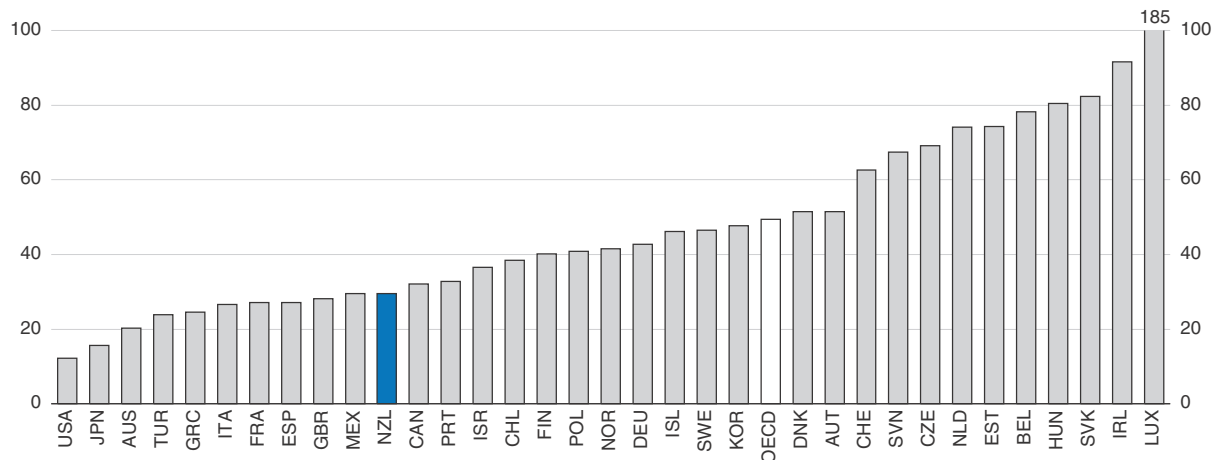
B. Change in export share between 2000 and 2014

Source: OECD, *Economic Outlook Database.*

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These external imbalances reflect a lack of national saving rather than a large volume of investment compared to other OECD countries (Figure 1.23). It is private saving that is especially low, while investment as a share of GDP is around the OECD median (Figure 1.24), despite a different composition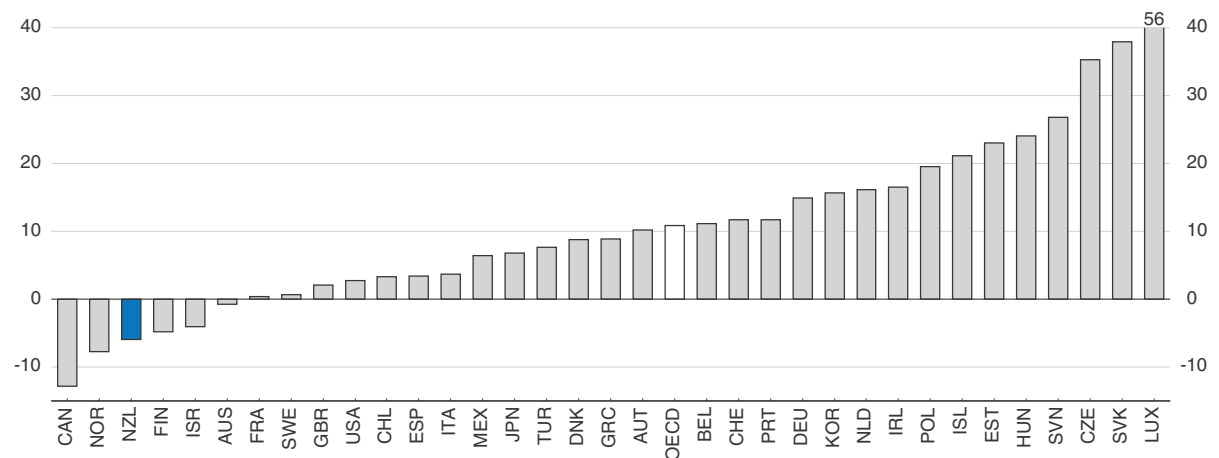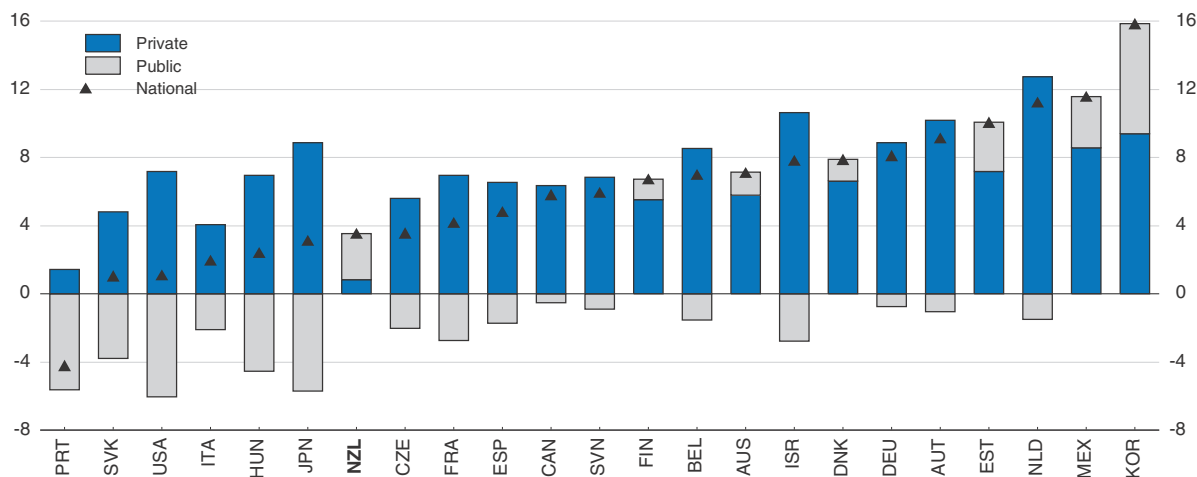: business investment is relatively weak in New Zealand, while public investment as a share of GDP is higher than in comparator countries. While this combination might be detrimental to productivity, the main culprit behind the persistent current account deficits has been low saving.

Figure 1.23. **Net saving rates**[1]

Average 2004-13,[2] per cent of GDP

1. Gross saving adjusted for depreciation.
2. Or last 10 years available.
Source: OECD, *National Accounts Database* and *Economic Outlook Database.*

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Higher private saving rates could help to reduce external liabilities

Although private saving rates are undoubtedly low, there is a lack of consensus over the causes as well as the potential policy responses. One explanation frequently cited is that the welfare system, including comparatively low out-of-pocket health-care expenditures (OECD, 2014b) and a generous first-tier pension scheme, particularly for lower income individuals, may be reducing incentives to save for retirement (though their savings are generally modest). In addition, New Zealand is one of only two OECD countries that do not have a mandatory second-pillar pension scheme and also do not have tax incentives in place to encourage long-term saving (beyond capped tax credits available through KiwiSaver); however, equity investments do receive somewhat more favourable tax treatment, as capital gains are not taxed (dividends are taxed, although New Zealand's imputation tax system ensures they are not double-taxed). While there is mixed evidence on the extent to which tax incentives can induce higher net new saving, most studies point to some positive impact (e.g. Poterba et al., 1995/1996; Ayuso et al., 2007; Gelber, 2011; Attanasio and DeLeire, 2002).

Although the low level of private saving (which is related to weak household saving rates) looks worrisome at a macro level, at a micro level such concerns are less clear. Past studies have shown that NZ households are generally able to smooth their consumption

Figure 1.24. **Investment rates**[1]
Per cent of GDP

A. Total investment
New Zealand   Australia

B. Public investment
OECD median[1]

C. Residential investment

D. Private non-residential investment
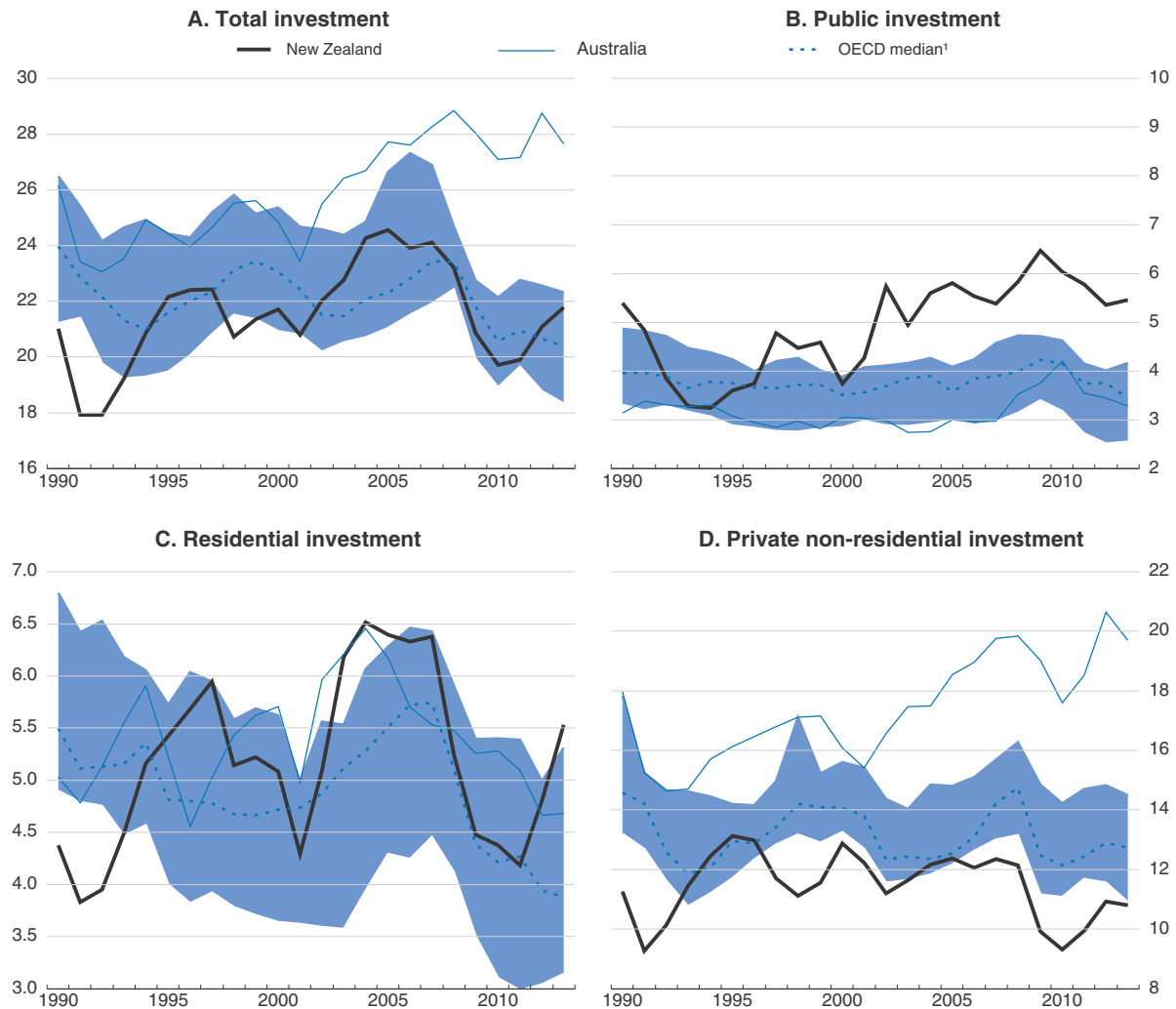
1.   The shaded area is the range of OECD countries from 25th to 75th percentile. Half of the countries lie inside this range.
Source: OECD, *Economic Outlook Database.*

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into retirement, suggesting that saving may be sufficient for the majority of such units (Le et al., 2009). Nonetheless, saving levels may become more of a concern for younger generations who may have lower homeownership levels than their forbears if they are not saving through other means and also have higher levels of debt when they finish their education. Household saving rate measures constructed from micro and macro stock data, which are based on changes in net wealth excluding revaluation effects (otherwise known as active saving), suggest a higher rate of household saving over history (Gorman et al., 2013). Furthermore, NZ household saving rates based on flow measures of income and outlays from the national accounts have tended to be revised up over time (Gorman et al., 2013). As a result household saving may be less of a concern than what the aggregate measures suggest, particularly regarding the adequacy of retirement saving.

This said, there may still be a need to increase saving to reduce the risks from external imbalances. One beneficial reform could be to correct the distortion inherent in the inflation bias in the tax system. In particular, taxing nominal income from savings at the top marginal rate in the presence of inflation magnifies the bias towards current consumption. Therefore, measures to raise returns directly by adjusting for this inflation bias or lowering the tax rate on long-term saving, as mentioned above, could improve overall saving rates. In addition, several studies have pointed out that automatic enrolment in voluntary saving schemes tends to boost saving rates (e.g. OECD, 2014c). This lies behind the automatic-enrolment feature of KiwiSaver for new employees. Therefore, there may be a benefit to extending automatic enrolment to existing employees. Moving further towards a compulsory saving scheme, by, for example, making KiwiSaver more like a second-pillar pension scheme, could also raise private saving. Such a scheme would encourage more participation from lower-income groups and liquidity-constrained individuals who generally have a low propensity to save, though their welfare might be maximised by consuming more at present, despite relative poverty later on.
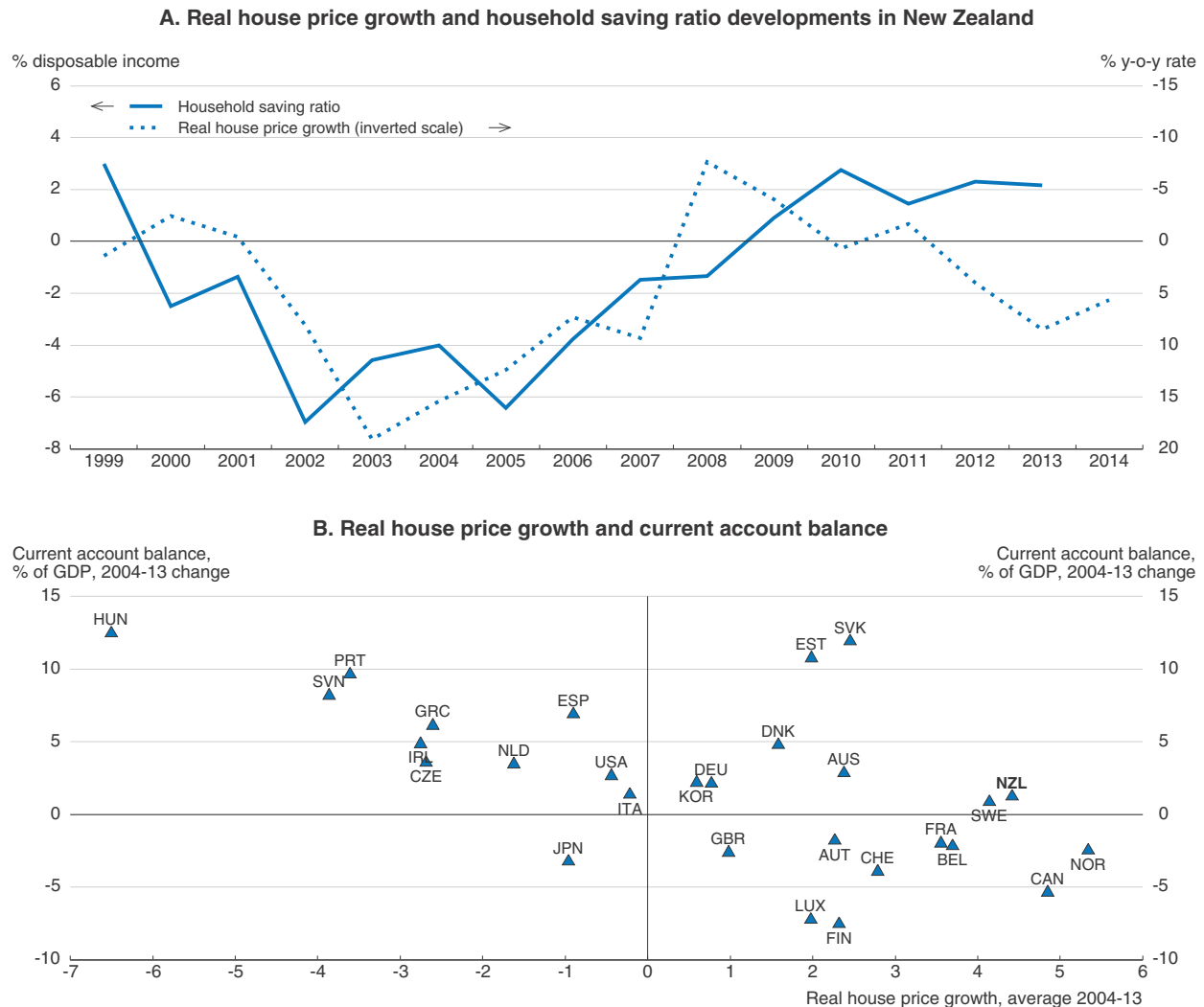
Higher NZ house price appreciation appears to be associated with lower household saving rates (Figure 1.25), and countries with faster house price rises appear to have smaller increases (or a decline) in their current account balance, which may reflect weaker saving. Several studies have supported the view that higher house prices and the resulting increase in household wealth have lowered private saving (IMF, 2011; Jarrett, 2011). Therefore, implementing measures to make housing supply more responsive to demand may also help to increase the aggregate amount of household saving in the longer run by limiting capital gains on housing. Overall, ensuring that the financial system remains sound and funding and liquidity buffers high is paramount to preventing fluctuations in the quantity and price of external funding from harming the financial sector and real activity.

Public saving and the sustainability of fiscal policy

While the NZ government's debt level is relatively low, it has increased since the global financial crisis (GFC) and the Canterbury earthquakes. The government is aiming to bring net core crown debt back to 20% of GDP by 2020 from 26% of GDP at present (New Zealand Treasury, 2014a). As highlighted by Ding et al. (2014), countries that have made substantial progress in reducing elevated levels of net foreign liabilities have generally done so through deliberate measures to increase gross public saving. Boosting public saving as currently planned will enhance New Zealand's longer-run fiscal sustainability, particularly in the face of rising ageing-related pension and health-care expenditures. Furthermore, a strong fiscal position is appropriate in New Zealand as the country faces potentially large macroeconomic shocks given its external imbalance and volatility in export revenues, particularly related to dairy prices. If the economy performs better than expected, it may be appropriate to consolidate faster by saving revenue surprises, particularly if proven to be temporary in nature, which would also serve to raise national saving.

While net debt levels can be reduced both by paying back gross debt or by accumulating assets, given that gross debt appears to be more relevant for financial markets (Price et al., 2008), public saving should be focused initially on reducing gross debt to achieve target net debt levels so long as reasonable liquidity is maintained in individual bond issues, as is currently planned. Restarting contributions to the New Zealand Superannuation Fund, once net debt reaches target levels, as is envisaged, will also help to finance future ageing-related liabilities.

Figure 1.25. **Real house prices and the dynamics of saving and current account balances**

A. Real house price growth and household saving ratio developments in New Zealand

B. Real house price growth and current account balance

Source: OECD, *Economic Outlook* and *House Price Databases.*

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During several economic upturns fiscal policy was expansionary in New Zealand (Ter-Minassian, 2014; Brook, 2013), which may have added to demand pressures and inflation, resulting in higher policy rates than would have otherwise been the case. This would be particularly detrimental if permanent tax cuts or spending increases are implemented in the face of temporary favourable revenue surprises. During expansions there also appears to be a stronger cross-country association between fiscal policy changes and the current account. This may result from higher imports related to budget expenditures when the output gap is positive and the positive impact fiscal expansion has on interest and exchange rates (Abbas et al., 2010), which may further exacerbate external imbalances. Higher interest rates probably contributed to the appreciation of the NZ dollar during the latter part of the last upturn in 2005-08 when fiscal policy was expansionary (Brook, 2013). Such pressures may have damaged the competitiveness of the tradables sector, constraining exports, and may have crowded out private investment.

In New Zealand the Public Finance Act (PFA) sets the principles for responsible fiscal management and conduct. Regular reporting by the government is required as to the extent that fiscal policy is consistent with these principles. The PFA also requires regular and independent economic and fiscal updates by the Treasury. While these principles include a focus on sustainability in the conduct of fiscal policy, the 2013 amendments to the PFA also require the government to consider the interaction of fiscal with monetary policy when formulating its fiscal strategy, which should improve fiscal policy coordination with the economic cycle. However, political economy considerations and electoral cycles are likely to continue to favour spending and tax cuts during expansions, since there are no sanctions for breaching the PFA's provisions.

An independent fiscal council (IFC) could analyse fiscal policy settings in the context of the economic cycle to help to counter these spending pressures by generating greater public awareness of their longer-term burden, particularly since public engagement in fiscal policy is relatively low in New Zealand (Petrie, 2013). Political economy issues can arise both due to the common pool problem, where the incumbents seeking re-election increase the provision of public goods or services or tax breaks to their own constituents without internalising the costs, and through the time-inconsistency of policy, where short-run gains could lead to sub-optimal fiscal plans. One role of an IFC could be to highlight these inconsistencies, increase transparency and provide more information to the public about the stance of fiscal policy, thereby reducing incentives for such manoeuvring. The number of fiscal councils in OECD countries has grown, with their mandates differing depending on the country's political structure. Some IFCs are involved in providing budget forecasts or projections of budget inputs, implementing and/or monitoring the compliance with fiscal rules, providing cost estimates for various spending or tax measures and providing other positive or normative analyses. Given the Treasury's independence in producing fiscal projections and policy advice, an IFC in New Zealand could have a more limited remit, such as providing normative analysis and advice on the stance of fiscal policy and plans, particularly regarding the sustainability of the fiscal strategy, thereby requiring fewer resources than in some other countries. A focused mandate on assessing fiscal policy is characteristic of smaller IFCs, such as the Irish Fiscal Advisory Council (Debrun and Kinda, 2014). Empirically, fiscal councils are associated with greater fiscal discipline, provided they have certain characteristics, such as political independence and high media impact (Debrun and Kinda, 2014; Hagemann, 2011).

Recommendations for sustaining the economic expansion

Continue to increase the dynamism of the labour market and reduce skills shortages

- Draw lessons from the *Canterbury Skills and Employment Hub* (a labour-market matching scheme), trial it elsewhere and, subject to positive results, roll it out country-wide.
- More frequently update immigration skills shortage categories to reduce labour market bottlenecks.
- Make English language requirements in the immigration process stricter, or provide additional English language training and follow-up to facilitate immigrants' labour market integration.
- Continue to provide and better centralise information on returns to education by field of study to better guide student choice.

Recommendations for sustaining the economic expansion *(cont.)*

Improve housing supply responsiveness

● Provide guidance to regional authorities in the implementation of environmental and planning regulations, including the Resource Management Act. Reduce their economic costs and the scope for vested interests to limit competition or thwart rezoning and development that would be in the wider public interest.

● Better equip local councils through increased resources and training to undertake the urban planning process.

Continue to develop infrastructure

● Implement infrastructure demand management strategies to reduce urban road congestion, notably congestion charging. Consider diversifying revenue sources for local infrastructure funding, such as sharing in a revenue base linked to local economic activity or taxing the windfall gains that accrue to landowners from rezoning land for urban use.

● Continue to pursue Public-Private Partnerships where they provide good value for money and may lead to greater efficiencies and better outcomes, while ensuring that risks are adequately shared between the private and public sectors.

Encourage higher private saving

● Expand automatic enrolment in KiwiSaver to existing employees.

Further enhance fiscal sustainability

● Implement fiscal consolidation measures to reduce net core crown debt as planned, while continuing efforts to improve the well-being of the most vulnerable members of society. Allow the automatic stabilisers to operate fully.

● Create an Independent Fiscal Council, focused on providing policy advice and analysis on the fiscal stance, with a special emphasis on monitoring sustainability and coordination with the economic cycle.

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Chapter 2

Making New Zealand's economic growth more inclusive

New Zealand generally performs well in terms of economic and social inclusion. It has high employment rates, and education and health-care systems work well for most. However, some New Zealanders are stuck on low incomes and face material deprivation and multiple barriers to economic and social participation. The ranks of those falling behind increased in the wake of the economic reforms in the late 1980s and early 1990s, which succeeded in halting the decline in GDP per capita relative to the OECD average but contributed to large increases in income inequality and poverty that have only been partially reversed since then. These developments have been aggravated by the rising burden of housing costs on low-income households. Māori, Pasifika and low-income households have also experienced slower rates of improvement in many health and education results. NZ governments have made improving outcomes for disadvantaged groups a top priority in recent years. Reforms are being made to facilitate the transition of welfare beneficiaries into work, increase the supply of affordable and social housing and enhance health and education outcomes for disadvantaged groups. These reforms go in the right direction and, in many cases, would be more effective still if complemented by other reforms.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

New Zealand generally performs well in terms of participation in economic and social activities of its people. It has high employment rates, and education and health systems work well for most. The recorded crime rate has been falling since the early 1990s, and the numbers of people entering the criminal justice system is starting to fall. New Zealand's state services are generally well regarded, and it consistently ranks at or near the top of international surveys that measure trust in government.

However, some New Zealanders face persistently low incomes, material deprivation and multiple barriers to economic and social participation. Many of these people are welfare beneficiaries. Their children are at higher risk than others of having poor long-term outcomes across a range of well-being dimensions. Māori and Pasifika, who together make up a quarter of the population, are also overrepresented among those who live in chronic poverty and have a variety of other poor well-being outcomes as well.

The ranks of New Zealanders falling behind the rest of society increased in the wake of the economic reforms in the late 1980s and early 1990s to enhance long-term economic performance. These reforms succeeded in halting the decline in GDP per capita relative to the OECD average, mainly through increasing labour utilisation, but contributed to large increases in income inequality and poverty that have only been partially reversed since then. These developments have been aggravated by the rising burden of housing costs on low-income households. Low-income, Māori and Pasifika households have also experienced slower rates of improvement in health outcomes than the rest of society, and, while gaps in education attainment have narrowed, the influence of socio-economic background on education achievement has increased from a level that was already higher than in most other OECD countries.

NZ governments have made improving outcomes for low socio-economic households, including many Māori and Pasifika people, in key areas that affect well-being (income, housing, health and education) a top priority in recent years. Because the same individuals tend to have poor outcomes across the various dimensions of well-being, a co-ordinated and multi-pronged approach to improving outcomes is needed, as envisaged in the New Zealand Treasury's "Living Standards Framework" (New Zealand Treasury, 2011) and the OECD's "Inclusive Growth" initiative, including through the provision of more tailored and targeted social services. Such an approach is aimed at delivering improved outcomes both in the short term and especially the longer term.

This chapter discusses the distribution of monetary and some of the main non-monetary determinants of well-being in New Zealand together with policies for improving outcomes for people lagging behind. It begins by reviewing developments in income distribution and poverty and discusses welfare and labour-market reforms to increase low incomes. In the following sections, the problems of affordable quality housing and of relatively poor health and educational outcomes for low-income households and Māori and Pasifika populations are discussed together with reforms that are being implemented to alleviate these problems and suggestions for further reform. The topics covered are not exhaustive but do include the most important determinants of well-being in New Zealand.

Reducing income inequality and poverty

Income inequality and poverty rates have increased

Growth in average real household disposable income[1] has been broadly in line on average with that in comparable OECD countries (other English-speaking countries and the historic EU15 countries) in recent decades (Figure 2.1). It was very low from the mid-1980s to the mid-1990s, when the upfront costs (including a very large increase in unemployment) of major economic reforms were incurred but has since been higher than

Figure 2.1. **Growth in real household disposable income[1] across the distribution**

Total population, percentage income growth

A. Between mid-1980s and mid-1990s

B. Between mid-1990s and 2011[3]

C. Between mid-1980s and 2011[3]

1. Equivalised household incomes (i.e. adjusted for household size – total household income is divided by the square root of household size) across the distribution are measured by the full range of bottom to top income standards, as determined by the Atkinson inequality aversion parameter α (a low value corresponding to high inequality aversion). A low value corresponds to low income, zero to median income and a high value to high income. Data are for deciles and expressed in USD 1 000, at constant prices and constant 2010 purchasing power parities for households' consumption.
2. EU countries include Denmark, Finland, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and the United Kingdom. Other English-speaking countries include Canada, the United Kingdom and the United States, but exclude Australia owing to data unavailability in the mid-1980s and Ireland due to a break in the series. Country averages are population weighted.
3. 2011 or nearest available year.
Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

How to read this figure: Each curve represents cumulative income growth at different points of the income distribution. For example, low real incomes in New Zealand grew by 13% between the mid-1980s and 2011 (Panel C) while high real incomes increased by 44%, indicating that income inequality widened.
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in comparable countries. More progress has been made in closing the gap in household incomes than in GDP per capita with comparable OECD countries in recent years because New Zealand's terms of trade have increased and, in contrast to the United States, the labour share of gross domestic income has risen (Figures 2.2 and 2.3).

However, income inequality has increased more than elsewhere over the whole period from the mid-1980s to 2011, reflecting developments in the late 1980s and early 1990s (Figure 2.1; Figure 2.4). That increase reflected both a fall (of 17-20%) in real disposable incomes of the poor and lower middle class and a comparable rise (of 15-18%) in real incomes of the upper middle class and most affluent (Figure 2.1, Panel A). Lower-income households did relatively poorly because they bore the brunt of restructuring costs (lost employment opportunities and low or negative growth in real wage rates) and because social benefits were cut in 1991 to sharpen work incentives. By contrast, modest growth in market incomes for higher-income households was substantially magnified by income tax cuts, which were financed by the introduction and subsequent increases in value-added tax (GST). The slight decline in income inequality since the mid-1990s reflects higher growth in incomes in the bottom half of the distribution than in the top half (Panel B). Lower-income households have benefited disproportionately from the recovery in the labour market during this period, the introduction of the Working for Families (WFF) package over 2004-07 (which provides means-tested income top-ups to households with children) and increases in New Zealand Superannuation (NZS, the first-pillar pension scheme) benefits in 2008 and 2010; most NZS beneficiaries' incomes are either at the top of the first decile (they have no other disposable income) or at the bottom of the second decile (they have a small amount of other disposable income). Disposable income inequality

Figure 2.2. **Gaps in incomes with other OECD countries**

A. Gap relative to the United States

B. Gap relative to EU average[2]
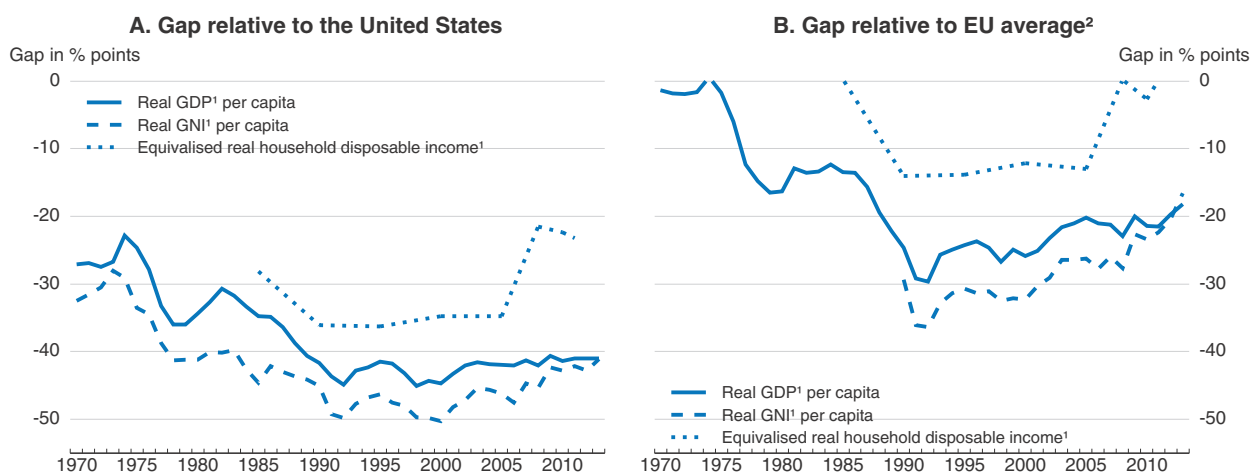
1. Real GDP/GNI is defined as GDP/GNI at 2005 constant prices and constant PPP. Real GNI (but not real GDP) includes a trading gain or loss that arises from changes in the terms of trade; this gain or loss is the difference between real GDP and real GDI. This trading gain or loss is calculated as the current trade balance deflated by the final domestic demand deflator minus real exports plus real imports. Hence, real GNI rises in relation to real GDP when the terms of trade rise and falls in the opposite case. Equivalised real household disposable income is obtained by deflating the nominal mean of equivalised household disposable income, which is adjusted for household size, by the CPI indexed to 2010 and converted to a common currency using the 2010 PPP for GDP.
2. EU countries include Denmark, Finland, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and the United Kingdom. Country averages are population weighted.

Source: OECD, *National Accounts Database*; calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

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Figure 2.3. **Real labour compensation and productivity**
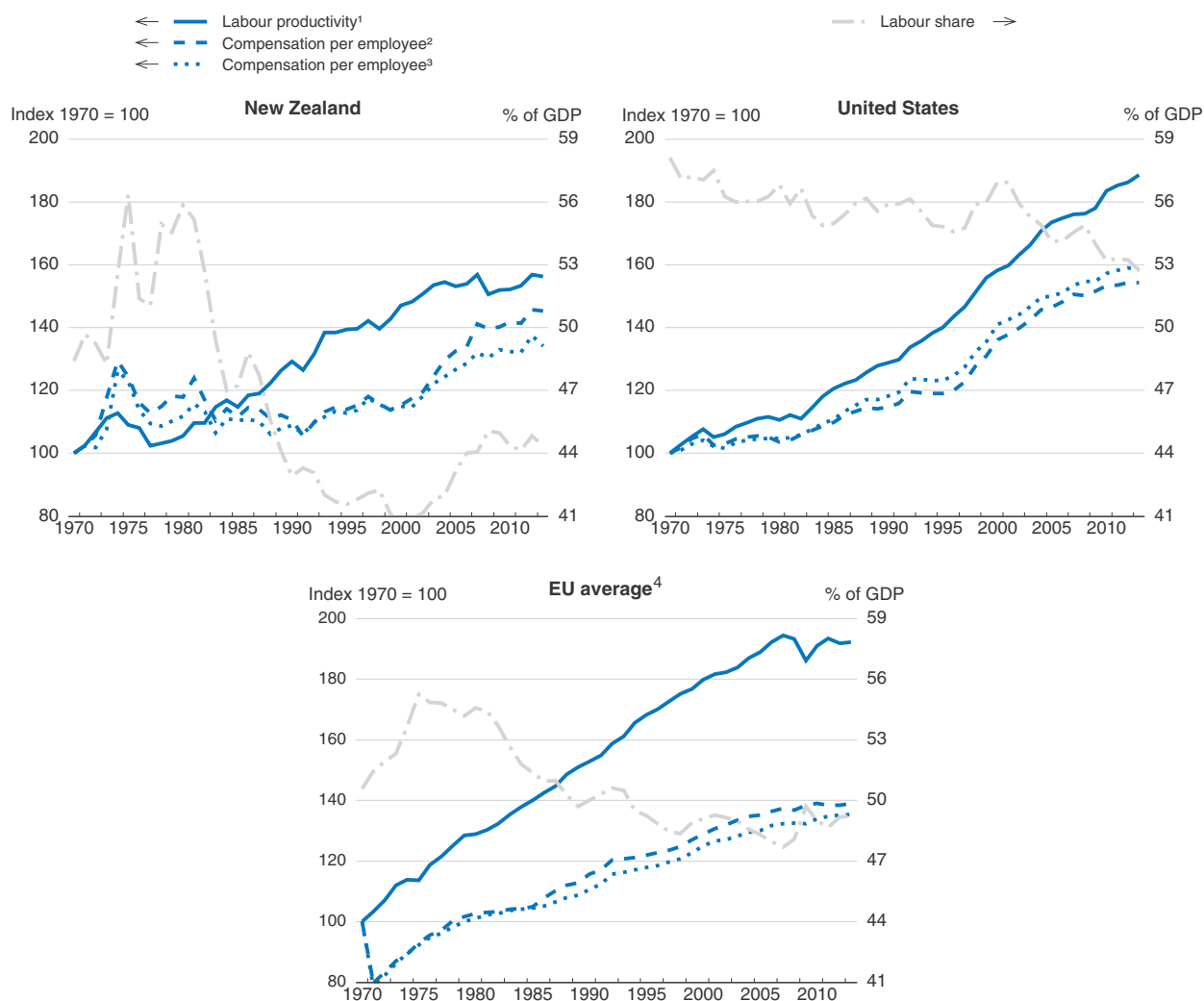
1. Defined as real GDP per person employed.
2. Deflated by the private consumption deflator.
3. Deflated by the GDP deflator.
4. EU countries include Denmark, Finland, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and the United Kingdom. Country averages are population weighted.

Source: OECD, *Economic Outlook* and *Productivity Databases*.

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increased from near and below the EU and OECD averages, respectively, to above them and converged towards the average in other English-speaking countries but remained below it (Figure 2.4; Figure 2.5).

Redistribution through taxes and transfers has declined, reflecting the aforementioned reforms, which have reduced the progressivity of the tax system and benefit replacement rates, contributing to the increase in disposable income inequality (Figure 2.6). Overall, the decline in income inequality (measured by the Gini coefficient for the population aged 18-64) due to direct taxes and cash transfers fell from 27% in the mid-1980s, above the OECD average, to 21% in 2011, which was below it.

Figure 2.4. **Inequality in household disposable income**
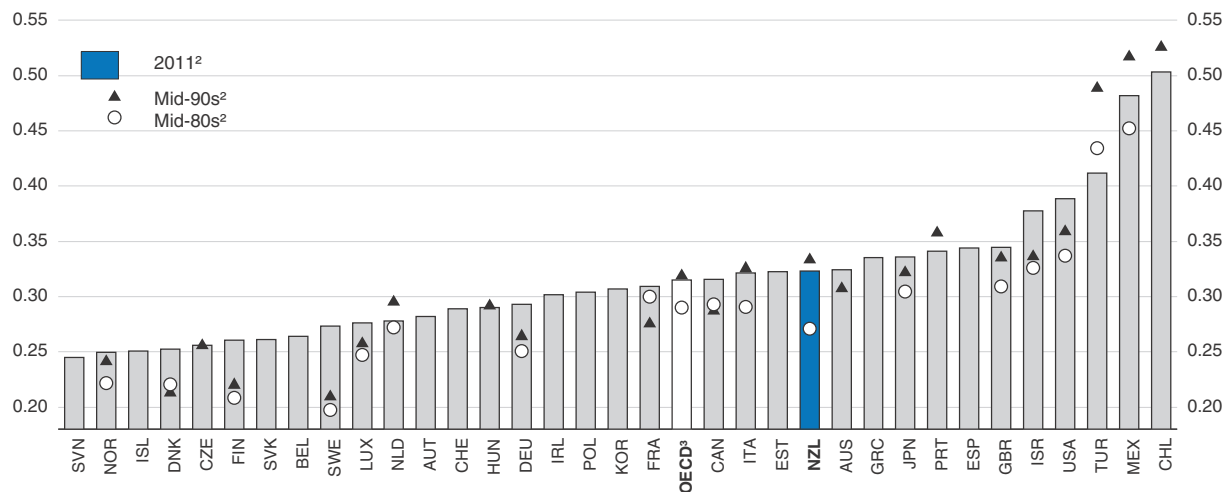
Gini coefficient,[1] total population

1. The Gini coefficient is a measure of income inequality that ranges from 0 (where all households have the same income, i.e. complete equality) to 1 (where one household has all the income).
2. Mid-80s corresponds to the interval 1983-87, mid-90s to 1993-96 and 2011 refers to the latest available year.
3. Unweighted average of countries available for each period.

Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

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Poverty rates after housing costs (AHC) also increased in the decade to the mid-1990s, especially for children, and have been broadly stable since then in relative terms (i.e. where the poverty line is expressed as a percentage of median income) and declined somewhat in "anchored" terms (i.e. where the poverty line is expressed as a 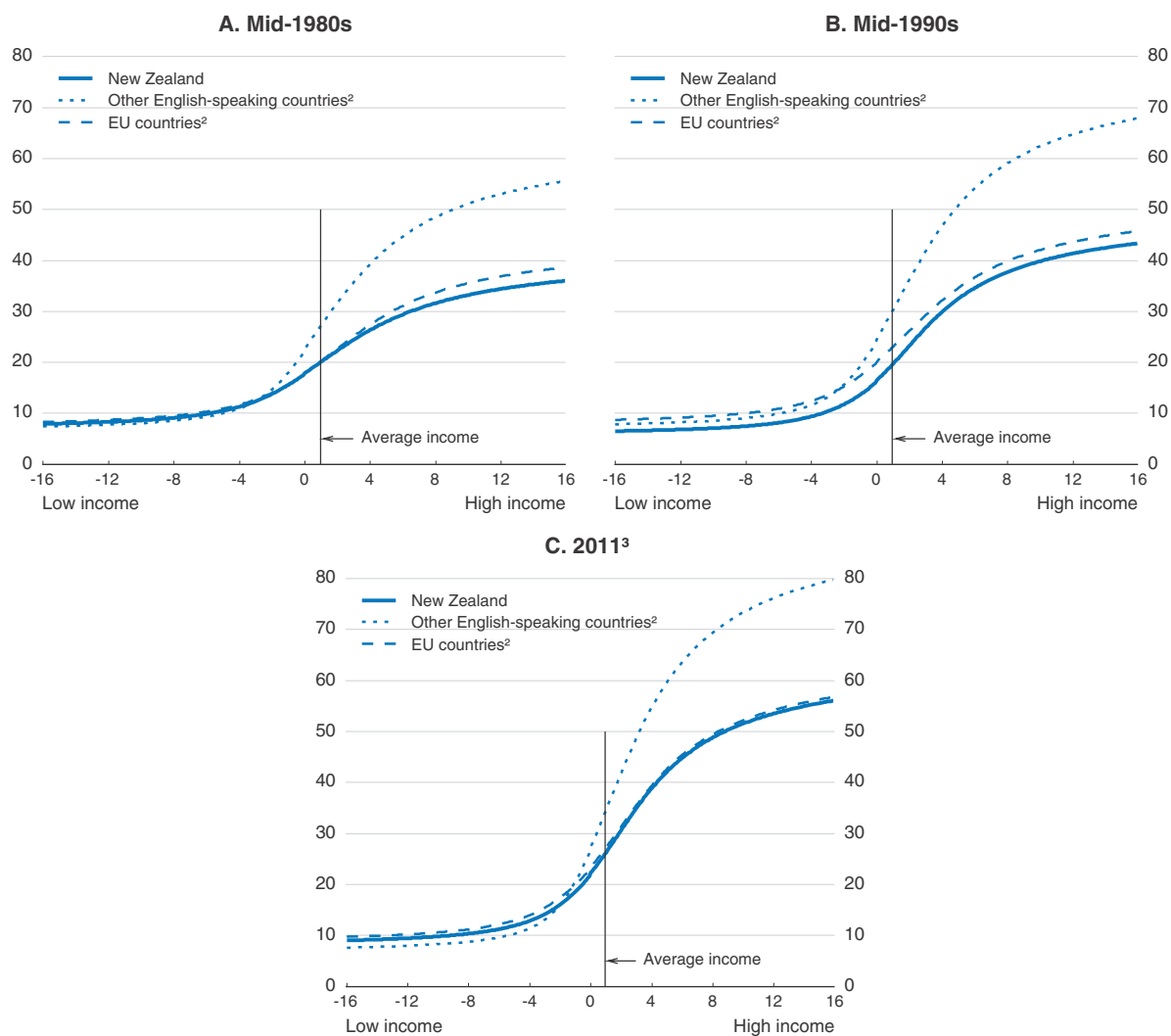percentage of real median income in a reference year) (Figure 2.7, Panel A). Based on relative measures, the poverty rate doubled from the mid-1980s to the mid-1990s and has remained more or less stable since then at 18-20% for the 60% of median income AHC measure and 13-14% for the 50% of median income AHC measure. Based on the 60% of anchored 1998 median AHC real income measure, the poverty rate more than doubled from 8% in the decade to the mid-1990s before declining to 13% in 2007. Using 2007 as the reference year, the corresponding anchored poverty rate has continued to decline, from 18% in 2007 (the median real income was higher in 2007 than in 1998) to 16% in 2013. For children, poverty rates soared in the decade to the mid-1990s but have since declined on the anchored measures or remained broadly stable on the relative measures (Figure 2.7, Panel B). In 2012-13, 22% of children lived in households with real incomes AHC below 60% of 2007 median real household income, much the same proportion as in 2007. Half of poor children live in private rental housing, with a further 19% living in social housing (2013 Census).

Figure 2.5. **Household disposable income[1] across the distribution**

Total population

A. Mid-1980s

B. Mid-1990s

C. 2011[3]

1. Equivalised household incomes (i.e. adjusted for household size – total household income is divided by the square root of household size) across the distribution are measured by the full range of bottom to top income standards, as determined by the Atkinson inequality aversion parameter α (a low value corresponding to high inequality aversion). A low value corresponds to low income, zero to median income and a high value to high income. Data are for deciles and expressed in USD 1 000, at constant prices and constant 2010 purchasing power parities for households' consumption.
2. EU countries include Denmark, Finland, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and the United Kingdom. Other English-speaking countries include Canada, the United Kingdom and the United States, but exclude Australia owing to data unavailability in the mid-1980s and Ireland due to a break in the series. Country averages are population weighted.
3. 2011 or nearest available year.
Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

How to read this figure: Each curve represents income levels at different points of the income distribution. For example, income levels in New Zealand are very similar to the EU average in 2011 (Panel C) except for low incomes, which are slightly lower. Hence, the slightly higher degree of income inequality in New Zealand than in the EU reflects lower low incomes in New Zealand. Compared with other English-speaking countries, low incomes are higher in New Zealand and high incomes are much lower – lower income inequality in New Zealand mainly reflects lower top incomes. The steeper the slope of the curve, the greater the degree of income inequality.
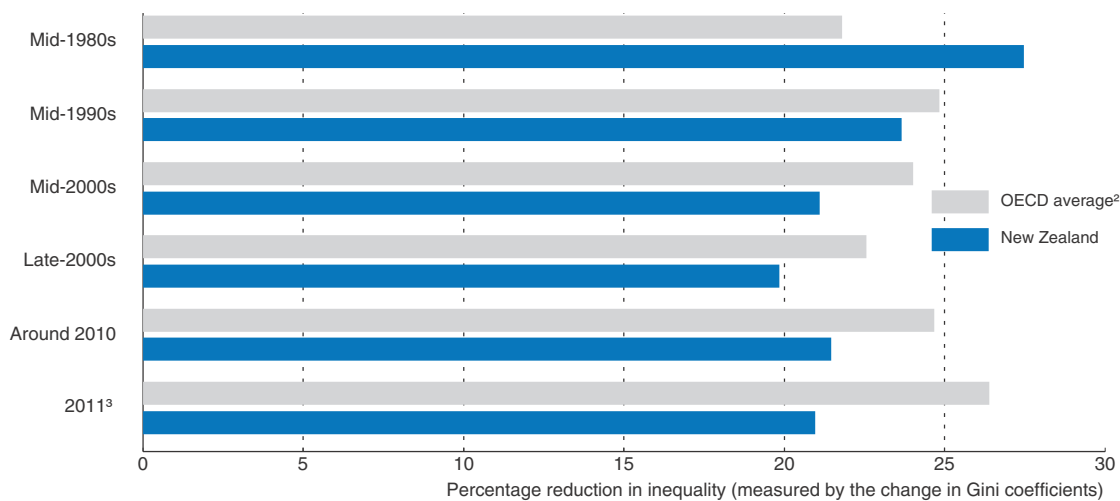
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Figure 2.6. **Reduction of market income inequality through taxes and transfers**[1]

Working-age population

1. Difference between market- and disposable-income Gini coefficients, as a percentage of the market-income Gini coefficient.
2. Unweighted average of countries available for each period.
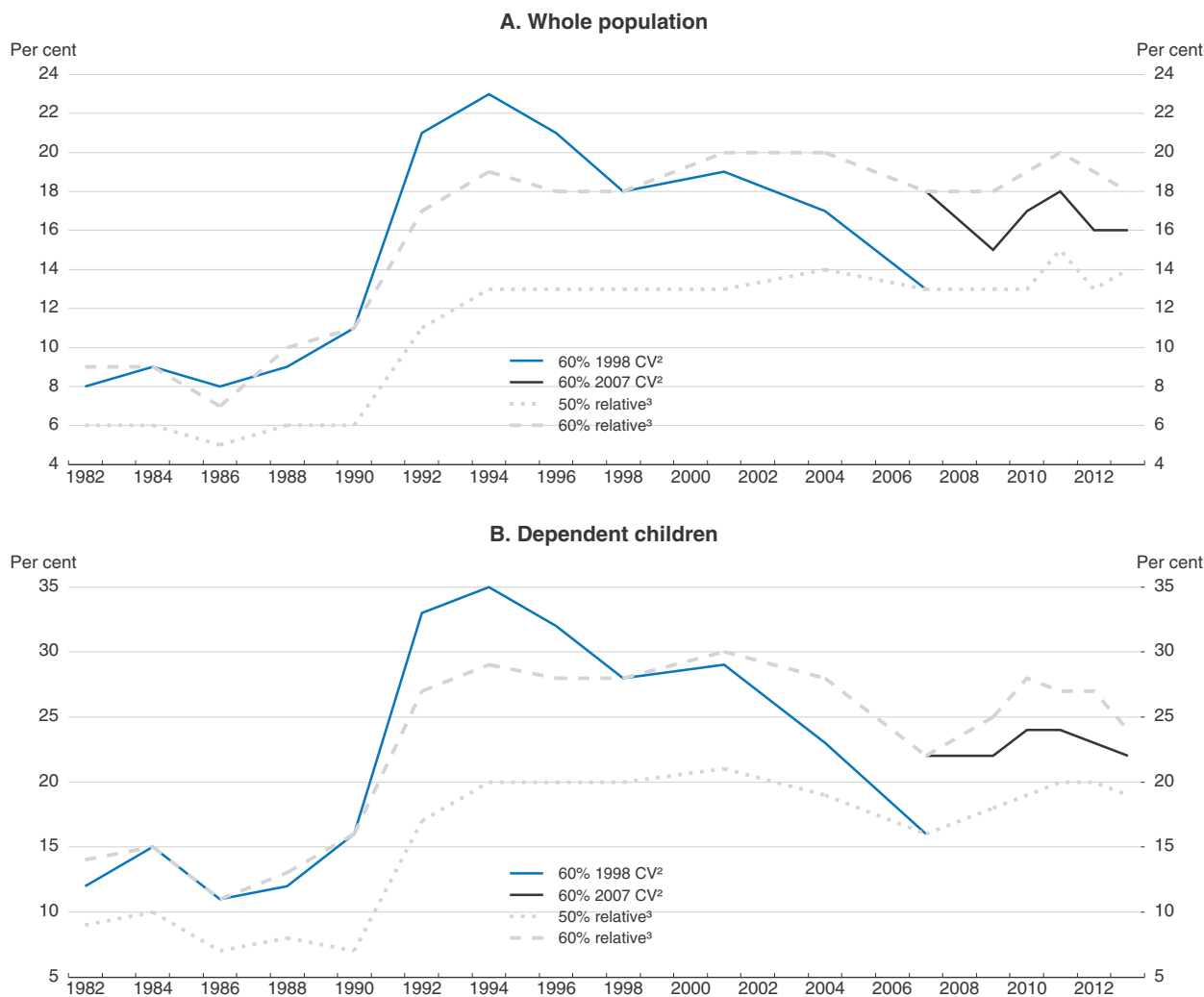3. Or latest year available.

Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

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The two main factors that underlay the rise in AHC poverty rates in the early 1990s for the population aged less than 65 years and children were the 1991 cuts in welfare benefits by up to 20% with future increases indexed to the CPI instead of earnings, and the ending of income-related rents for social housing,[2] which contributed to a large increase in housing costs for low-income households (Figure 2.8). Income-related rents were reinstated for social housing in 2000, contributing to the large reduction in housing costs for low-income households and in child poverty rates in the early 2000s. Poverty rates for beneficiary households (whose main source of income is an income-tested benefit) below age 65 without children and with children are currently around 72% and 80%, respectively. The corresponding rates for households with market income as the main source are 10% and 12%, respectively. These rates have increased less markedly, not least because such low incomes have been topped up in recent years to a greater extent through the WFF programme.

The rising burden of housing costs on low-income households has contributed significantly to the increase in AHC poverty rates since the late 1980s (Figure 2.8). The proportion of low-income households (with incomes in the first- [Q1] and second-quintiles [Q2]) with high accommodation outgoings-to-income (OTI) ratios (more than 30%) has increased from 13%-16% in the late 1980s to 36%-42% in 2013; and these figures understate the plight of working-age, low-income families, as many older households, who tend to be mortgage-free owner occupiers, are included. The increase in housing costs cancelled out gains in before-housing cost (BHC) incomes for low-income households, leaving AHC incomes for bottom decile households lower in real terms in 2013 than in the 1980s, and

Figure 2.7. **Poverty rates**

Percentage below selected thresholds after housing costs[1]

A. Whole population

B. Dependent children

1. After housing costs (AHC) thresholds are calculated by deducting 25% from the corresponding before housing costs (BHC) threshold as an allowance for housing costs. Each household's AHC is then assessed against the chosen threshold.
2. Constant value (CV) or "anchored" thresholds are based on the BHC median in a reference year, currently 2007.
3. The moving line or "relative" approach sets the poverty line as a proportion of the median income from each survey, so that the threshold changes in step with the incomes of those in the middle of the income distribution.

Source: B. Perry (2014), *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2013*, Ministry of Social Development, Wellington, July, Tables F.4 and F.7.

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much the same for those in the second decile (Perry, 2014). Concomitantly, BHC poverty rates increased by less than AHC rates. For example, the BHC poverty rate (based on the 50% of median income poverty line) increased from 6% in the mid-1980s to 10% in 2011 (OECD Income Distribution Database). This increase was greater than the average for the OECD, taking New Zealand's rate up almost to the OECD average.

Figure 2.8. **Housing costs and price distribution of new housing investment**

A. Proportion of households with housing-cost-to-income ratios greater than 30%
By income quintile

B. New housing investment
High-, medium- and low-price shares[1]

1. The construction data only include life-style, stand-alone and attached residential dwellings – apartments, which do not have individual entrances from the exterior and are typically in high-rise buildings, are excluded. For each year, the data show the share of new houses that are valued within each quartile of the value distribution for the existing housing stock.
Source: B. Perry (2014), *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2013*, Ministry of Social Development, Wellington, July, Table C.3 for Panel A; Productivity Commission calculation using Corelogic data for Panel B.

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Sole-parent households have a high relative risk of poverty (Figure 2.9). The poverty risk ratio (PRR) for sole parents, which is the ratio of their poverty rate to that for the whole population, increased from 2.8 in 1984 to 3.7 in 2013. The other household type with a high and rising PRR is working-age adults living alone, for whom the rate increased from 1.2 in 1984 to 1.7 in 2013 (this group's poverty rate in 2013 was 29%). PRRs are also high (around 1.5) for Māori (poverty rate 24%), Pasifika (poverty rate 23%) and other non-European ethnicities (poverty rate 24%). Child poverty rates for these ethnicities are also around double the rates for the European ethnic group. At the other end of the spectrum, the PRR for the elderly is very low. This is attributable to the relatively generous level of NZS compared with social benefits and the high rate of mortgage-free home ownership for this group.

Figure 2.9. **Poverty risk ratios by household type**[1]

Based on a constant value poverty line of 60% of median income after housing costs

1. The poverty risk ratio is the ratio of the poverty rate for a particular group divided by the poverty rate of the whole population.
Source: B. Perry (2014), *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2013*, Ministry of Social Development, Wellington, July, Table G.8.

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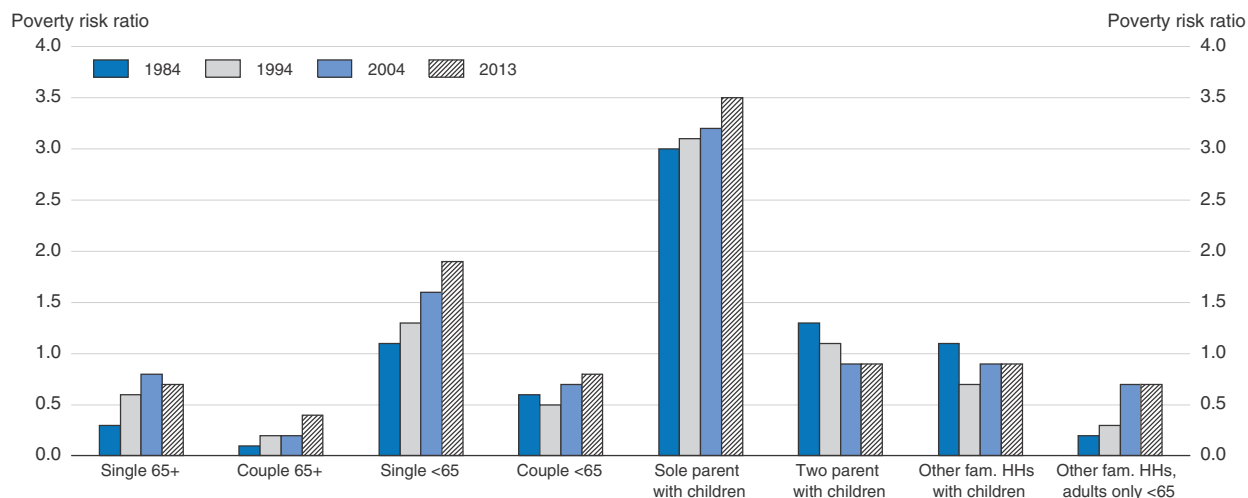
Chronic poverty rates, based on longitudinal studies of people's average incomes over a number of years in relation to the average poverty line over these years, may give a better guide to hardship than currently low income, as some people with currently low incomes may still be able to buy the necessities of life by drawing on savings. The chronic poverty rate is around 70% of the current poverty rate for the population as a whole and a little higher (around 80%) for children and Māori (Perry, 2014). On this basis, the latest chronic AHC poverty rates are around 11% for the whole population, 18% for children and 19% for Māori.

Non-income measures of hardship (NIM) show that there is a reasonable similarity between actual proportions of populations identified as "income poor" or "in hardship" (Table 2.1). Based on the Ministry of Social Development's Economic Living Standards Index (ELSI) (Box 2.1), 13% of the population was in hardship in 2012, the same as the proportion in income poverty based on the AHC relative 50% of median income measure. The same populations are identified as experiencing relatively high hardship rates as for income poverty measures, notably welfare beneficiaries, sole-adult households, households with three or more children, sole-parent families and Māori/Pasifika families. In many cases, a household falls into more than one of these categories. Using the official 2008 NIM-based EU deprivation index, New Zealand's hardship scores rank in the middle of EU countries and are relatively high for children and low for the elderly (Table 2.2).

Box 2.1. **The Ministry of Social Development's principal non-income measure of hardship**

The Ministry of Social Development's Economic Living Standards Index (ELSI) ranks the population from an *enforced lack perspective*, in which respondents do not have essentials because of cost or have to cut back severely on essentials because the money is needed for other essentials, and a *freedoms enjoyed perspective*, based on the degree of restriction/freedom for having or purchasing desirable non-essentials (while having the essentials). Households are considered to be in hardship if they report six or more deprivations out of 16.

Those in hardship using the ELSI measure have on average eight deprivations out of 16, compared with one out of 16 for those in the middle of the income distribution. The level at which the hardship threshold is set is therefore consistent with the relative disadvantage notion in which the poor and those in hardship have "resources that are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities" (Townsend, 1979). The ELSI measure of hardship identifies living standards below a minimum acceptable standard for New Zealand today, in line with the definition used in the European Union.

Table 2.1.   **Comparison of hardship rates based on income and non-income measures**

By selected individual and household/family characteristics (2012 HES),[1] per cent

	Income poverty	Material hardship		
	AHC REL 50[2]	ELSI[3]	FRILS[4]	MWI[5]
Total population	**13**	**13**	**13**	**12**
Age group				
0-17	20	21	19	19
18-24	17	14	14	15
25-44	14	12	12	13
45-64	9	10	9	9
65+	7	6	8	3
Ethnicity (average over HES 2010, 2011 and 2012)[6]				
European	11	10	11	-
Māori/Pacific	23	28	31	-
Family type				
SP	44	39	34	36
2P	12	14	14	13
Number of children (average over HES 2010, 2011 and 2012)[5]				
One	19	16	15	-
Two	17	15	15	-
Three+	27	28	25	-
Main sources of income for families/households < 65				
Market	9	10	11	10
Government	64	43	42	42

1. Household Economic Survey.
2. After housing costs relative poverty rate based on disposable income less than 50% of the median.
3. Economic Living Standards Index. See Box 2.1.
4. Fixed Reference Index of Living Standards. This is an experimental alternative to the ELSI that uses most of the ELSI items but takes much less account of what respondents want to have or do. FRILS does not use the general self-rating items that play a large part in the ELSI.
5. Material Wellbeing Index. This is a revised and updated version of the ELSI.
6. Figures for ethnicity and number of children are averages over these surveys to improve the reliability of the estimates, as some of the sub-divisions have relatively small samples.
Source: B. Perry (2014), *Household incomes in New Zealand: Trends in indicators of inequality and hardship 1982-2013.*

Table 2.2. **Material hardship rates in New Zealand (2008)
and the EU (2007)**

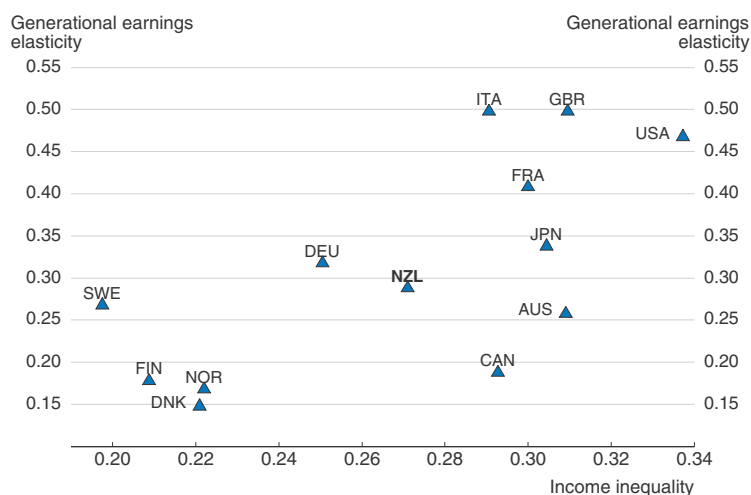Countries are ranked by total population deprivation rates, per cent

	All	0-17 years	65+ years
Poland	44	39	41
Hungary	38	42	35
Slovakia	36	32	42
Greece	23	20	29
Portugal	20	24	26
Italy	14	18	14
Germany	13	13	7
New Zealand	**13**	**16**	**3**
France	11	15	8
United Kingdom	10	15	5
Finland	10	10	8
Denmark	8	8	4
Netherlands	6	6	3
Norway	5	6	1

Source: B. Perry (2014), *Household incomes in New Zealand: Trends in indicators of inequality and hardship 1982-2013.*

Intergenerational income mobility is middle ranking but likely to decline

An important measure of equality of opportunity is intergenerational income mobility: the elasticity of children's adult earnings with respect to their parents' earnings – the higher the elasticity, the less the intergenerational mobility. The intergenerational earnings elasticity between fathers and their adult sons in New Zealand is around the middle of the range for a group of OECD countries with comparable data (Figure 2.10). In order to draw an inference about equality of opportunity from the degree of intergenerational earnings mobility, it is necessary to distinguish between differences in circumstances and in personal choices (Corak, 2013). This has been done empirically by constructing indices of equality of opportunity that remove the influence of factors over which individuals have no control, such as race, parental education, region of birth and parental occupation. Such indices are highly correlated with indicators of intergenerational earnings or educational mobility (Brunori et al., 2013).

The intergenerational earnings elasticity is positively correlated with disposable income inequality a generation earlier, when children were growing up (Figure 2.10). This probably reflects the fact that opportunities for economic advancement, in particular those of investing in higher education, are more unequally distributed among children when income inequality is higher (Brunori et al., 2013; Cingano, 2014). Given that disposable income inequality has increased in New Zealand since the mid-1980s, countervailing measures such as those discussed below will be needed if intergenerational earnings mobility, which is assessed here when the next generation is 30-40 years old, is not to decline.

Figure 2.10. **Inequality and intergenerational income mobility**[1]

Welfare reform to facilitate the transition to work and thereby reduce poverty

In view of the much higher poverty and hardship rates for entirely jobless households than for those with someone in work (Figure 2.11; Table 2.1), the government has reformed the welfare system to facilitate the transition from benefit dependence to work, thereby reducing poverty. The main pillars of the reform, launched in 2013 to "better recognise and support people's work potential", are:

● the creation of three new benefit categories – Jobseeker Support, Sole Parent Support and Supported Living Payment – to replace most of the previous benefit types, increasing work obligations for many beneficiaries and their partners;

● the imposition of new obligations for continued benefit receipt, which are aimed at improving beneficiaries' ability to get a job and enhance the well-being of their families (notably by making sure that children get health checks and education); and

● the establishment of an "investment approach" to setting priorities for service delivery and activation expenditures by Work and Income (W&I), the public agency responsible for assistance with job search and benefit administration.

The centrepiece of the reform is the investment approach, which sees supporting beneficiaries into work as important for lifting their long-term outcomes and for reducing long-term fiscal pressures.[3] It supports the enhanced work requirements by increasing the efficiency with which scarce activation resources are used. To this end, it uses an actuarial valuation (based on historical patterns of benefit receipt) as an accountability tool for W&I. The valuation highlights cohorts of beneficiary clients at risk of long-term benefit dependency and is used to help set priorities for W&I case management and other

Figure 2.11. **Jobless and in-work poverty rates,[1] 2011[2]**

A. Jobless poverty

B. In-work poverty

1. Poverty rates correspond to the percentage of individuals living in households whose disposable income falls under half the median value of disposable income in their country. Poverty rates are calculated for all persons living in a household with a working-age head and at least one worker (in-work poverty rate), and for all persons living in a household with a working-age head and no workers (poverty rate among jobless households).
2. Or nearest year available.
3. OECD unweighted average.
Source: Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm.*

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employment interventions and to measure performance over time. W&I is required to prioritise its employment interventions to where they are most likely to reduce long-term benefit dependency and welfare costs, with agency performance measured annually by the valuation. The focus has been on young people (aged 16-17 years and not supported by anyone) and sole parents, both of whom have high risks of long-term benefit dependency, as compared to Jobseeker Support clients who are work ready and have only recently entered the benefit system (Table 2.3).

This approach yielded considerable expected future budget savings in its first full year of operation (ending June 2013), with more than half of the 10% fall in the net present value of future liabilities in areas that W&I can influence. The largest contribution to this reduction came from Sole Parents, for whom the probability of exiting benefit receipt rose and the upward trend in average benefit levels ended owing to higher rates of part-time work. There was also a large contribution from Jobseekers, which has been one of the other main categories targeted by welfare reforms and where case management efforts have had the most impact; in this case, the high rate of return on investment comes from lower costs of successful activation, rather than from a particularly high present value of forward liabilities. For both beneficiary categories, there has been a lower rate of returning for recent exits, implying slightly better sustainability in off-benefit outcomes (MSD, 2014). Nevertheless, MSD (2014) notes that a large proportion of new beneficiaries each year are people who have recently been on benefit, with 44% having been off benefit for less than 12 months and a further 19% for between 12 and 24 months. For these people, "pre-work and in-work training along with post-placement support is likely to be needed to achieve sustainable work outcomes" (MSD, 2014, p. 3). More generally, welfare reform would be more effective in reducing poverty if the investment approach were complemented by a greater focus on improving outcomes for people going off benefit. W&I is working on using longitudinal data to inform decisions about priorities to this end.

The investment approach may have contributed to an increase in sole-parent employment rates. The proportion of sole parents with dependent children employed increased by 10.3 percentage points during the three years ending in 2014, considerably more than the 2.4 percentage point increase in the previous three-year period (to the September quarter of 2007) with a similar economy-wide employment growth rate.

Table 2.3. **Welfare beneficiary numbers and forward liabilities**

Segment	Number			Aggregate liability			Liability per client		
			Per cent	NZD million		Per cent	NZD		Per cent
	June 2012	June 2013	Change	June 2012	June 2013	Change	June 2012	June 2013	Change
People receiving a main benefit									
Jobseekers	164 169	155 836	-5.1	20 525	18 104	-11.8	125 024	116 173	-7.1
Sole Parents	89 538	84 897	-5.2	20 950	18 004	-14.1	233 979	212 069	-9.4
Supported Living	101 379	101 444	0.1	17 927	17 155	-4.3	176 831	169 108	-4.4
Youth	2 949	2 857	-3.1	705	554	-21.4	239 064	193 910	-18.9
Total on a main benefit	**358 035**	**345 034**	**-3.6**	**60 107**	**53 817**	**-10.5**	**167 880**	**155 976**	**-7.1**
People not receiving a main benefit									
Supplementary benefits only[1]	105 638	102 742	-2.7	6 672	5 891	-11.7	63 159	57 338	-9.2
Recent exits[2]	163 809	154 704	-5.6	10 115	8 762	-13.4	61 749	56 637	-8.3
Future expenses				7 955	7 698	-3.2			
Net loan cost				420	372	-11.4			
Total not receiving a benefit	**269 447**	**257 446**	**-4.5**	**25 162**	**22 723**	**-9.7**			
Total	**627 482**	**602 480**	**-4.0**	**85 269**	**76 540**	**-10.2**			

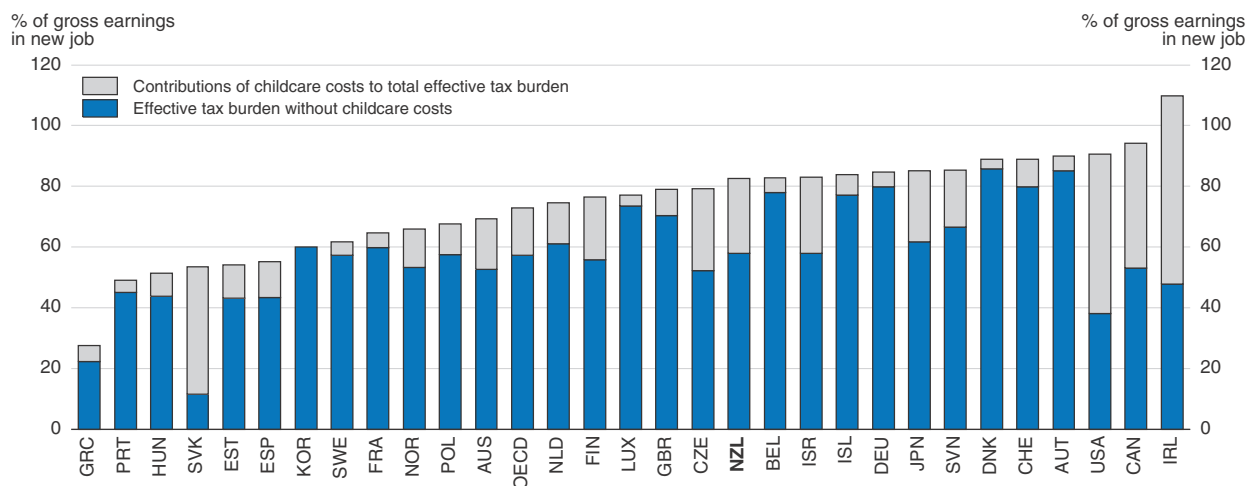1. People only receiving supplementary payments such as Accommodation Support.
2. People who received a main benefit payment within the past 12 months. Excludes those incorrectly included in current clients for the 2012 valuation.
Source: Ministry of Social Development (2014), *Work and Income, 2013 Benefit System Performance Report for the year ended 30 June 2013.*

However, whereas there was a large increase (12 percentage points) in the proportion of such households in full-time employment in the earlier period, this share actually fell in the most recent period, with the result that there was a smaller rise in hours worked. This reflects the impact of policy settings which create strong incentives for sole parents, and others on low incomes, to work 20 hours a week but little or none to work more. The introduction of WFF has mitigated the impact of benefit abatement for working 20 hours per week since it became fully operational in 2007. However, people on low incomes face very high marginal effective tax rates from working more than 20 hours. This is reinforced by higher subsidies for the first 20 hours per week of early childhood care for three and four-year old children. As a result, a sole parent taking up full-time, low-wage employment faces an average effective tax rate of over 80%, a third of which reflects childcare costs (Figure 2.12). This impact is despite the availability of income-tested subsidies, in addition to the 20 hours subsidies, for low-income families (which cover almost 70% of the cost of childcare for those on the lowest incomes). These costs are higher than the OECD average, accounting for New Zealand's higher overall effective tax rate. There is a need to review policy settings to strengthen the incentives for those on low incomes to work more than 20 hours a week, which would include a review of benefit and WFF abatement rates, as well as reducing childcare costs.

Figure 2.12. **Effective tax rate for a sole parent moving to low-paid full-time work**

Moving into full-time employment with earnings of 67% of average earnings, including childcare costs,[1] 2012

1. Effect of childcare costs for a sole parent with two children, aged two and three.
Source: OECD, *Tax-Benefit Models Database, www.oecd.org/els/social/workincentives.*

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Based on experience across OECD countries, lower childcare costs in relation to full-time earnings are associated with lower poverty rates for sole-parent households; higher lone-parent benefits in relation to average wages, as in New Zealand, also reduce poverty rates for such households, but there is no significant relationship between employment rates and poverty rates.[4] W&I has also identified non-flexible childcare hours as a barrier to work and is experimenting with flexible hours for sole parents.

Increasing welfare benefits and investments in job-search support and activation programmes

Poverty rates could also be reduced by increasing social benefits, whose low average level partly explains the high poverty rate for jobless households relative to in-work households (Figure 2.11). To strengthen work incentives and make budget savings, the main benefits were cut in 1991 and indexed to the CPI, resulting in steady declines relative to average wages (Figure 2.13). Most beneficiaries also receive a number of supplementary benefits targeted at vulnerable families, such as special needs grants, temporary assistance support or government-provided in-kind services for education and health, which have increased since 1991. However, increases in supplementary benefits have been largely targeted on low-income working families primarily through WFF. In view of the high child-poverty rate in beneficiary households (80%, based on a 60%-of-median-income AHC poverty line), priority should be given to increasing income by raising benefits and/or supplementary benefits for dependent children. This would help to reduce the high relative poverty risk for sole-parent households, more than half of whom rely on social benefits for their primary source of income, and complement measures in other fields aimed at strengthening equality of opportunity (Figure 2.9). Increasing main benefits and indexing them to median wages would reduce poverty across all beneficiary classes, including single-person households (below age 65), who have the second-highest relative risk of poverty.

Figure 2.13. **Ratio of main benefit payments to net average wage**[1]
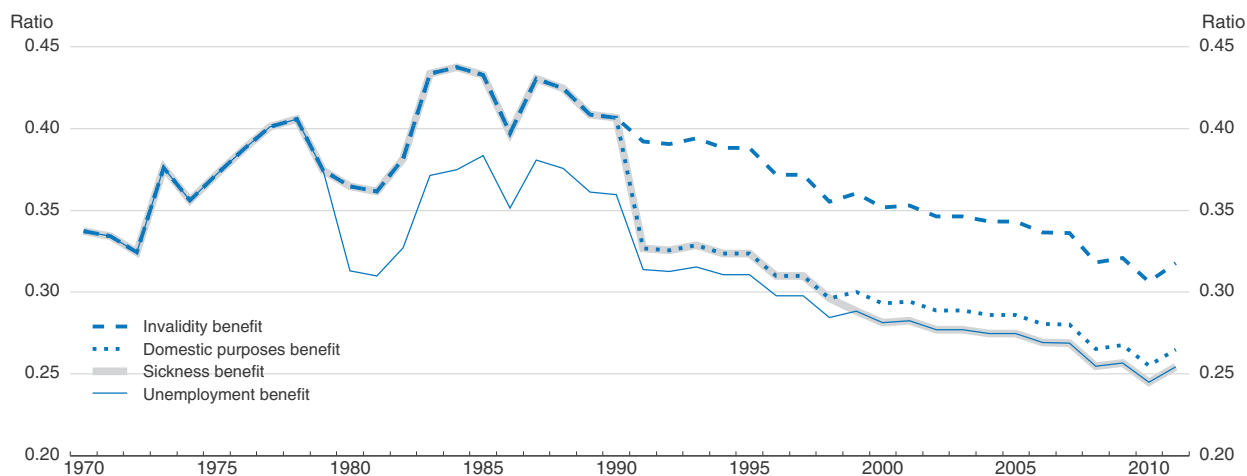
1. As most beneficiaries also receive supplementary benefits, such as the Accommodation Supplement and family tax credits, their total income is likely to be higher than shown in this figure. However, increases in family tax credits have been targeted mainly to low-income working households rather than beneficiaries.

Source: New Zealand Treasury (2013), *Working-Age (Non-NZS) Welfare – Draft Paper for the Long-Term Fiscal External Panel*, January, Figure 4.

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The downside of higher benefits is that they weaken work incentives and hence offset efforts that have been made to break intergenerational welfare dependence. To counter this effect, the government should step up job-search support and activation programmes for beneficiaries for whom work is a feasible option, spending on which is low by international comparison and falling (Figure 2.14). Increasing resources for job-search and activation programmes is one of the few structural reforms identified in a recent OECD study (Causa et al., 2014) that both boosts economic growth and reduces income inequality and where New Zealand has significant room for improvement.

Figure 2.14. **Public expenditure on active labour market policies per unemployed**[1]

As a percentage of GDP per capita

1. The latest available year is 2011 for Australia, Ireland, Israel, Luxembourg, Poland and Spain; and 2009 for the United Kingdom. The OECD average excludes Greece, Iceland and Turkey. For 2007, data refer to 2008 for Chile.

Source: OECD, *Public Expenditure and Participant Stocks on Labour Market Participants* and *Economic Outlook Databases*.

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Lowering the burden of high housing costs on low-income households

Reforms that reduce housing costs for low-income households have considerable potential to improve their well-being. Poor housing affordability for low-income households has been aggravated by the shift in new housing supply from affordable to high-end housing (Figure 2.8, Panel B). This may be linked to rising land prices, which is one of the barriers that make building affordable housing uneconomic (New Zealand Productivity Commission, 2012). In this case, increasing the supply of building sites in Auckland, where housing costs are highest and one third of the population lives, would allow a greater supply response, making it more likely that developers build more affordable housing. An increase in the supply of such housing would reduce its price, benefiting low-income households.

The government and Auckland Council are also working to increase the supply of housing through Special Housing Areas (SHAs), which also include some social-housing estates to be redeveloped. In SHAs, the Auckland Council's proposed land-use regulations are already applicable, and there is an expedited consenting process, enabling more housing to be developed quickly. There is also a requirement that a proportion of each development meets defined affordability criteria.

Social housing plays a vital role in alleviating poverty. It is more effective than Accommodation Supplement, the other main subsidy to reduce low-income households' housing costs, reflecting the much higher subsidy rates for social housing. In New Zealand, social housing rents are set at 25% of household income, up to rents deemed to be at the market rate. The downside of income-related rents, however, is that they reduce incentives to take up employment; this effect is stronger than for Accommodation Supplement, which has a lower abatement rate and half of beneficiaries already at the benefit ceiling. Jobseeker Support recipients who are social housing tenants are less likely to take up employment (only 9% did so over a recent six-month period) than non-social housing

tenants (22%). Further analysis of this difference is required to determine the extent to which it is attributable to income-related rents as opposed to other factors, such as social-housing tenants typically having greater barriers to employment and/or less valuable skills than private-sector tenants. Insofar as income-related rents are discouraging transitions into employment, case management of social-housing tenants should be reinforced.

The government is committed to strengthening the contribution of social housing to improving well-being and reducing poverty. Housing New Zealand, the central-government agency that operates most social housing, is adjusting its housing stock to bring it more into line with demographic and geographic demand. Existing tenancies are being reviewed for social-housing tenants paying market-related rents for more than one year and with weekly incomes greater than NZD 500, building on the 2011 reform that made only three-year reviewable tenancies for new social-housing tenants. The review of tenancies is aimed at moving people paying market-related rents out of social housing to make room for people with greater needs.

The government also has launched a Social Housing Reform Programme. It will transfer part of the Crown's social housing stock on a competitive basis to be operated by community providers in order to provide better service to tenants and improve the effectiveness of related public expenditure. The government believes that such providers will be more client-focussed and innovative than HNZ. To improve these reforms, it will be important to closely monitor their implementation and to assess their results in terms of: housing and social outcomes for tenants who move out of social housing; efficiency in improving outcomes for social housing tenants; and adequacy of protections to prevent private operators from taking excessive financial risks, as occurred in the Netherlands (Box 2.2), which could result in additional fiscal costs.

The government has also committed to increasing the number of social-housing units funded by the income-related rent subsidy from around 62 000 currently – around 5% of the total dwelling stock, which is low compared with double-digit shares of social housing in most European countries – to 65 000 in 2017/18. This expansion is expected to be achieved through new supply, more efficient providers, better asset utilisation and configuration, and tenancy reviews. The government should increase public support so that a more significant increase in the supply and eligibility for social housing can be achieved.

Accommodation Supplement (AS) has not been very effective in relieving the burden of high housing costs on low-income households, partly because part of the subsidy is shifted forward to landlords owing to the relatively weak elasticity of housing supply discussed above, and partly because the parameters have been frozen since 2005, reducing the value of AS most in areas that have experienced the largest increases in housing costs. Almost all tenants (94%) receiving AS in 2013 spent more than 30% of their income on housing costs, three in four spent more than 40% and one in two spent more than 50% (Perry, 2014). On the other hand, there is unlikely to be a big enough increase in the availability of social housing in the foreseeable future to accommodate all low-income households currently receiving AS. In these circumstances it would make sense to increase AS and reprioritise it for the benefit of the poorest households living in high-cost areas provided that most of the benefits accrue to tenants rather than landlords. An empirical evaluation of AS is urgently required to estimate its incidence on rents.

Box 2.2. **Commercialisation of the social housing sector in the Netherlands***

The Dutch social-housing system provides rent subsidies to those living in regulated-rent dwellings, i.e. dwellings with rents up to EUR 699 per month in 2014, which comprise around one third of the total housing stock (Rijksoverheid, 2014). Subsidised housing is targeted at about 43% of the population. Independent Housing Associations (IHAs) provide 90% of new such rentals.

A series of reforms were initiated in the early 1990s that entailed a shift in the policy focus towards stimulating private homeownership and replacing subsidies to social-housing providers with demand-side subsidies (housing allowances for social housing tenants) (Boelhouwers and van der Heyden, 1995). At the same time the housing associations that operate social housing became independent organisations that – conditional on prior approval by public authorities – could take on private commercial activities, thereby enabling them to raise private capital to complement public funding.

Commercialisation of IHAs expanded their remit and ambition, increasing their risk exposure, and is to a large extent responsible for the recent decline in their fortunes. Since the early 2000s, IHAs' operating costs have increased annually by 6-7% (de Jong, 2013), and IHAs' consolidated losses over the 2007-12 period amounted to EUR 1.2 billion (Algemene Rekenkamer, 2014). These losses were partly attributable to investments in complex financial instruments and other commercial activities in which they had little expertise: almost 20% of IHAs speculated in financial derivatives and one incurred a loss that was so big (EUR 2 billion) that it had to be bailed out by public funds and other IHAs.

In response to these developments, a parliamentary inquiry was held (Tweede Kamer der Staten-Generaal, 2014). The key conclusions of the parliamentary committee highlight the simultaneous occurrence of: failing IHA managers and supervisors, operational and/or financial mismanagement and a surprisingly large number of cases of self-enrichment, at the very least pointing to a lack of moral judgement in remuneration, with excessive wage payments to senior managers; failing public supervision – the public supervisor of financial affairs (CFV) did not have a good view of the financial risks being taken by the sector, and the Ministry's operational supervision was also inadequate (Algemene Rekenkamer, 2014); and failing politicians and policymakers – there was a lack of political guidance and supervision, sometimes driven by a dogmatic belief in the self-regulatory capacity of the sector. There was also an inconsistent and changing policy environment.

A key recommendation of the parliamentary committee was for the IHAs to return to basics, including by phasing out involvement in commercial activities. The committee recommends that the central government provide the housing-sector framework and that the position of local governments and tenants be enhanced (including by limiting the size of IHAs to weaken their bargaining position). The supervisory role of the government should be strengthened with respect to the loans guaranteed by the Waarborgfonds Sociale Woningbouw and by the creation of an independent supervisory housing authority; the Ministry had already announced changes in its supervisory structure and tighter rules for engagement by IHAs in new commercial activities.

* This is an abridged version of Box 7 in OECD (2014a).

Another problem for low-income households is that housing quality is often substandard – cold, damp and, for Māori and Pasifika, overcrowded. Low-income households often have poorly insulated houses that they cannot afford to heat. Frequently, they heat only one room into which the whole family crowds. One third of Pasifika households and one-fifth of Māori households are overcrowded, compared with just 4% of European-ethnicity households (2013 Census). These conditions contribute to high rates of infectious diseases, such as rheumatic fever, among disadvantaged groups. Hospital admission rates for infectious diseases over 2004-08 were 2.8 times higher for households in the most deprived districts (NZDep 9-10) than in the least deprived districts (NZDep 1-2), 2.4 times higher for Pasifika households than for households of European and Other ethnicity and 2.2 times higher for Māori households than for households of European and Other ethnicity (Baker et al., 2012). Moreover, these inequalities have increased since the late 1980s. To reduce the incidence of rheumatic fever, people most at risk of being infected have been given top priority for social housing since 2014.

To improve housing quality, the government is subsidising housing insulation (Warm Up New Zealand). One hundred thousand homes were insulated in the first two years of the programme (2009-11). On the basis of a detailed anonymised matching of the first 47 000 houses insulated, it was found that while there was only a small drop in metered energy use, significant gains ensued in health indicators: pharmaceutical usage, average length of hospitalisation and avoidable mortality for over-65s all fell significantly (Grimes et al., 2012). The benefit-to-cost ratio is estimated to have been 3.9:1, rising to 6:1 for children. The current programme, which will run from 2013-16, is expected to result in around 46 000 more homes being insulated. In light of the health benefits of this scheme, the government should prolong funding so that more low-income households can benefit (the programme is now means tested), and work should be undertaken to improve take-up by landlords with low-income tenants.

Five city councils (Auckland, Tauranga, Wellington, Christchurch and Dunedin) are collaborating in a pilot project to improve information on the quality of private rental housing, which is on average the lowest-quality housing in New Zealand (the best is owner-occupied housing, with social housing lying in between) (Buckett [ed.] et al., 2011). To this end, a University of Otago public health research team has developed a rating tool that links health and building science known as the Healthy Housing Index. It measures effects on respiratory conditions, injury hazards and energy efficiency. Rental properties are pre-tested on demand and given a pass or fail rating. In the latter case, advice is given on what needs to be done to bring the property up to standard. If successful, such a programme should be progressively rolled out nation-wide.

Another problem with private rental housing in New Zealand is weak security of tenure. Under the typical tenancy agreement, a landlord can terminate the agreement with 42 days' written notice at any time for specific reasons or with 90 days' notice without reasons; tenants can terminate with 21 days' written notice. Average tenure for such housing is only 19 months. This is highly disruptive for children's education, as they are obliged to change schools often; 42% of low-decile (socio-economic background) primary schools had student turnover rates of 20% or more according to a 1999 New Zealand Council for Educational Research national survey, compared with only 7% for high-decile primary schools (Gilbert, 2005). As most tenancies use the government's standard Residential Tenancy Agreement, the government is in a strong position to increase the standard required notice periods. At the same time, it would be important to continue to

permit the rapid expulsion of tenants who do not pay their rent or who degrade their dwellings to prevent losses from such tenants being passed on to good tenants in the form of higher rents and the exclusion of households from the rental market who cannot provide adequate payment guarantees.

Reducing inequalities in health outcomes

Inequality is also manifest in health outcomes, which are generally worse for Māori, Pasifika and socio-economically poorer groups (Ministry of Health, 2014). In some dimensions, such as access to immunisation, inequality is diminishing, while in others, such as mortality, rates of improvement for Māori, Pasifika and low-income individuals have not been as rapid as for others. The causes of these differential outcomes are complex but include differences in access, use and experience of health services as well as differences in exposure to lifestyle-related risk factors. Reducing inequalities is a focus for the health system and government.

As inequalities in health outcomes result from many factors beyond inequalities in access to health care, it is unlikely that relying on health-care measures alone to eliminate gaps in outcomes would be efficient. In particular, inequalities in health outcomes partly depend on inequalities in their social determinants, such as income, housing conditions, employment and education (Blakely and Simmers, 2011). Consequently, reducing these inequalities would help to lessen inequalities in health outcomes, including by improving diets and reducing obesity. Similarly, improving housing quality for low-income and Māori and Pasifika households, as discussed above, would reduce their incidence of infectious diseases, especially rheumatic fever. But health-care reform also has an important direct role to play in reducing health inequalities, preferably combined with reforms in other areas that also influence health outcomes.

Rates of decline in mortality rates have been lower for disadvantaged groups than for others

An important summary measure of health outcomes is mortality rates. For the population aged 1-74 years old, mortality rates (standardised for age) have declined substantially for people at all income levels (also standardised for ethnicity) and for all ethnicities (New Zealand Census Mortality Study WebTable Results). However, rates of improvement have been slower for people of Māori or Pasifika ethnicity and/or on low incomes, with the result that mortality rate ratios between Māori or Pasifika people and European-ethnicity people on the one hand, and low- and high-income people on the other, have increased (Figure 2.15). Crude mortality rates are 50-80% higher for Pasifika and low-income people than for European ethnicity and high-income groups, respectively, and 140-170% higher for Māori than for people of European ethnicity. Differences in socio-economic status explain only about half of the difference between mortality rates for Māori and people of European ethnicity (Tobias et al., 2009).

Life expectancy for people in the top third of the income distribution is five to six years longer than for people in the bottom third (Blakely and Simmers, 2011). This gap is about average for OECD countries. There are also large gaps in life expectancy by ethnicity (Figure 2.16). Life expectancy at birth for Māori is about seven to eight years less than for the rest of the population, a significant improvement on the mid-1990s.
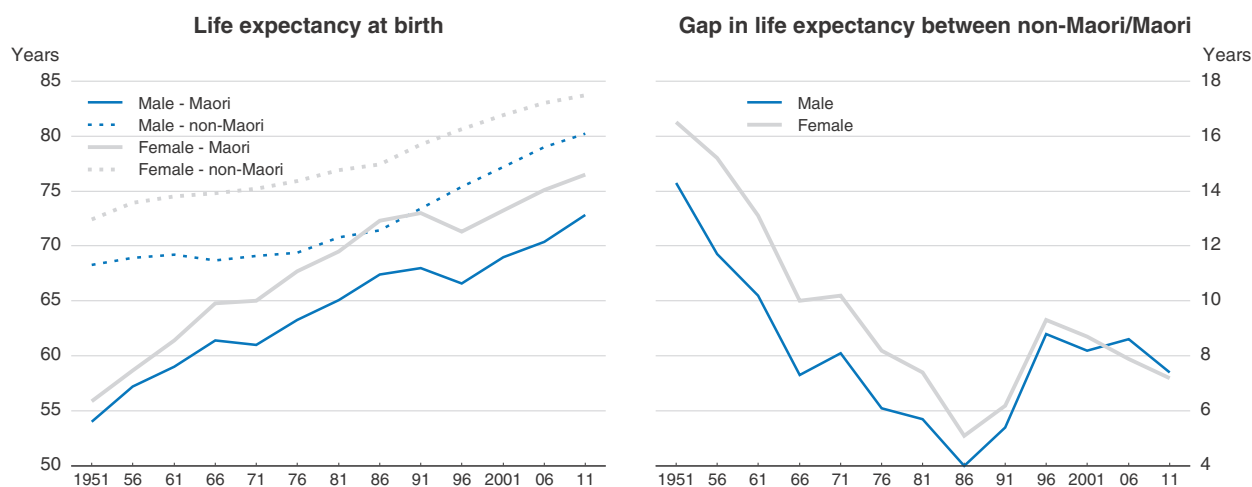
Figure 2.15. **Mortality ratios for disadvantaged vs advantaged groups**
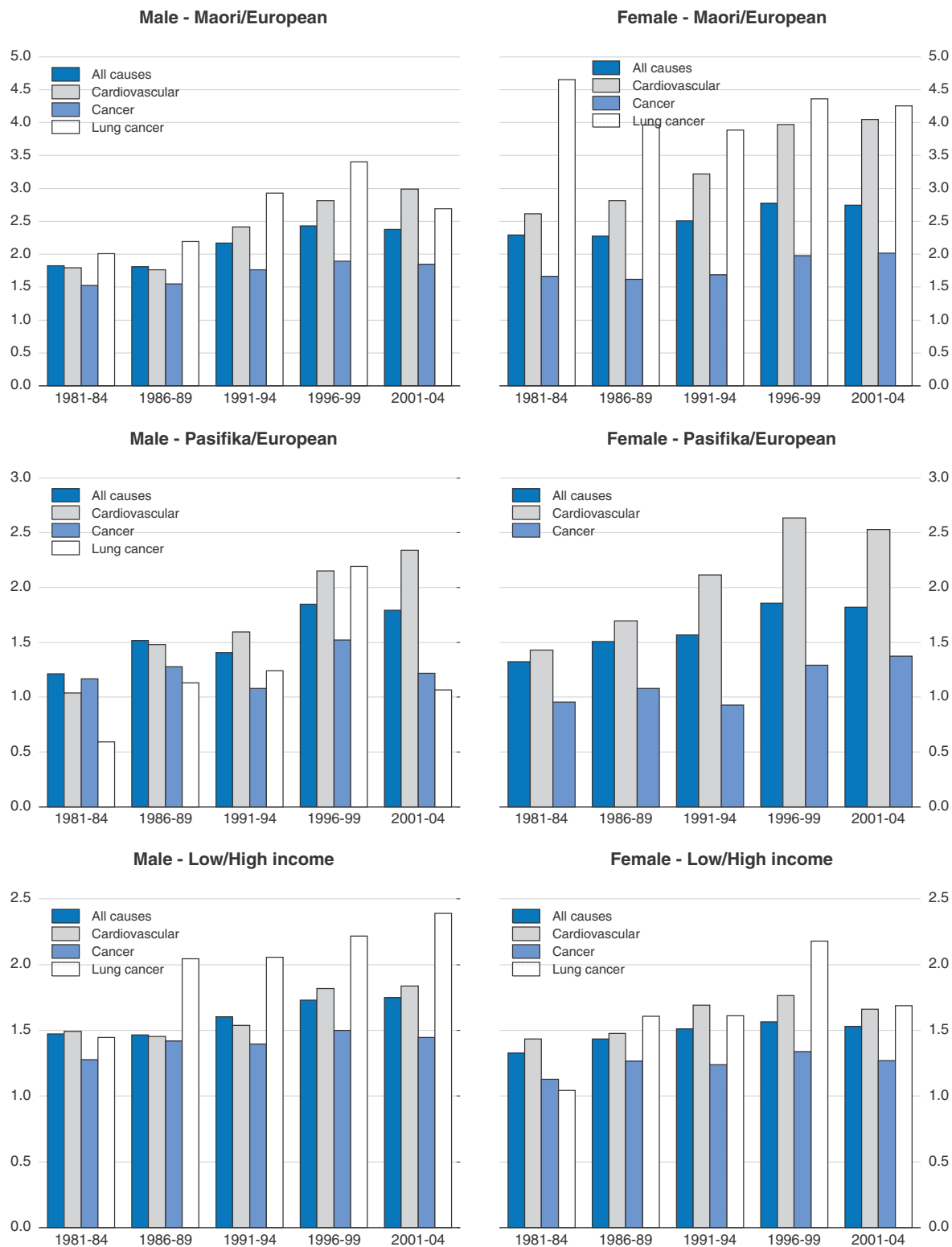
By cause of death, 1-74 years old

Source: OECD calculations based on data extracted from the New Zealand Census Mortality Study WebTable Results, *www.otago.ac.nz/ NZCMSWebTable/.*

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Figure 2.16. **Ethnic inequalities in life expectancy**

Source: M. Tobias et al. (2009), "Changing Trends in Indigenous Inequalities in Mortality: Lessons from New Zealand", *International Journal of Epidemiology*, Vol. 38, pp. 1711-22, Oxford University Press.

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Further prevention measures would improve Māori, Pasifika and low-income people's health outcomes

The main causes of excess mortality among Māori and Pasifika peoples and low-income groups are cardiovascular disease (CVD) and cancer. They contribute around two thirds of Māori and Pasifika excess mortality and about one half of excess mortality for all low-income people (Table 2.4). While the contribution of CVD has declined for most disadvantaged groups, it has increased sharply for Pasifika men. On the other hand, the contribution of cancer has increased for all disadvantaged groups except Pasifika men. Mortality-rate ratios between Māori and Pasifika and the European ethnicity group are

Table 2.4. **Contributions to mortality rate gaps**

Population aged 1-74, per cent

Cause of death by disadvantaged group	Males					Females				
	1981-84	1986-89	1991-94	1996-99	2001-04	1981-84	1986-89	1991-94	1996-99	2001-04
Māori vs. European										
Cardiovascular disease	44	40	46	42	41	47	47	42	38	36
All cancer	17	19	20	21	23	19	19	21	27	29
Lung cancer	10	11	12	12	9	11	12	12	14	15
Other causes	39	41	33	37	36	34	34	38	34	35
Pasifika vs. European										
Cardiovascular disease	8	39	55	45	48	50	45	56	44	38
All cancer	21	15	6	21	10	-5	6	-6	17	23
Lung cancer	-15	2	4	10	1					
Other causes	71	46	38	34	42	55	48	50	39	44
Low income vs. high-income households										
Cardiovascular disease	47	41	36	38	32	49	38	39	32	28
All cancer	16	24	21	24	23	15	23	21	30	25
Lung cancer	8	13	11	11	11	1	7	8	14	11
Other causes	37	35	43	39	44	37	38	40	38	47

Source: OECD calculations based on data extracted from the New Zealand *Census Mortality Study WebTable Results* website, *www.otago.ac.nz/NZCMSWebTable/*.

much higher for CVD than for all causes of death but are lower for cancer except for lung cancer among Māori. Māori females' ratio has soared to very high levels (Figure 2.15). For low-income people, specific-cause mortality-rate ratios are generally in line with the all-causes ratios except for lung cancer, where there have been sharp increases to higher levels than for all causes.

Two important lifestyle factors – obesity and cigarette smoking – contribute to excess mortality. In 2012/13, the age- and sex-adjusted ratios of obesity prevalence for Māori and Pasifika people versus the rest of the population were 1.8 and 2.4, respectively (Ministry of Health, 2013).[5] Like the rest of the population, the prevalence of obesity has continued to increase for Māori and Pasifika, reaching 48% and 68% of the population aged 15 years and over, respectively, in 2012/13. After adjusting for age, sex and ethnicity, adults living in the most deprived neighbourhoods were 1.5 times more likely to be obese than adults living in the least deprived neighbourhoods; deprivation is determined using the NZDep2006 index of deprivation, which combines nine variables from the 2006 census that reflect eight dimensions of deprivation to provide a score for small geographical units known as mesh-blocks. Obesity rates for Māori, Pasifika and low-income people are very high by international comparison. For current tobacco smoking, the age- and sex-adjusted ratios for Māori and Pasifika versus the rest of the population were 2.5 and 1.3, respectively. As for the rest of the population, the prevalence of current smoking has declined in recent years, although the rate of decline has been smaller among Māori and Pasifika than among the European/Other ethnicity group. In 2012/13, adults living in the most deprived neighbourhoods were almost three times as likely to be current smokers as adults living in the least deprived neighbourhoods after adjusting for age, sex and ethnicity. A particularly promising sign for the future is that daily smoking rates among 14-15 year-olds have halved for Māori students since 1999 and fallen by around two-thirds for Pasifika students (Ministry of Social Development, 2010).

To reduce obesity on a broad scale, a comprehensive programme of multiple interventions is likely to be required (McKinsey Global Institute, 2014). Education and encouraging personal responsibility need to be complemented by changing the environment to encourage physical activity and better nutrition, thereby making healthy behaviour easier and more normal. In this regard, there is scope for primary care to make a greater contribution through improved obesity management. Currently, less than half of obese adults had their weight checked at their usual medical centre in the past year, and only a quarter received advice about their weight, diet or physical activity (Ministry of Health, 2014). Complementary measures to make the environment less obesogenic, as identified through evaluations of community-based approaches that are being trialled internationally, will also be needed. Healthy Families NZ, which was recently implemented in ten communities, is one such initiative (it also aims to reduce other lifestyle risk factors). To discourage cigarette smoking, tobacco taxes have been progressively increased by 70% since 2010, reaching the OECD average in 2011 and the highest rate in the OECD in 2015, with a further 10% rise scheduled for 2016 (TobaccoAtlas.org); each 10% increase in taxes is estimated to reduce the number of smokers by 5-7% (Isaac, 2012; Chaloupka et al., 2012). The government is also considering regulation to permit only plain, undifferentiated packets, as in Australia.

Reducing amenable mortality for disadvantaged populations

While rates of amenable mortality (that which could have been avoided through appropriate medical care) have declined across all groups, they remain substantially higher for Māori, Pasifika and low-income individuals than for the rest of the population. Adjusting for age, the standardised rate ratios (SRRs) of amenable mortality for Māori and Pasifika are three times and twice as high as for the rest of the population, respectively. For people living in the most deprived quintile of neighbourhoods, the SRRs are 1.7 and 1.5 as high as for people living in the least deprived quintile of neighbourhoods for males and females, respectively (Ministry of Health, 2010).

These differences appear to be attributable to lower health literacy and less access to primary care related to social disparities. Poor access to primary care is likely to result in late detection of health problems, reducing the likelihood that they can be treated successfully (as well as increasing the cost of treatment). This issue arises most for Māori, who (after adjusting for age and sex) are 50% more likely to report an unmet need for primary health care in the past 12 months than the rest of the population, and people living in the most deprived neighbourhoods, who (after adjusting for age, sex and ethnicity) are 40% more likely to report an unmet need than people living in the least deprived neighbourhoods. The share of the whole population reporting an unmet need (27%) is high by international comparison (Ministry of Health, 2013).

One barrier to access may be cost, which disadvantaged groups are especially likely to cite as a reason for having an unmet need for primary health care. Māori are 70% more likely not to have visited a primary care physician because of cost than the rest of the population, while people from the most deprived neighbourhoods are more than twice as likely to fall into this category as people from the least deprived neighbourhoods (ibid); the cost factor would be even more important if complementary costs, such as for transport and childcare, were taken into account. The cost barrier could be lowered by further targeting of the co-payment reduction for Very-Low-Cost-Access practices, which get subsidies to offer low co-payments in high-need communities.

A lack of suitable cultural context may also be an access barrier for Māori and Pasifika. Surveys show that these groups are more likely to use health providers from their own ethnic groups if that option is available (Ministry of Health, 2008). Similarly, pilot studies show that Māori respond well to services from Māori outreach workers (Ellison-Loschmann and Pearce, 2006). To improve cultural context, it would help to raise the proportions of health workers from these groups, which are well below their population shares.

Poorer access to life-saving treatments once problems are detected does not appear to be a factor explaining higher amenable mortality rates for disadvantaged groups. Considerable progress has recently been made in improving the prioritisation system for elective surgery, in line with OECD (2013) recommendations, resulting in more services being provided to disadvantaged groups (Controller and Auditor-General, 2013).

Improving education outcomes for individuals in disadvantaged groups

Weaker outcomes for Māori and Pasifika students and those from poorer socio-economic backgrounds

Average PISA scores in New Zealand are above the OECD mean but have been declining (Figure 2.17). However, scores for Māori and Pasifika students are well below average. These gaps are similar across disciplines. Average PISA scores in reading and science have fallen at a similar pace for Māori, Pasifika and other students since the in-depth tests began but at a faster pace in mathematics.

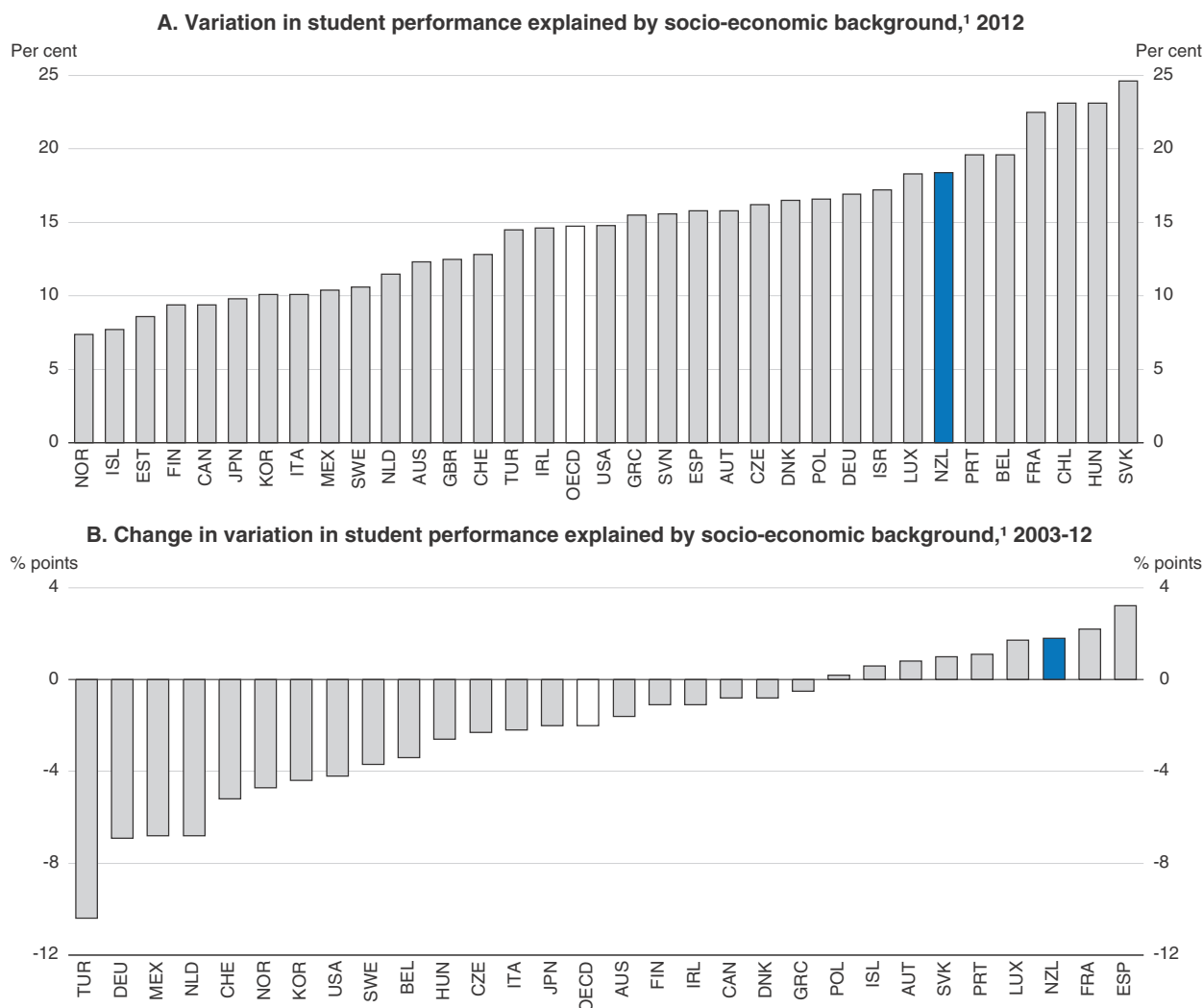Figure 2.17. **New Zealand's average PISA scores have fallen**
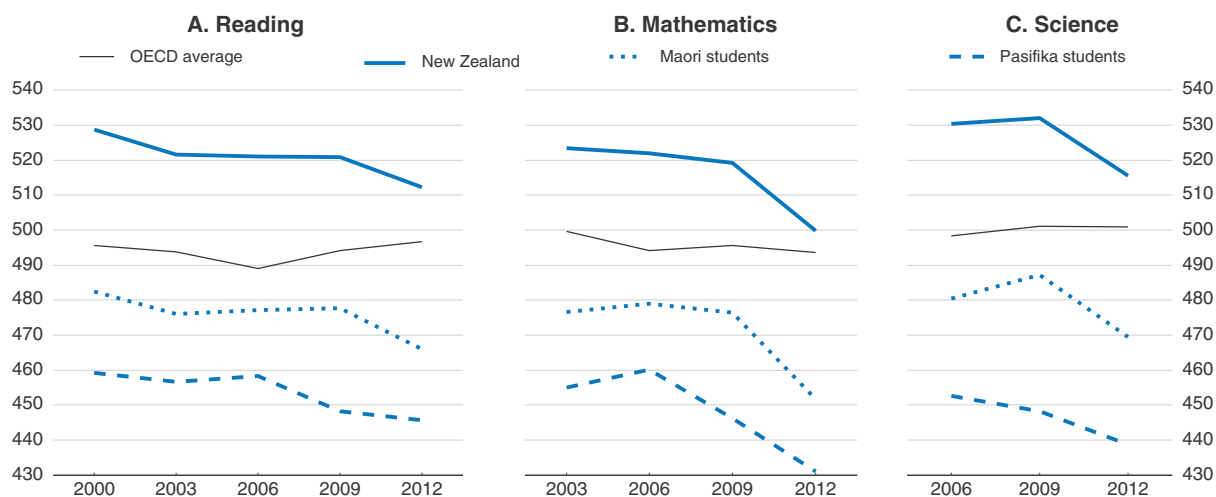
Source: OECD, *PISA Results*, various years.

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Moreover, the impact of socio-economic background on PISA scores is greater and has increased by more in New Zealand than the OECD average, which implies an increasing lack of equity (Figure 2.18). The impact of socio-economic background can be measured by the slope of the socio-economic gradient, which can be expressed as the average difference in performance between two students whose socio-economic status differs by one unit on the PISA index of economic, social and cultural status. In New Zealand, this is 52 points, which is significantly above the OECD average of 39 (OECD, 2014b). The NZ difference is equivalent to nearly one and one third years of schooling. In all, socio-economic background explains 18.4% of the variance in student performance in mathematics in New Zealand, compared with an OECD average of 14.8%.

New Zealand has also lost ground in terms of the chances that disadvantaged students will be high achievers. This can be measured by student "resiliency". Resilient students are those in the bottom quarter of the country's distribution of socio-economic status whose performance is in the top quarter of students from all countries, after accounting for socio-economic status (OECD, 2014b). The proportion of resilient students fell to less than 5%, which is lower than in most other OECD countries (Figure 2.19).

Figure 2.18. **Influence of socio-economic background on PISA scores in mathematics**

A. Variation in student performance explained by socio-economic background,[1] 2012

B. Change in variation in student performance explained by socio-economic background,[1] 2003-12

1. PISA index of economic, social and cultural status.
Source: OECD (2014), *PISA 2012 Results: Excellence through Equity: Giving Every Student the Chance to Succeed*, Vol. II, Figure II.1.2.

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Ethnic gaps in educational attainment have begun to narrow. The proportions of Māori and Pasifika students completing a National Certificate of Educational Achievement (NCEA) Level 2 qualification, or equivalent which is normally gained in upper secondary school by the end of year 12 (and is considered to be the minimum necessary to give people reasonable opportunities in terms of further education and employment), have increased rapidly, narrowing the gap in rates with students of European ethnicity (Figure 2.20). Nevertheless, the gap remains wide for Māori students. At the tertiary level, Māori students have made more progress in narrowing the NCEA Level 4 attainment gap than Pasifika students. Even so, these gaps remain wide for both Māori and Pasifika students. Success rates for students from schools in low socio-economic districts are also considerably lower than for others. To reach the government's target of 85% of 18 year-olds having NCEA Level 2 qualifications by 2017 (compared with around 79% in 2013), it will be necessary to

Figure 2.19. **Change in student resiliency to socio-economic status**[1]
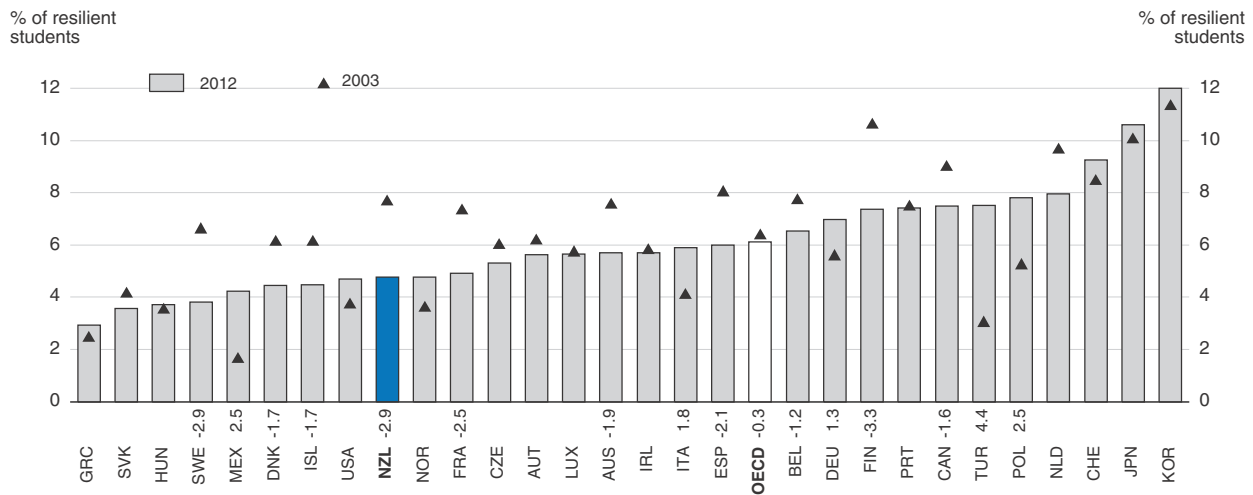
1. A student is classified as resilient if he or she is in the bottom quarter of the PISA index of economic, social and cultural status (ESCS) in the country/economy of assessment and performs in the top quarter of students from all countries/economies, after accounting for socio-economic status. The percentage-point difference in the share of resilient students in PISA 2003 and PISA 2012 is shown above the country name. Only statistically significant differences are shown.

Source: OECD (2014), *PISA 2012 Results: Excellence through Equity: Giving Every Student the Chance to Succeed*, Vol. II, Figure II.2.14 and Table II.2.7b.

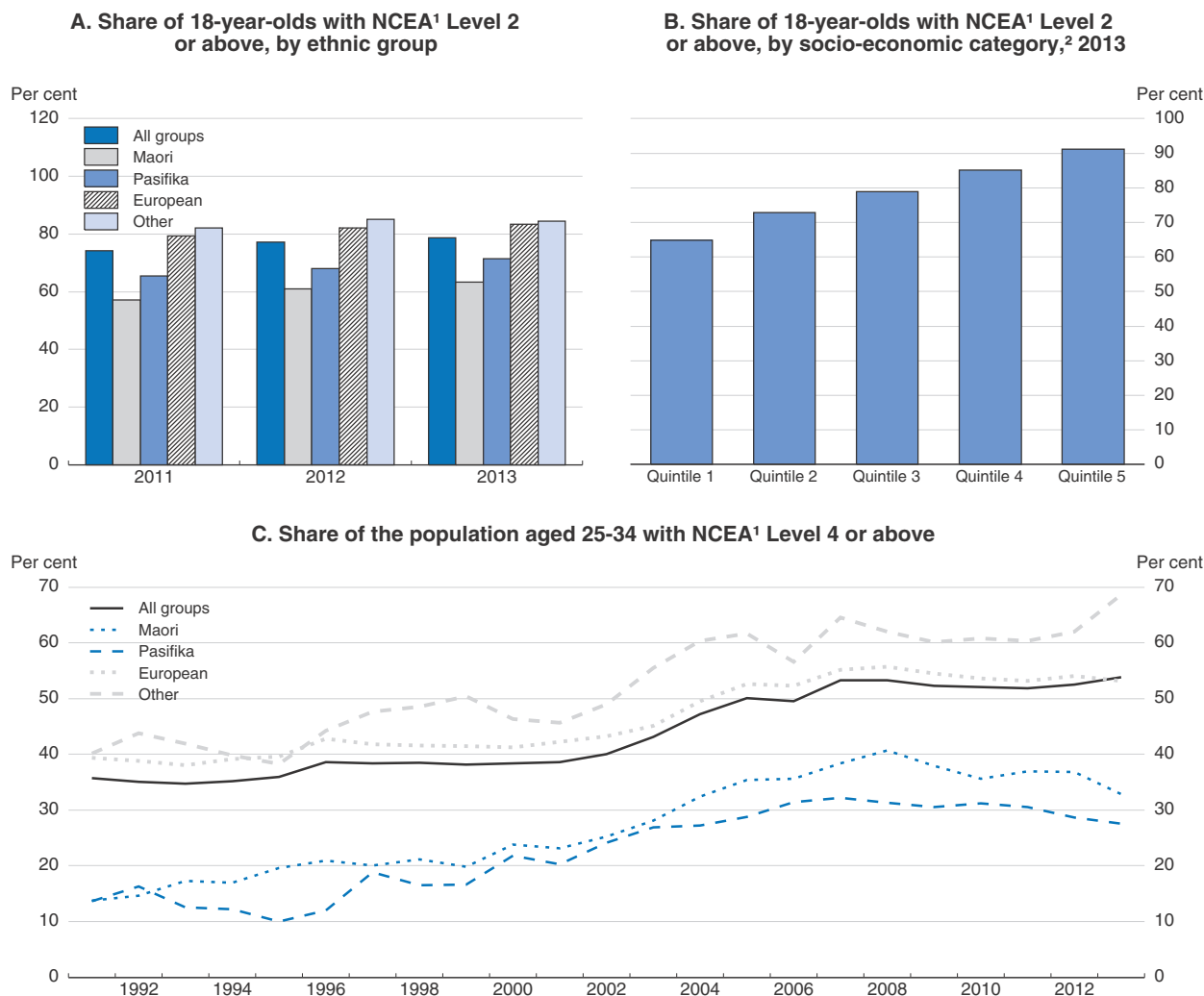*StatLink* 🔗 *http://dx.doi.org/10.1787/888933220566*

raise success rates significantly for Māori and Pasifika students and for students from low socio-economic groups. With only 69% of Māori students still in school by age 17, retention of young Māori in education is the key issue. Programmes such as Youth Guarantee and Trades Academies are having some success with some students but more will be needed to meet the government's NCEA Level 2 target.

Strengthening early childhood education

Educational inequality is already apparent by the time five year-olds start school. The results of School Entry Assessments in 1999-2000, the only period for which data have been published, show that children starting in decile 1 schools had average early reading scores that were only a little over a half of those of their peers starting in decile 7-10 schools (Davies, 2001). Maths scores were on average a third below those of their peers. Māori and Pasifika children's reading and maths scores were around two-thirds and three-quarters, respectively of scores for children with European ethnicity. The lower educational starting point for children from these groups puts them at a lasting educational disadvantage.

A cornerstone of a strategy to reduce the effects of low socio-economic and/or Māori or Pasifika background on education outcomes is to ensure that all pre-school children have access to high-quality early childhood education (ECE). This lays a strong foundation for future learning, especially for children from lower socio-economic backgrounds and ethnic minorities (CCEAGSCP, 2012). Successive governments have given priority to increasing participation rates for disadvantaged groups, which lag behind those for the rest of the population (Figure 2.21). Following initiatives in the early 2000s, more recent measures include the introduction of the 20 Hours ECE free of charge programme in 2007 and the Ministry of Education's Participation Programme since 2010.

Figure 2.20. **Educational attainment**

A. Share of 18-year-olds with NCEA[1] Level 2 or above, by ethnic group

B. Share of 18-year-olds with NCEA[1] Level 2 or above, by socio-economic category,[2] 2013

C. Share of the population aged 25-34 with NCEA[1] Level 4 or above

1. National Certificate of Educational Achievement.
2. Socio-economic school district rankings. Quintile 1 schools have the lowest socio-economic ranking while quintile 5 schools have the highest.

Source: Ministry of Education (2015), *Education Counts, www.educationcounts.govt.nz/statistics/schooling/senior-student-attainment/ school-leavers2.*

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Progress has been particularly marked for Pasifika and Māori children, for whom non-participation rates have fallen from 24% and 17%, respectively, in 2000 to 10% and 7% in 2014. Nevertheless, these non-participation rates and those for children from lower socio-economic backgrounds remain significantly higher than for the rest of the population. These gaps will need to be closed if the government is to reach its Better Public Services (BPS) participation target of 98% by 2017. A database has been developed to make the participation target more meaningful by distinguishing between occasional and regular participation. It will be equally important to ensure that the education delivered is of high quality. To this end, the government will need to monitor outcomes for disadvantaged individuals and, if necessary, move to ensure that increased participation is delivering improved educational outcomes for them.

Figure 2.21. **Early childhood education non-participation rates for children starting school**

By school decile[1] and ethnic group, December 2014

1. All schools are given a decile rating depending on the socio-economic status of the community their students come from. Decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic communities while decile 10 schools have the lowest.

Source: Ministry of Education (2015), *Education Counts* website – Early Childhood Education Participation Statistics.

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A wider view of what is needed to bring deprived and ethnic-minority children up to speed when they start school is being taken. Foreign intervention studies targeting children from lower socio-economic families that combine good quality ECE with parenting support and education have been found to have positive impacts on children's cognitive growth, school performance and long-term outcomes (Karoly et al., 2005). Benefit-to-cost ratios are high for such programmes (CCEAGSCP, 2012). One such NZ programme is Engaging Priority Families (EPF), which provides support to three and four year-olds and their families (and is one of the main components of the Participation Programme). EPF co-ordinators engage with and support the hardest-to-reach families, helping them attend ECE regularly, supporting learning at home and assisting with the transition to school (CCEAGSCP, 2012). As of March 2013, there were 30 EPF initiatives around the country. Such programmes should be expanded, subject to programme evaluation that demonstrates success.

Encouraging students to stay in education longer

In recent years the government has taken a variety of initiatives to encourage students to stay in education longer. Increasing educational attainment is very important for equality of opportunity because parental attainment, especially of mothers, has a strong influence on how well their children do in education. These initiatives, together known as the Youth Guarantee, focus on improving pathways to further learning and work. This is seen as vital for countering disengagement among secondary-school students, especially Māori. The Youth Guarantee provides new routes to NCEA Level 2 qualifications including through: work-related learning; new forms of collaboration between schools and post-school tertiary education organisations (TEOs); and opportunities to enrol in TEOs without having to pay fees. Six sector-specific Vocational Pathways have been introduced. Secondary-Tertiary Programmes have been developed, typically entailing either secondary school students receiving teaching in technical subjects from staff at neighbouring TEOs or

from Trades Academies; Trades Academies deliver trades and technology programmes to secondary students based on partnerships between schools, tertiary institutions, industry training organisations and employers to meet local and national needs. Fees-free places and Secondary-Tertiary Programmes are estimated to have increased retention in education to age 17 and attainment of NCEA Level 2 qualifications by age 18, compared with a control group (Ministry of Education, 2014), but these initiatives need to be evaluated for their long-term effectiveness. Demand for places in Trades Academies has been such that the Ministry of Education could fund only 4 500 out of the 5 500 places requested in 2014. Subject to favourable evaluation results, funding for Trades Academies should be increased to meet demand. This funding could be sourced from defunding the Youth Training initiative, which has "actually resulted in fewer young people attaining NCEA Level 2 or equivalent by age 18 than would be expected if they had not gone on the programme" (Earle, 2013, p. 4).

Such strengthening of vocational pathways at the upper secondary level is a vital component of setting more young people on their way to achieve NCEA Level 4 qualifications, which typically open the doors to well-paying jobs (Dalziel, 2013). Level 4 occupations comprise technicians and trades workers (200 000 in 2006) and people in community and personal services, clerical and administrative work and in sales (a total of 67 000 workers in 2006). Many of these occupations are on immigration priority lists because of shortages. Providing opportunities for more New Zealanders to enter these occupations will not only increase their earnings and productivity, and hence activity overall, but will also reduce the proportion of people with very low incomes, reducing inequality. More broadly, New Zealand is one of a minority of OECD countries that have not yet undertaken an OECD review of vocational education and training. The government should consider commissioning such a review, which would be helpful in benchmarking New Zealand's vocational system against a wide range of international comparators.

Raising teaching quality

Teacher quality is considered to have the greatest effect on student learning of all the potentially measurable influences (Alton-Lee, 2003; Hattie, 2009). International findings show that teachers at the top of the quality distribution can achieve up to one year's worth of additional student learning by the end of schooling than those at the bottom (Hanushek and Rivkin, 2006). Unfortunately, low-decile schools are at a disadvantage when it comes to recruiting high-quality teachers. These schools tend to be in unattractive residential locations, are not prestigious and experience more classroom disruption, which contributes to higher rates of teacher burnout than in high-decile schools (Denny et al., 2009). Not only is teaching in these schools often more difficult, financial rewards are also lower – while there is a small supplementary allowance, which has been frozen for many years, high-decile schools have considerably more resources coming from donations, foundations and foreign-student fees that enable them to offer in-kind benefits, such as extra professional development. In 2012, 20% of decile 1-2 secondary school principals had difficulty finding suitable teachers compared with only 3% of their decile 9-10 school peers (Wylie, 2013).

A range of initiatives are underway to improve the quality of teaching, consistent with OECD work suggesting a high quality teaching workforce is a result of deliberate policy choices carefully implemented over time. As one part of its strategy, the government is reforming the teacher professional body. It is also implementing a reform that creates

more career ladders for teachers and principals and increases collaboration between schools. These new career paths could help to attract top teachers to struggling schools. Provided that teachers are performing well, the government should complement this reform by providing increased financial support to schools with high concentrations of children at risk of under-achievement to recruit and retain effective teachers. While the creation of communities of schools to increase collaboration within and between schools should improve teaching quality, the effect on inequality in outcomes is likely to be limited, as schools in high- and low socio-economic areas tend not to be in the same community. The "principal recruitment allowance" created as part of this initiative complements the community of schools collaborative programme by providing specific schools which face significant achievement challenges with better expert leadership to address these problems. Improved allowances are available to schools that establish these roles to support leadership that improves school performance and achievement.

These reforms are consistent with OECD recommendations on policies to improve teacher quality (Schleicher, 2011), notably: support for continuous learning, career structures that give new roles to teachers, and engagement of teachers as active agents in school reform. One of the OECD recommendations where more reform will be required is to make teacher evaluation systems fairer and more effective (Nusche et al., 2012). Key issues still to be addressed in this regard are large differences in the quality of teacher appraisal and poor linkages between appraisals, and professional and school development. Nusche et al. (2012) also recommend that more be done to ensure that teachers and schools have the skills to collect, analyse and interpret data in order to support improved student outcomes. The Education Counts and Public Achievement Information datasets and the Information for Learning initiative provide a new knowledge base to inform schools and teachers so they may better manage achievement challenges. In addition, while there is a growing evidence base about what effective professional learning and development looks like, Wylie (2013) reports that just 56% of secondary teachers think they get the out-of-school support they need to do their job effectively. Reforming this system to be more consistent with best practice could make an important contribution to improving the quality of teaching.

There is scope to improve educational outcomes for children from low-income backgrounds, many of whom are also Māori or Pasifika, by adopting good practices. The Education Review Office (ERO, 2014) found (only) nine out of 140 decile 5 or lower secondary schools with 200 or more students that demonstrated good practices in student engagement and achievement. In these nine schools stand-downs, suspensions and exclusions, which have very negative consequences for future learning, were lower than average. And student attainment levels ranged from above those for their decile to close to the BPS target of 85% of 18 year-olds to attain at least a NCEA Level 2 qualification. The ERO found that these schools identified with their community and had a clear vision of what they wanted for their students. At the heart of each vision was building strong relationships with their students and enabling them to learn. Among the key areas of good practice identified were:

● a belief that all students can succeed: low expectations for Māori and Pasifika students are a problem in many schools;

● adopting remedial rather than punitive practices (such as expulsions and exclusions) when problems arise;

- students taking responsibility for their learning: McKinley et al. (2009) find students in a low-decile secondary school can make significant NCEA gains when detailed data on their academic progress is used to help them meet goals that they themselves have set to meet career aspirations;

- school leaders and teachers using extensive, high-quality data to identify students' needs and responding appropriately;

- having principals who are knowledgeable and skilful change managers; and

- senior leaders working efficiently as a team with high levels of relational trust.

In light of this study, the ERO made a number of recommendations to schools to reduce educational inequalities:

- School boards should focus on how well students are engaged with their learning by scrutinising engagement and achievement data and using the information to identify what approaches and resources are needed to ensure every student succeeds; and

- School leaders should manage changes to establish a strong culture where: expectations for every student are high; relationships are carefully nurtured, respective and supportive; evidence and research are used to empower teachers to use and reflect on a range of approaches to effectively engage all students in learning; and teachers' professional development is integrated with the school's vision and direction.

Another good practice to reduce educational inequalities is to take children who are falling behind aside for short periods of increasingly intensive instruction to bring them back up to the level needed to learn with the rest of the class, as occurs in Finland. This is a better solution than placing them in classes for slow learners, which stigmatises them, assigns them low expectations and results in low levels of achievement. More generally, the widespread use of early streaming in New Zealand, which typically begins in lower secondary school, increases inequality in outcomes (OECD, 2014b). Expectations are low for children in low streams. They study academically "light" programmes, which is one of the reasons why New Zealand has a relatively large proportion of poor performers in PISA studies. Such programmes also limit future educational opportunities.

Māori medium schools, which provide teaching and learning in Te Reo Māori (the Māori language) within Māori cultural settings, are helping to increase Māori learner achievement rates. This success seems to be based on a number of factors, including strong family and Māori community and learner engagement, high community and teacher expectations of learners, as well as affirmation of the learner's culture and identity. Adjusted for socio-economic background, 74-84% of school leavers attain NCEA Level 2 qualifications or higher in such schools compared with only 56% in other schools. Unfortunately, for a variety of reasons, only a small minority of Māori students attend these schools, especially at upper secondary school levels. These reasons include accessibility (not all regions have Māori medium schools) and shortages of Māori language teaching resources and qualified teachers who are fluent in Māori (with an associated relatively narrow range of subject choices). While teacher shortages may be expected to ease over time as some of the graduates from these schools themselves become teachers, further steps may be needed to facilitate a faster increase of quality and supply. New Zealand's Māori medium education programme is supporting improvement in quality of provision and the breadth of education pathways available to students in Māori medium education.

Recommendations to make growth more inclusive

Reducing income inequality and poverty

- Complement the recent welfare reform by following up people going off benefit, as planned, to ensure satisfactory outcomes. Strengthen the focus of social spending on lifting the long-term outcomes of the disadvantaged, including by improving coordination across the public sector.

- Review policy settings to strengthen the incentives for those on low incomes to work more than 20 hours a week, including benefit abatement rates and childcare costs.

- Increase welfare benefits for beneficiary households with children, and step-up job-search and activation investments, especially for jobseeker beneficiaries who are social housing tenants.

- Raise the supply of social housing for low-income households. Increase targeted housing subsidies for low-income households that are not in social housing.

Reducing inequalities in health outcomes

- Adopt a comprehensive approach to reducing obesity, covering personal actions, factors that influence physical activity and nutritional practices, and improved obesity management through primary care.

- Reduce further the costs (including transport and childcare) of access to primary health care for the poor.

Improving education outcomes for individuals in disadvantaged groups

- Meet the 98% participation target for early childhood education. Ensure that the education provided is of high quality, includes programmes to enhance the involvement of parents and focuses more on the outcomes of children with disadvantaged backgrounds.

- Provide more financial support to assist with the recruitment and retention of effective teachers and school leaders for schools with high concentrations of children at risk of under-achievement.

- Continue to strengthen existing measures to help school boards, principals and teachers use student achievement data to ensure that all students are performing well.

Notes

1. All references to household income in this chapter are to equivalised household income. Equivalised household income is adjusted for household size. The adjustment used is to divide total household income by the square root of household size.

2. Social rentals were raised to market levels and, for those who could not afford the rent, an accommodation supplement was paid amounting to 65% of the difference between the new rent and 25% of household income.

3. The "investment approach" differs from "social investment" in Europe in that it focuses on budget savings as opposed to outcomes for individuals. In Europe, social investment means policies designed to strengthen people's skills and capacities and support them to participate fully in employment and social life. Key policy areas include education, quality childcare, health care, training, job-search assistance and rehabilitation (*Social investment – Employment, Social Affairs & Inclusion – European Commission*).

4. Regressing lone-parent poverty rates (LPPR) on lone-parent benefit rates as a percentage of average earnings (LPBR), childcare fees as a percentage of 67% of average earnings (CCF) and lone-parent employment rates (ER) for 30 OECD or EU countries yields the following results (t-statistics in brackets):

Log (LPPR) = 5.274 - 0.733 log (LPBR) + 0.294 log (CCF) - 0.067 log (ER)

$\qquad\qquad$ (2.619)   (-2.610) $\qquad\qquad$ (2.918) $\qquad\qquad$ (-0.155)

Adjusted R-squared 0.234; F-statistic 3.946; DW 1.997.

5. All statistics quoted in this paragraph come from Ministry of Health (2013). A rate ratio less (more) than 1 means the outcome is less (more) likely in the group of interest than in the reference group. Rate ratios adjust for factors such as age, sex and ethnic group. The total response measure of ethnicity is used (i.e. individuals identifying with more than one ethnicity are included in all the groups identified).

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