# 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*

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 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**
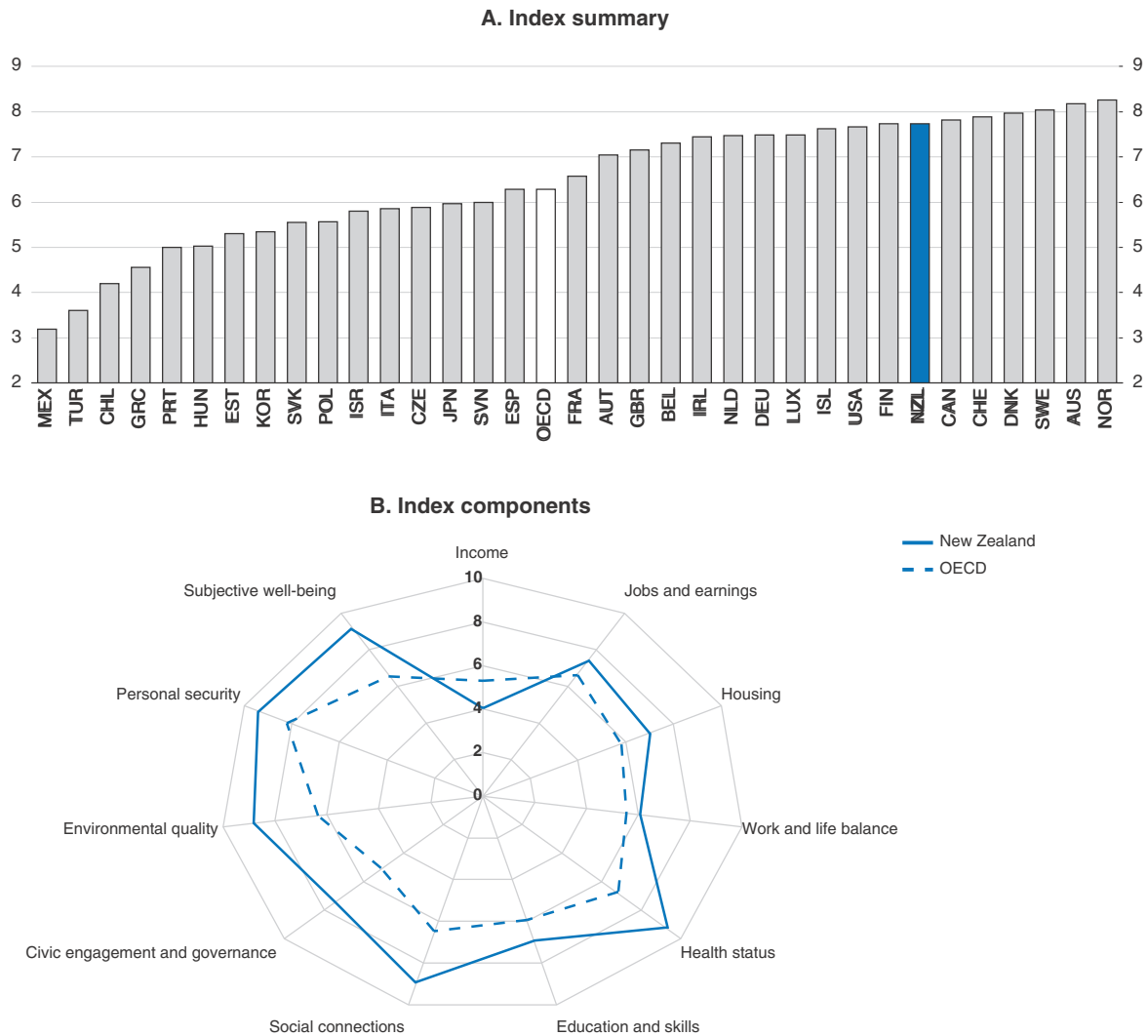


1. Each better life dimension is measured by one to four indicators from the OECD Better Life Index (BLI) set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 10 (best) and 0 according to the following formula: (indicator value – minimum value)/(maximum 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**
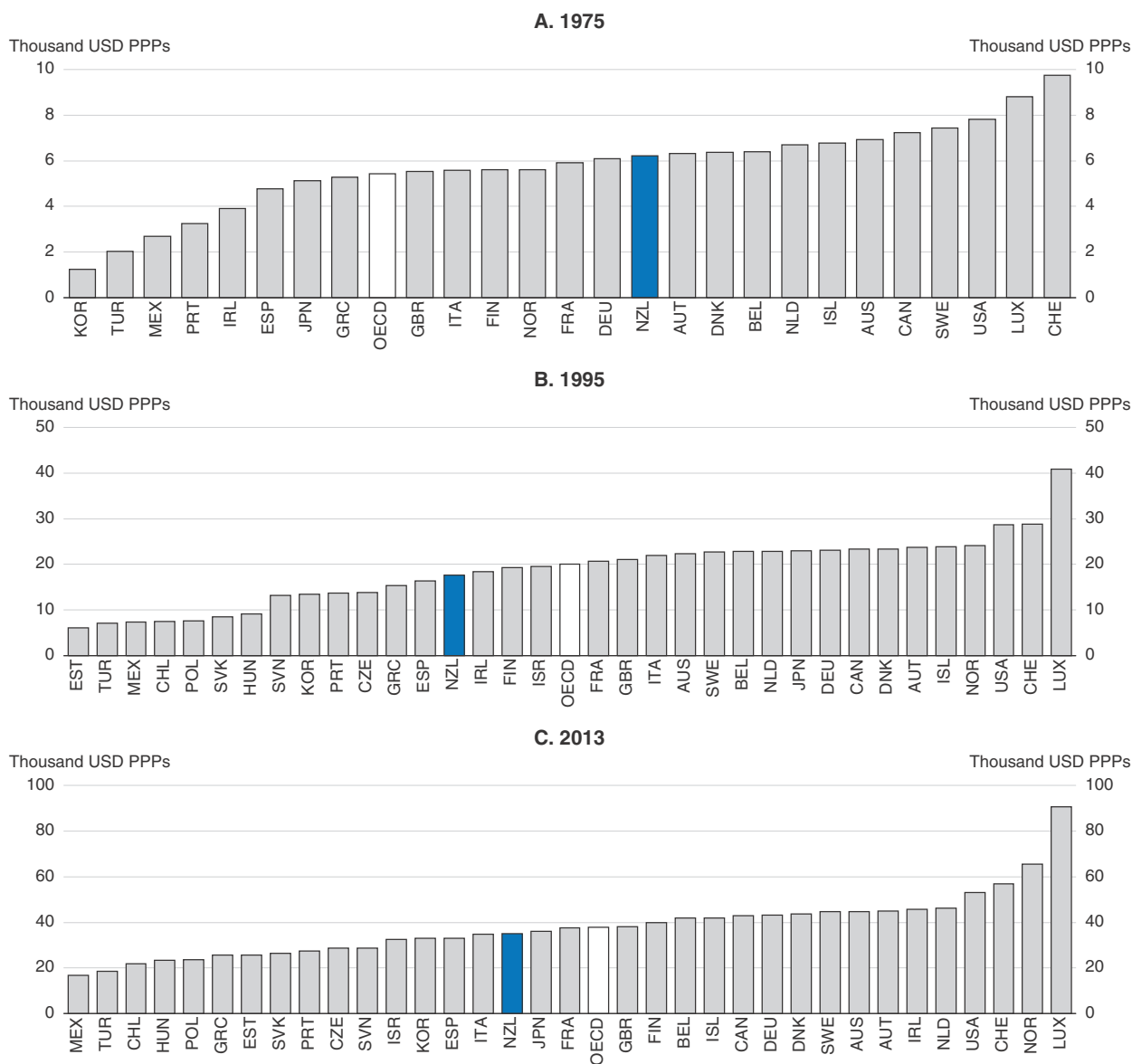


1. Nominal GDP per capita converted to USD at current PPPs. The OECD aggregate is weighted by the population.
*Source:* OECD, *National Accounts Database.*

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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).
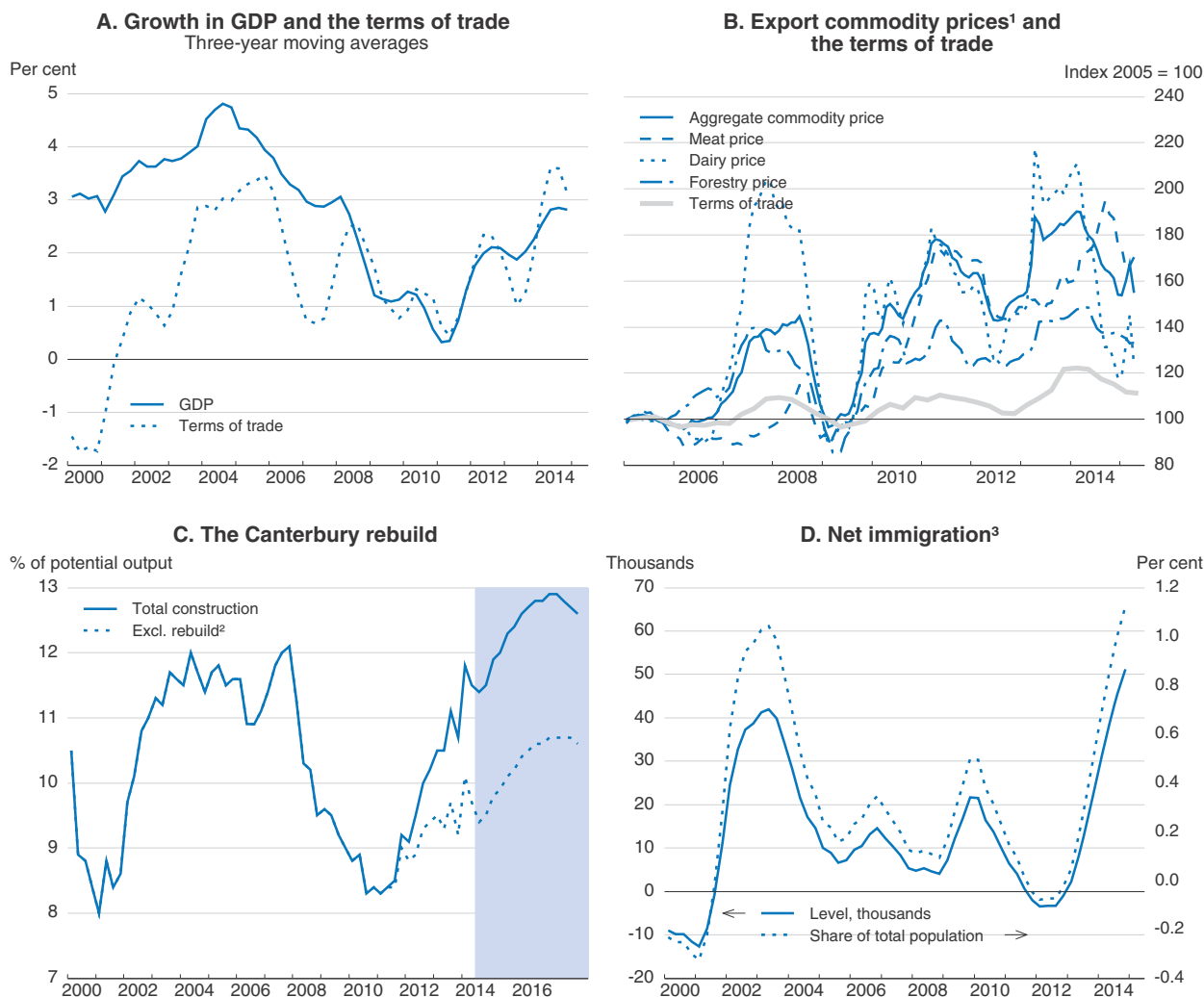2. As a percentage of potential GDP.
3. Persons aged over 15.
4. As a percentage of household disposable income.
5. As a percentage of GDP.
*Source: OECD, Economic Outlook 97 Database.*

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.
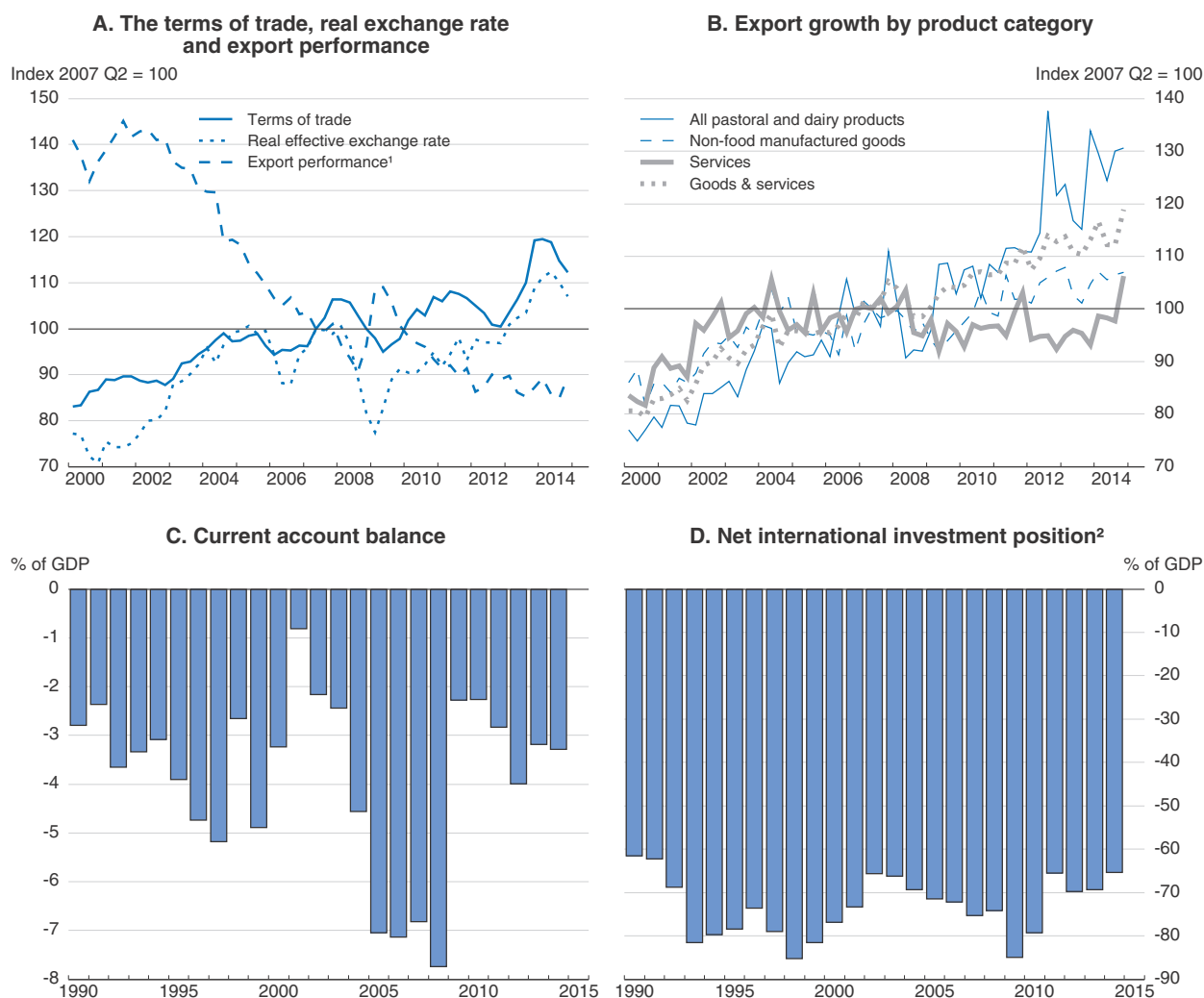3. Cumulative net immigration data for the past four quarters.
*Source:* Reserve Bank of New Zealand (2015), *Monetary Policy Statement*, March; ANZ Bank; Statistics New Zealand; OECD, *Economic Outlook Database.*

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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 performance[1]

**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 position[2]**

% 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.
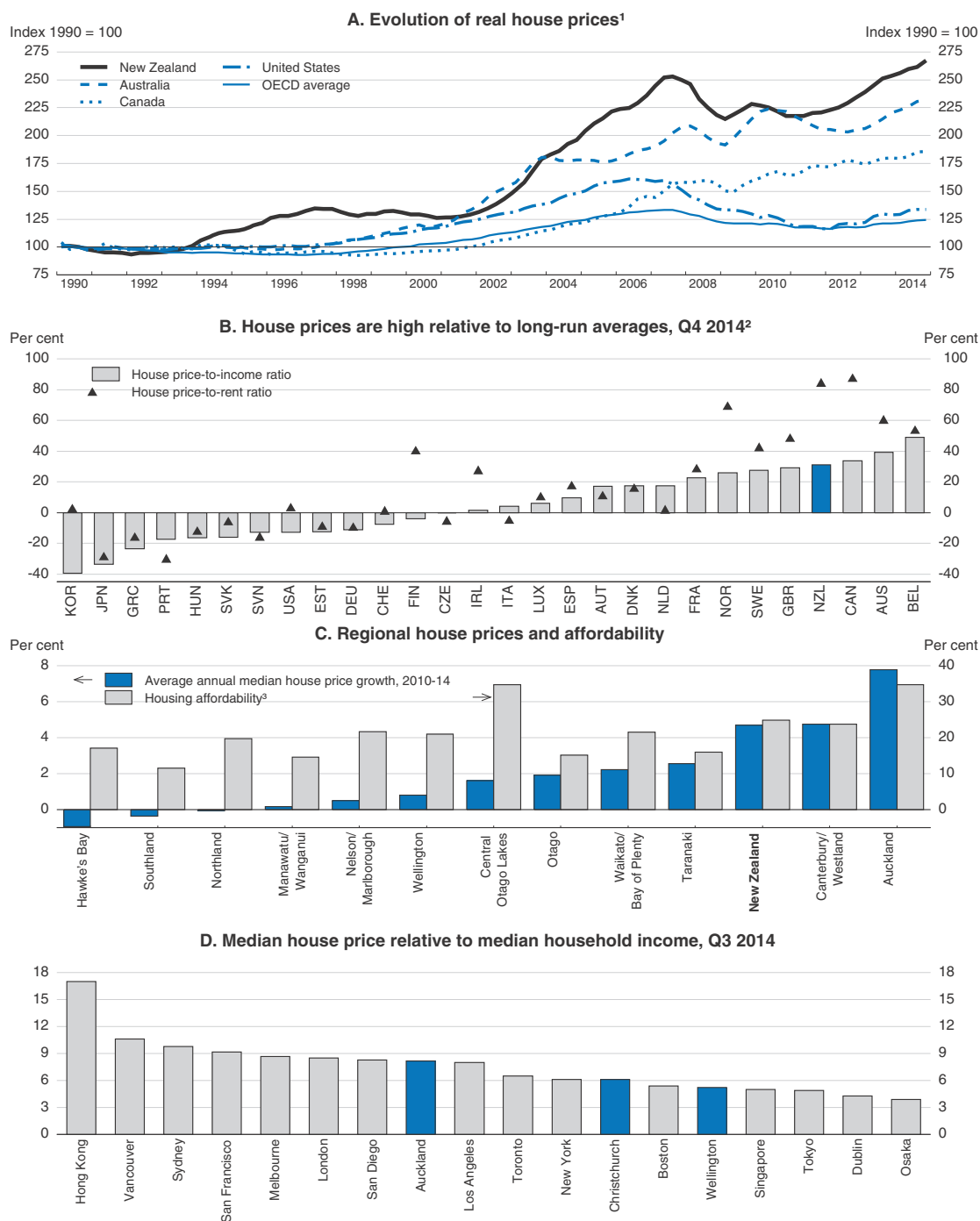2. Year ending in March.

*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 prices[1]**

Index 1990 = 100                                                                                    Index 1990 = 100

- New Zealand    — · — United States
- - - Australia      ——— OECD average
- · · · Canada

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

Per cent                                                                                                    Per cent

☐ House price-to-income ratio
▲ House price-to-rent ratio

KOR JPN GRC PRT HUN SVK SVN USA EST DEU CHE FIN CZE IRL ITA LUX ESP AUT DNK NLD FRA NOR SWE GBR NZL CAN AUS BEL

**C. Regional house prices and affordability**

Per cent                                                                                                    Per cent

← ☐ Average annual median house price growth, 2010-14
  ☐ Housing affordability[3] →

Hawke's Bay, Southland, Northland, Manawatu/Wanganui, Nelson/Marlborough, Wellington, Central Otago Lakes, Otago, Waikato/Bay of Plenty, Taranaki, **New Zealand**, Canterbury/Westland, Auckland

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

Hong Kong, Vancouver, Sydney, San Francisco, Melbourne, London, San Diego, Auckland, Los Angeles, Toronto, New York, Christchurch, Boston, Wellington, Singapore, Tokyo, Dublin, Osaka

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*.
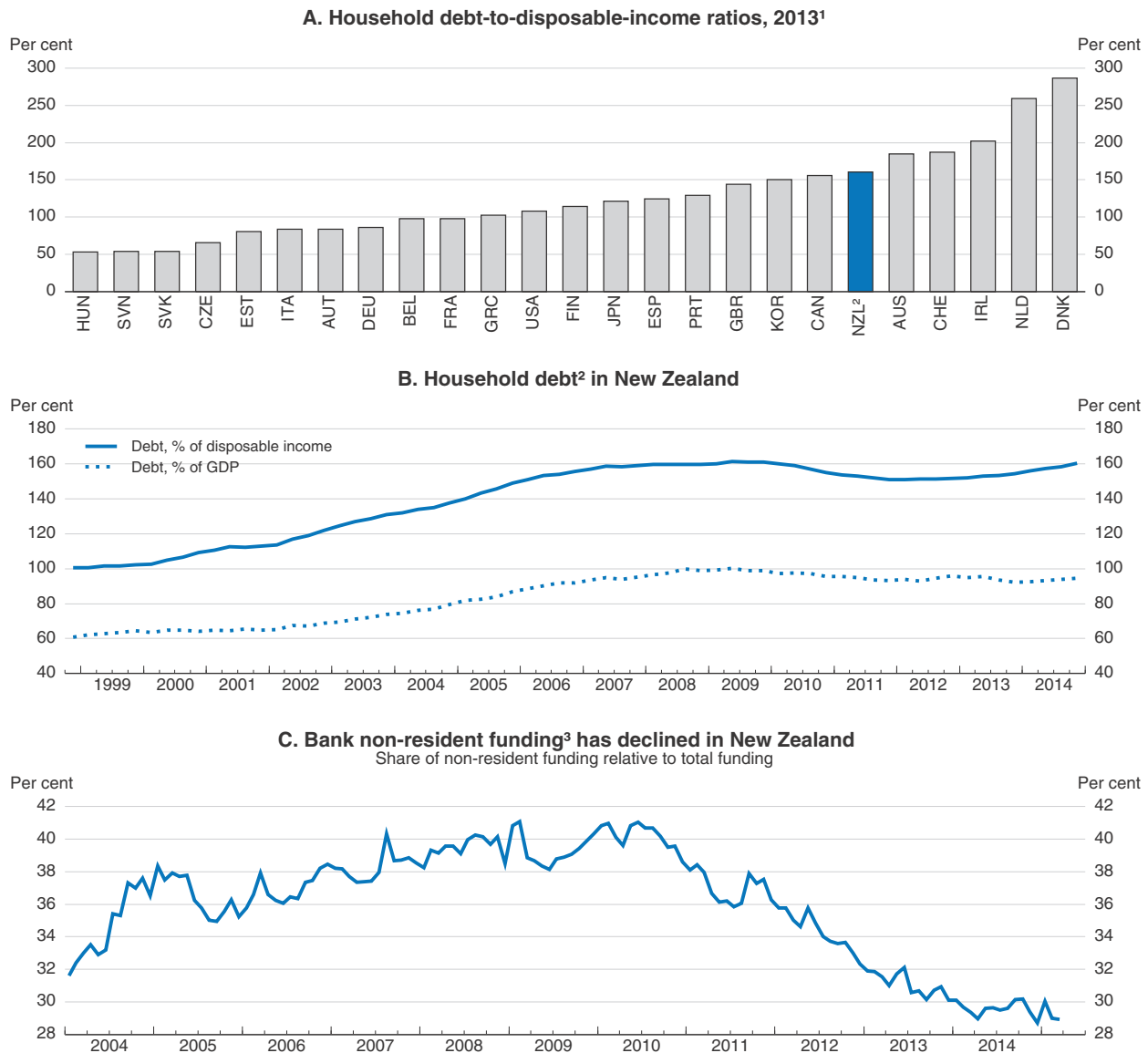
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## Figure 6. **Household debt and funding**

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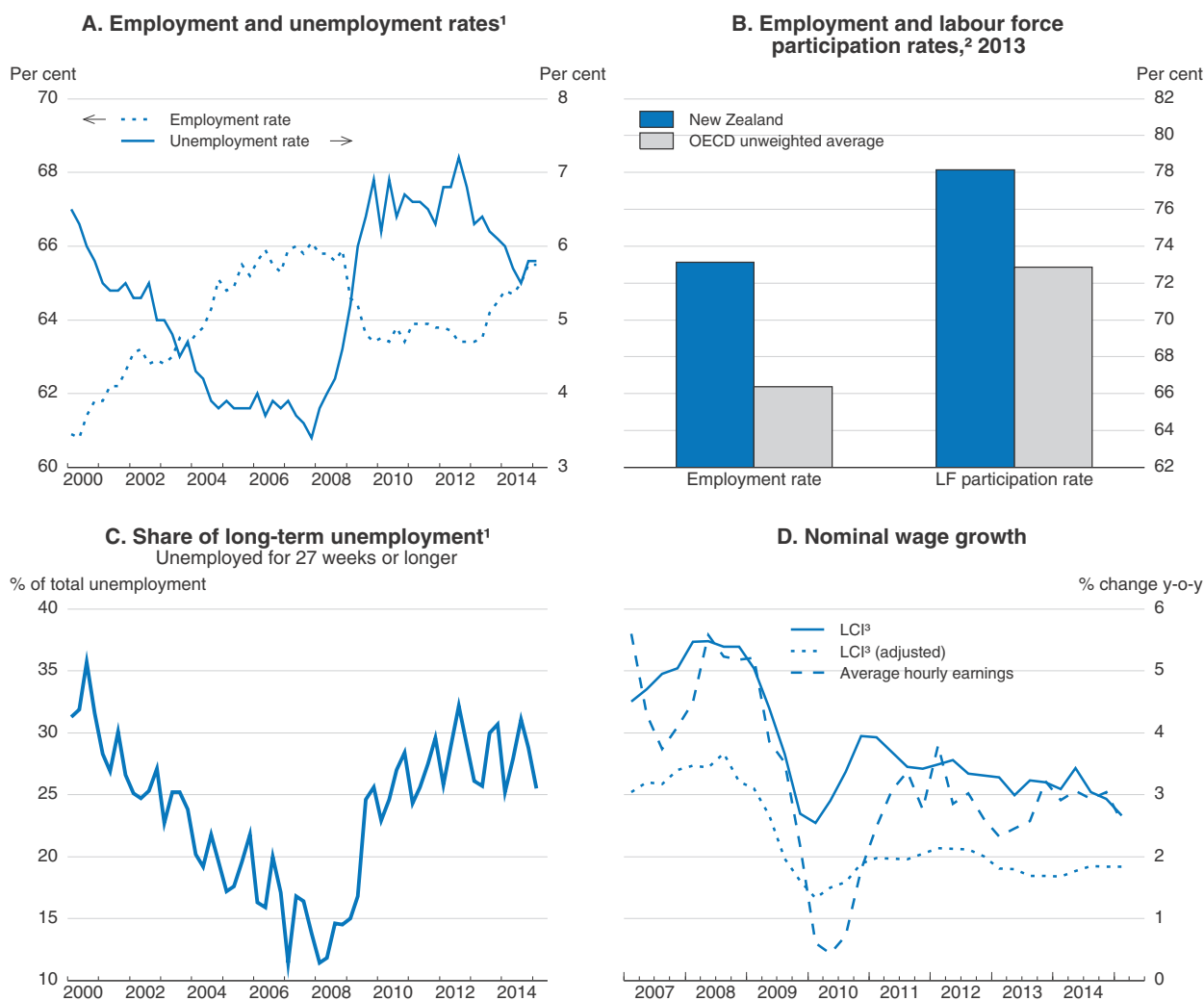
1. Population aged 15 and over.
2. Population between 15-64 years old.
3. Labour Cost Index of private sector wages. The adjusted LCI excludes increases in wages attributable to productivity improvements.
*Source:* Statistics New Zealand, Work, Income, and Spending and OECD, *Labour Force Statistics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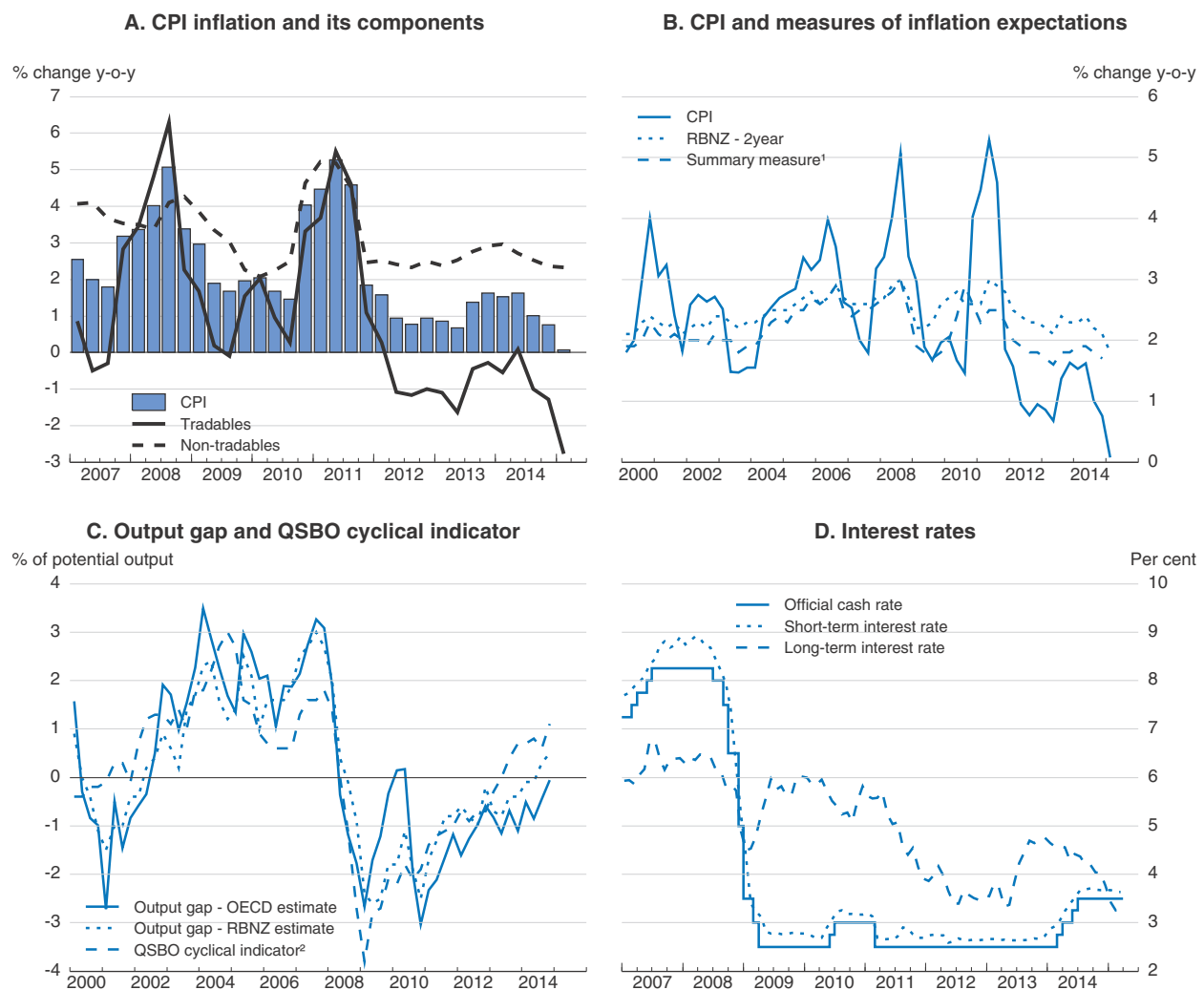


1. The summary measure is the first principle component of nine survey measures of inflation expectations.
2. QSBO: Quarterly Survey Business Opinion. The QSBO principal component indicator is a summary measure of 50 capacity series that has been fitted to a historical estimate of the output gap.

*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
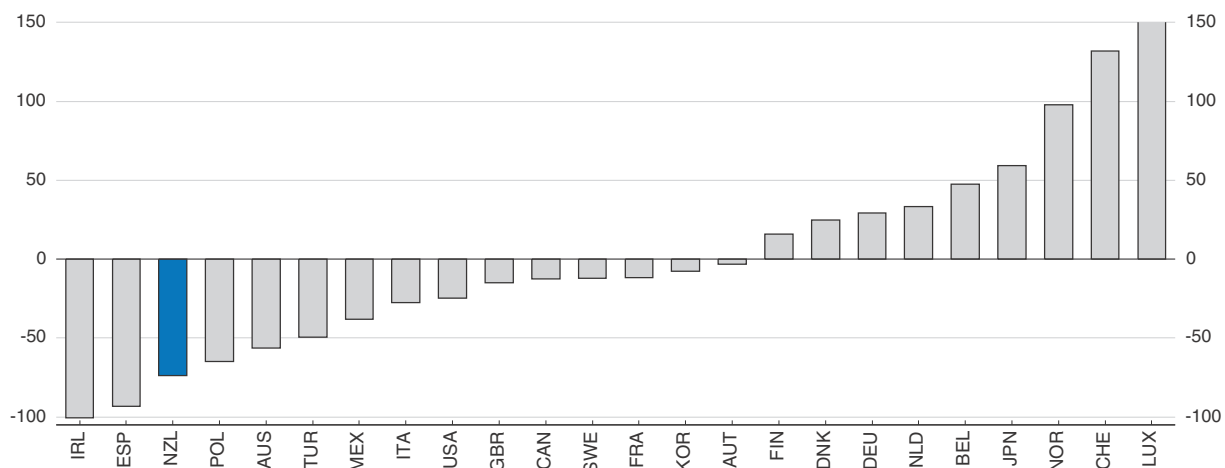


*Source:* IMF, *International Investment Position Database* for net international investment position data for all countries except New Zealand (Statistics New Zealand for net international investment position and OECD, *Economic Outlook 96 Database* for GDP data).

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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**
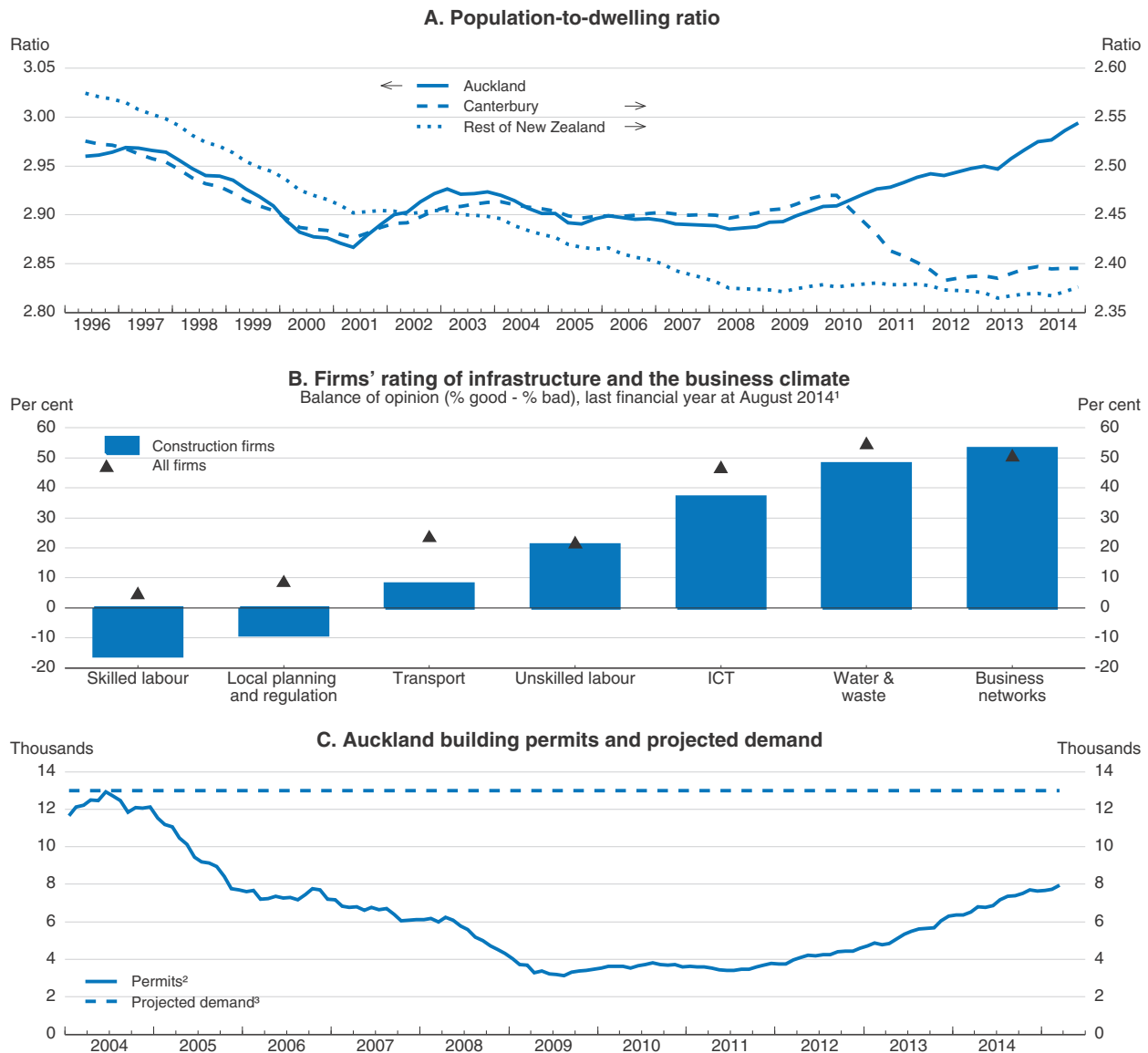


1. Last financial year refers to the last financial year for which businesses had results available in August. Financial years for businesses finish on 31 March in New Zealand.
2. Twelve-month moving average of annualised monthly building permits.
3. Auckland Council's average annual projected demand 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
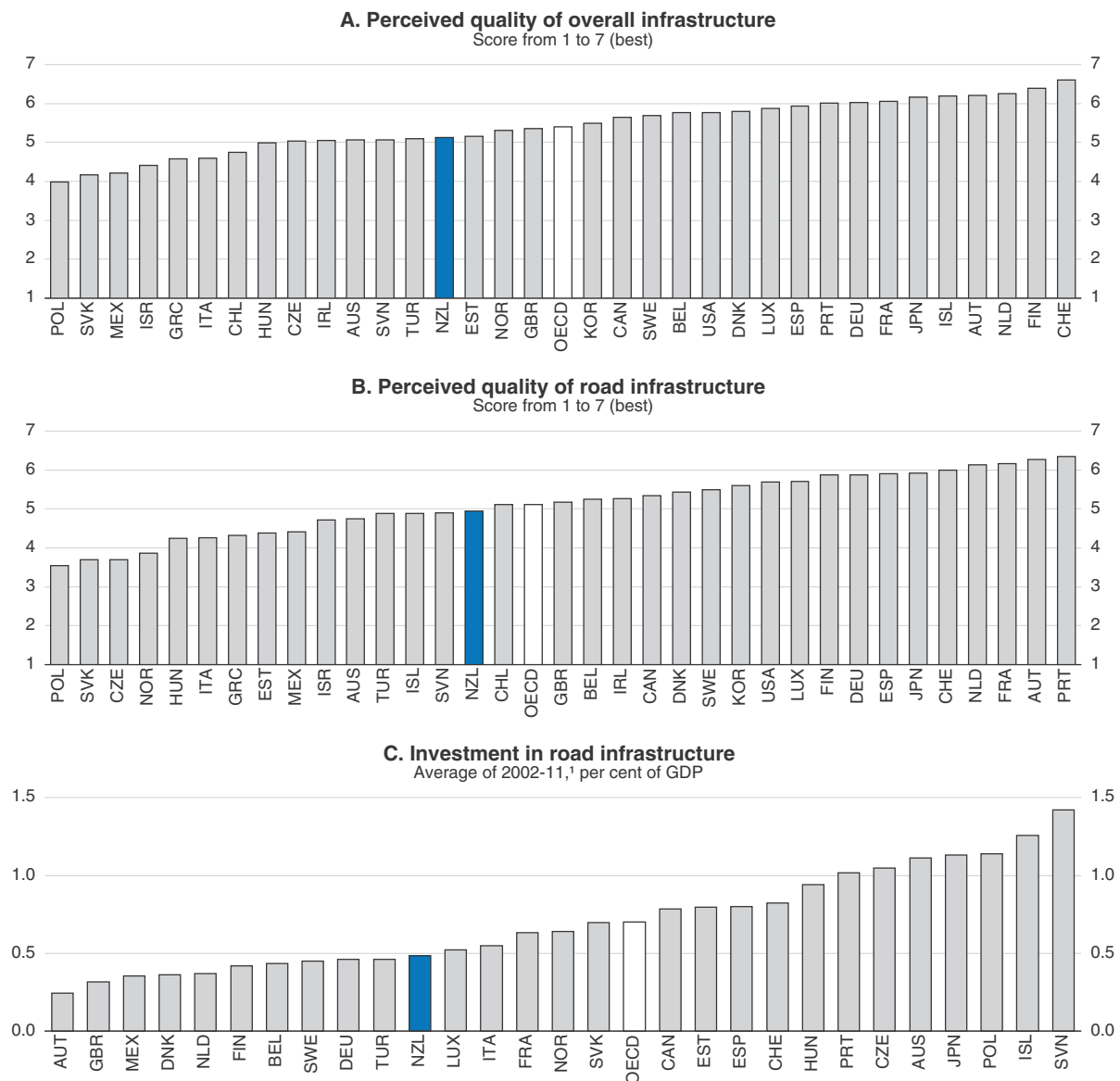
1. Or of the last 10 years available.
*Source:* World Economic Forum (2014), *The Global Competitiveness Report 2014-15* for Panels A and B; and OECD, *International Transport Forum Database* for Panel C.

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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.

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**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.

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## 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**
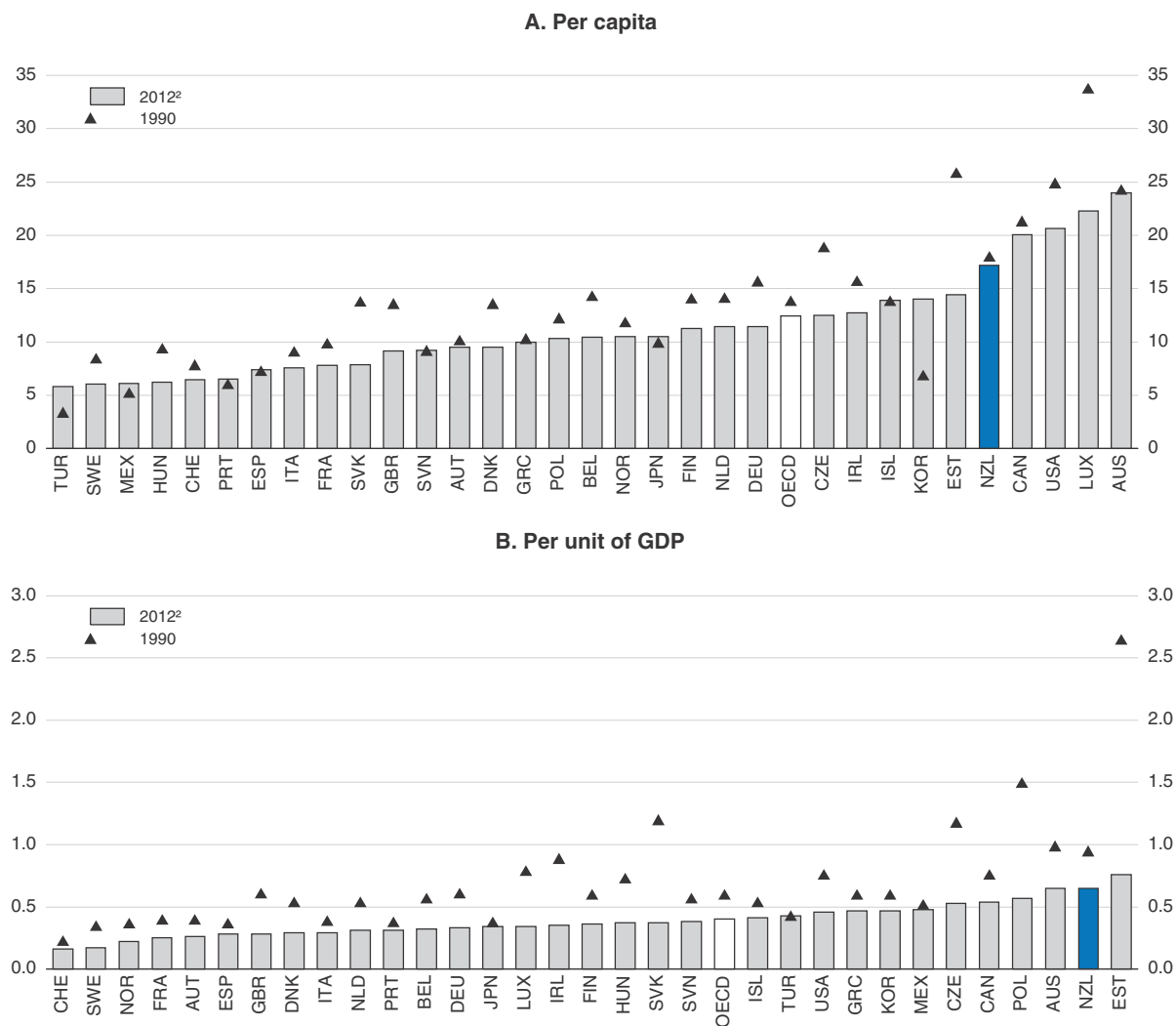


1. Land-use, land-use change and forestry; i.e. including GHG emissions and excluding $CO_2$ removals, using statistics from the *EDGAR Database*.
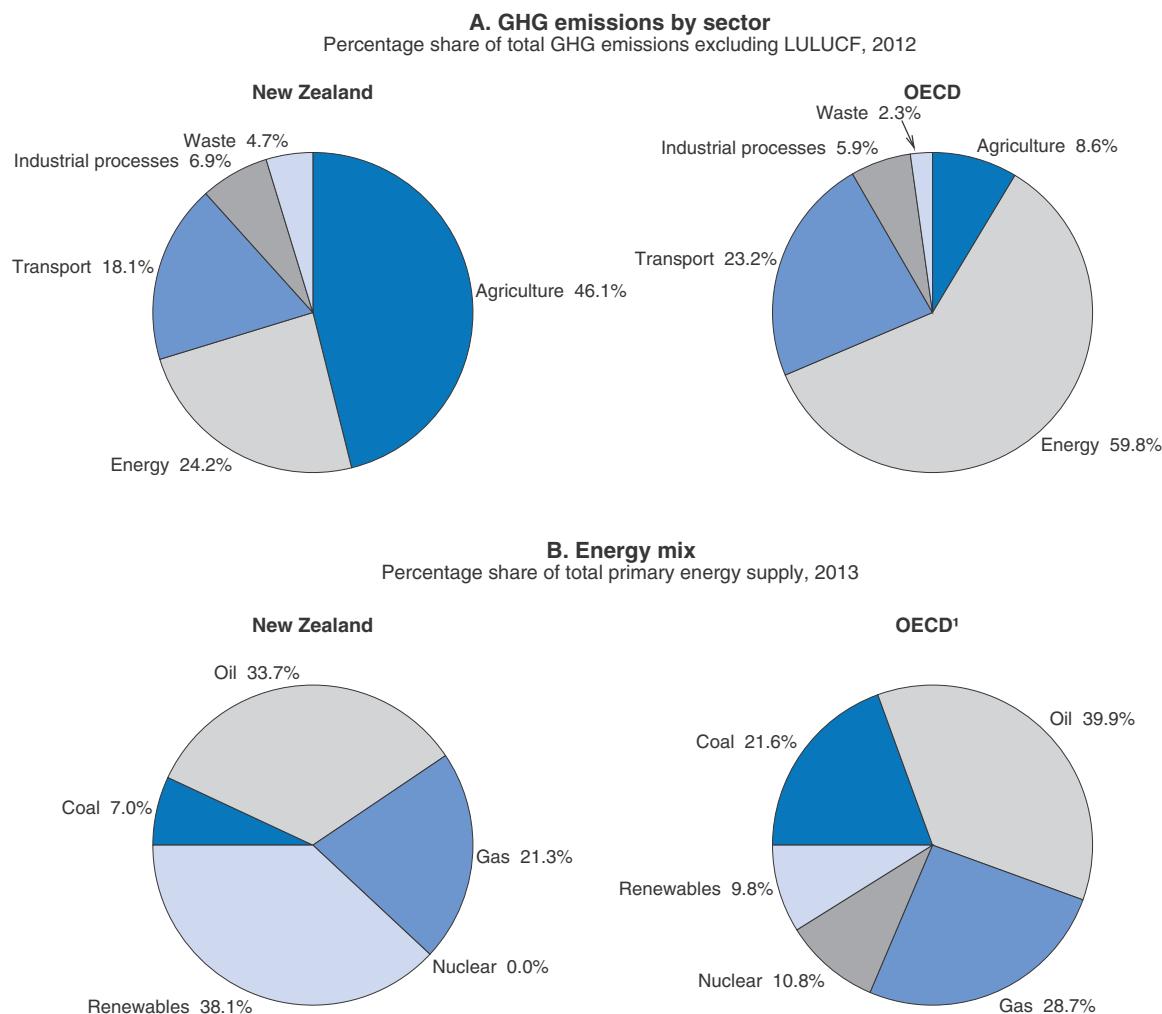2. 2011 for Israel and Korea and 2010 for Mexico.

*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
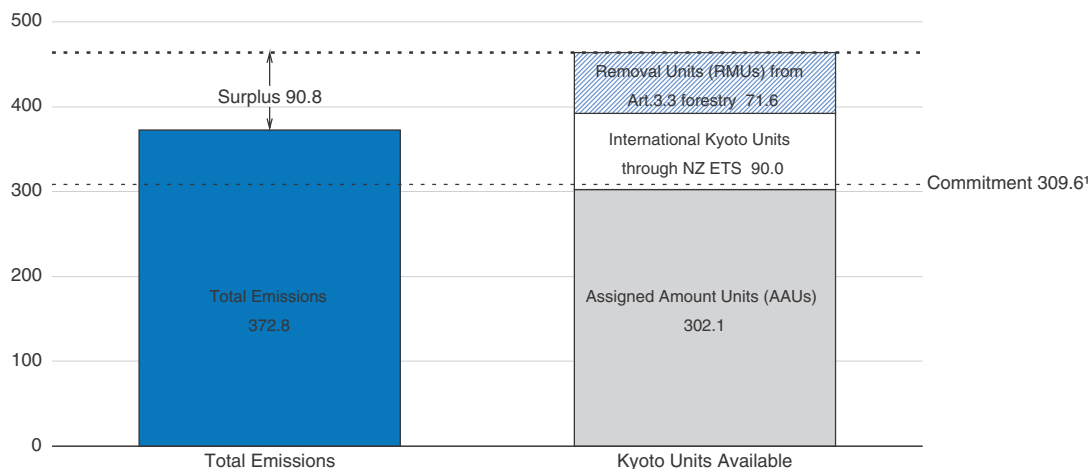


1. Commitment for the first commitment period (CP1) under the Kyoto Protocol.
*Source:* Ministry for the Environment (2014), "Latest Update on New Zealand's Net Position under the Kyoto Protocol", *www.mfe.govt.nz/ climate-change/reporting-greenhouse-gas-emissions/nzs-net-position-under-kyoto-protocol/latest.*

**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)
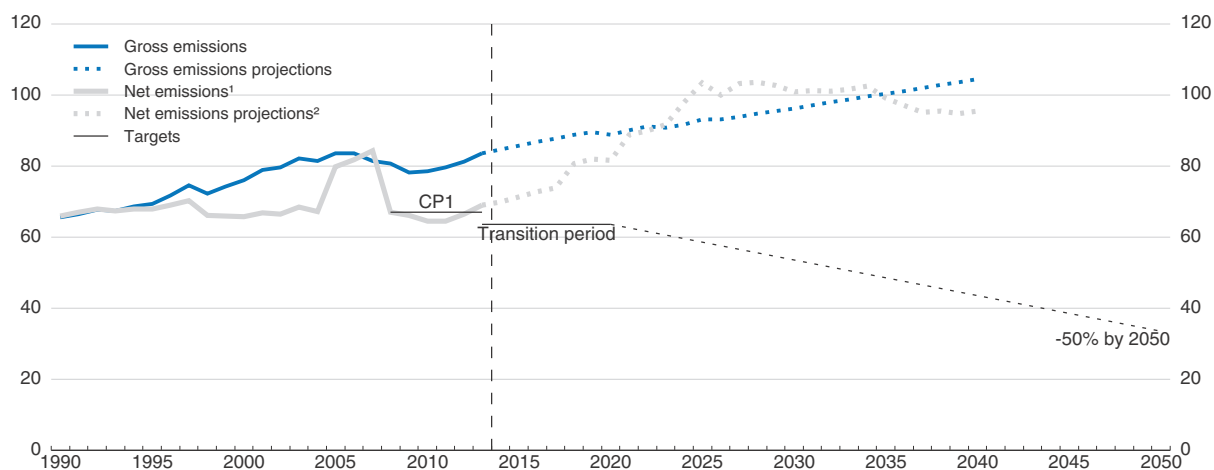


1. Net emissions take into account $CO_2$ removals from LULUCF. They are calculated based on the 100-year global warming potentials (GWPs) found in the Intergovernmental Panel on Climate Change's Fourth Assessment Report. No account is taken of the surplus Kyoto Protocol units that New Zealand holds 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
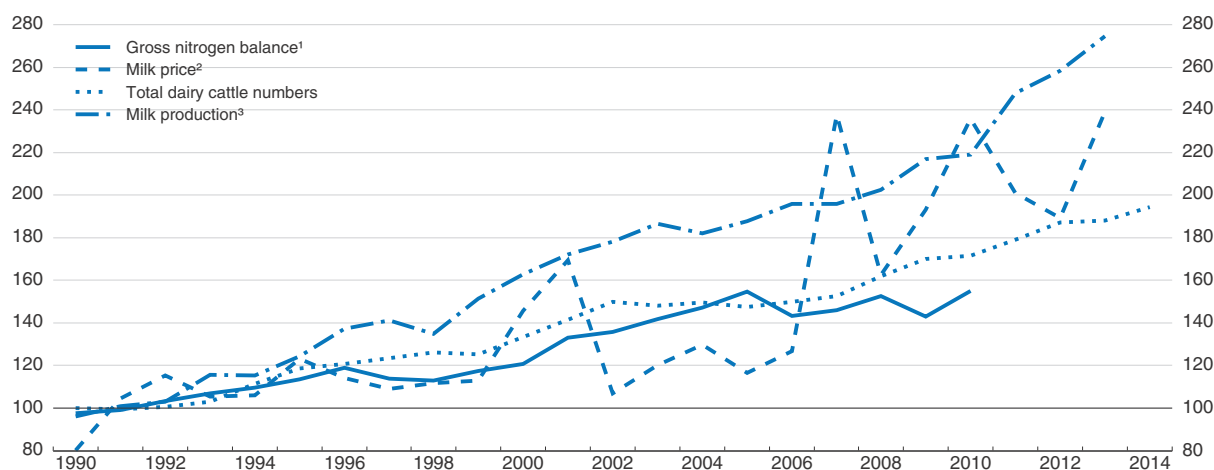


1. Kg of nitrogen per hectare of total agricultural land. The gross nitrogen balance calculates the difference between the nitrogen inputs entering a farming system (i.e. mainly livestock manure and fertilisers) and the nitrogen outputs leaving the system (i.e. the uptake of nitrogen for crop and pasture 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.

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**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.

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## 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]**
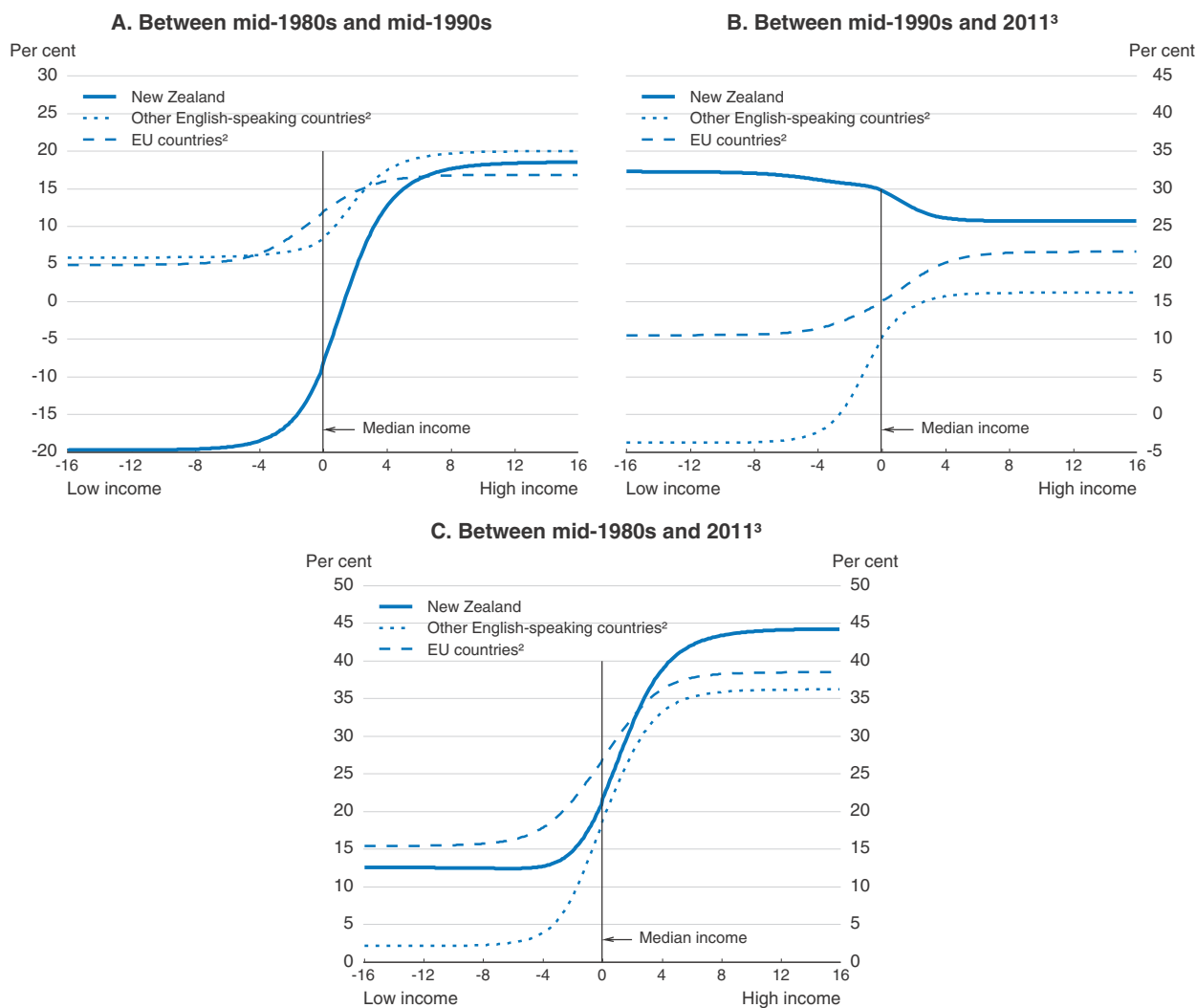
1. Equivalised household incomes (i.e. adjusted for household size – total household income is divided by the square root of household size) across the distribution are measured by the full range of bottom to top income standards, as determined by the Atkinson inequality aversion parameter $\alpha$ (a 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.

*StatLink* 🔗 *http://dx.doi.org/10.1787/888933220123*

Figure 18. **Inequality in household disposable income**

Gini coefficient,[1] total population
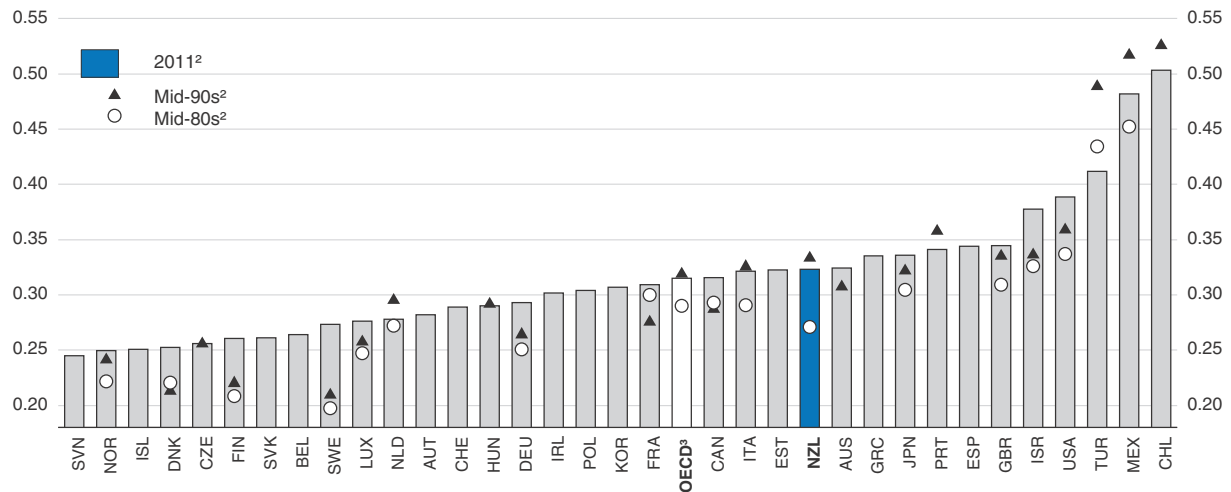


1. The Gini coefficient is a measure of income inequality that ranges from 0 (where all households have the same income, or complete equality) to 1 (where one household has all the income).
2. Mid-80s corresponds to the interval 1983-87, mid-90s to 1993-96 and 2011 refers to the latest available year.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



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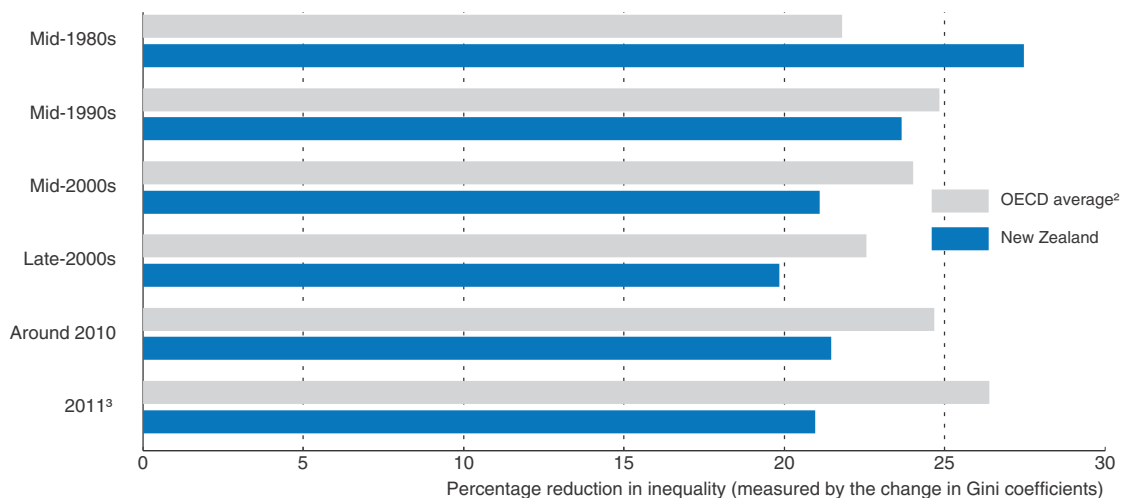
1. Difference between market- and disposable-income Gini coefficients, as a percentage of the market-income Gini coefficient.
2. Unweighted average of countries available for each period.
3. Or latest year available.
*Source:* Calculations from the *OECD Income Distribution Database*, via *www.oecd.org/social/income-distribution-database.htm*.

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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]



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 shares¹
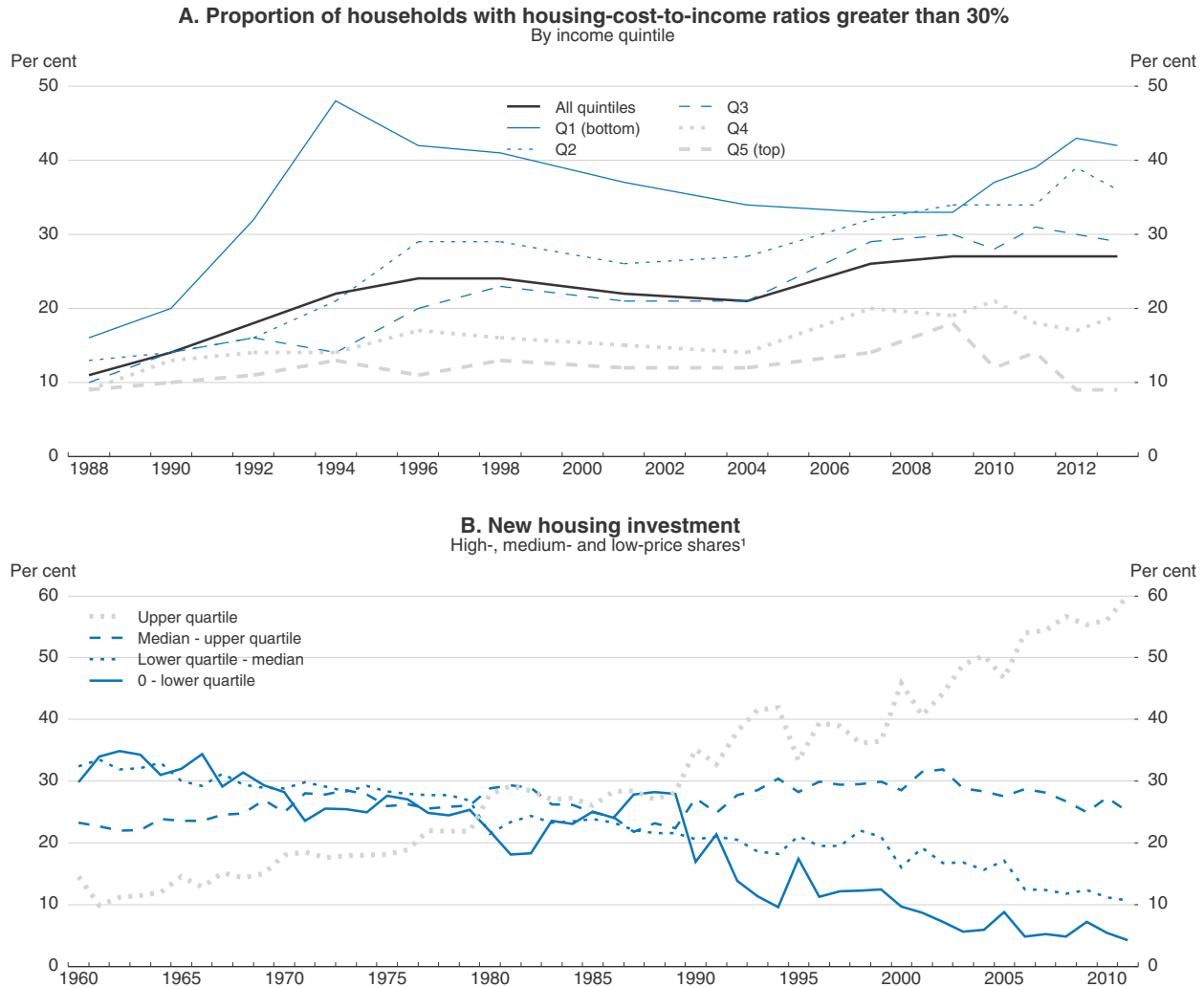


1. The construction data only include life-style, stand-alone and attached residential dwellings – apartments, which do not have individual entrances from the exterior and are typically in high-rise buildings, are excluded. For each year, the data show the share of new houses that are valued within each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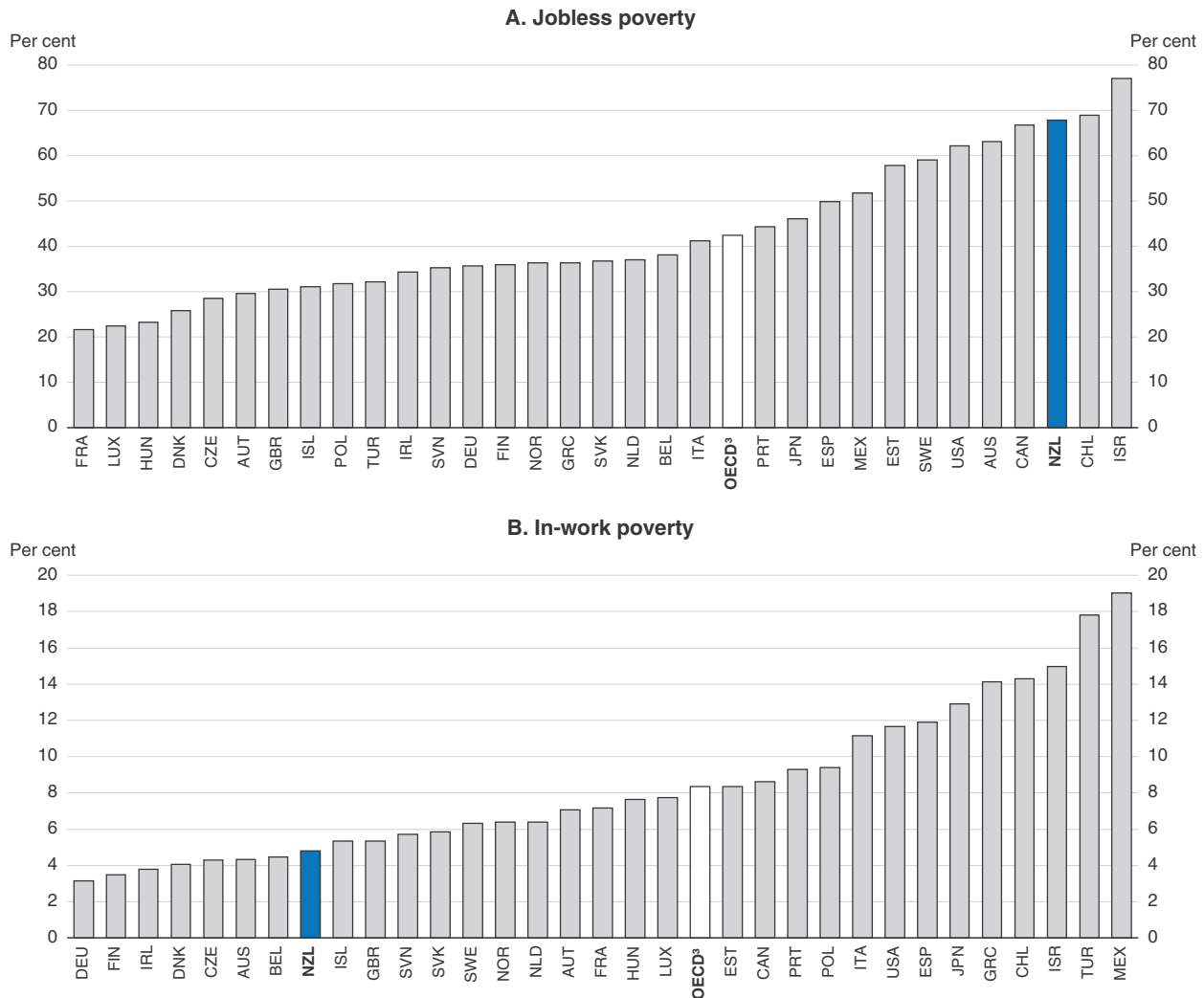


1. Poverty rates correspond to the percentage of individuals living in households whose disposable income falls under half the median value of disposable income in their country. Poverty rates are calculated for all persons living in a household with a working-age head and at least one worker (in-work 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
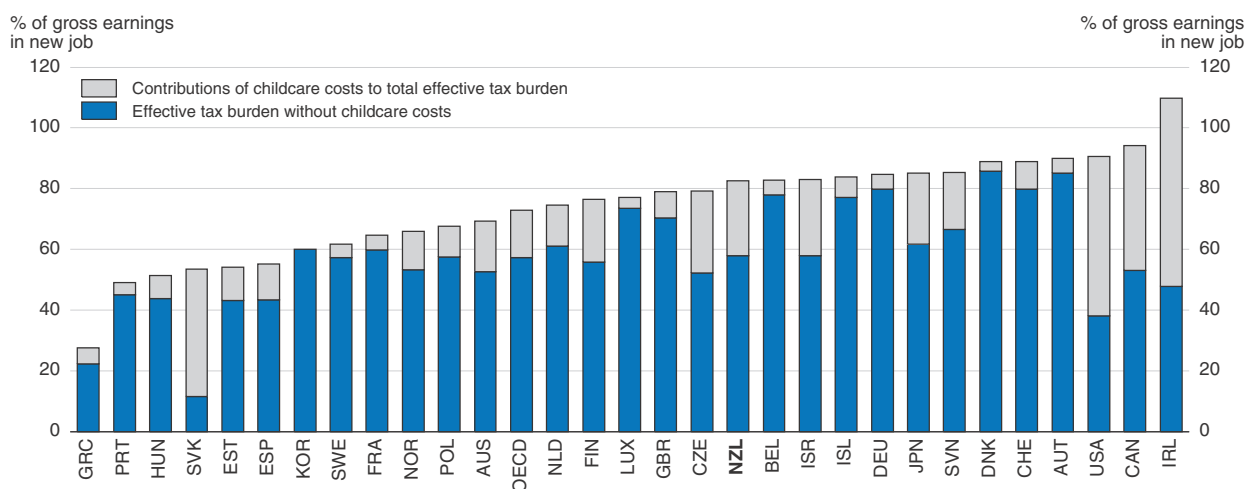


1. Effect of childcare costs for a sole parent with two children, aged two and three.
*Source:* OECD, *Tax-Benefit Models Database, www.oecd.org/els/social/workincentives.*

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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]
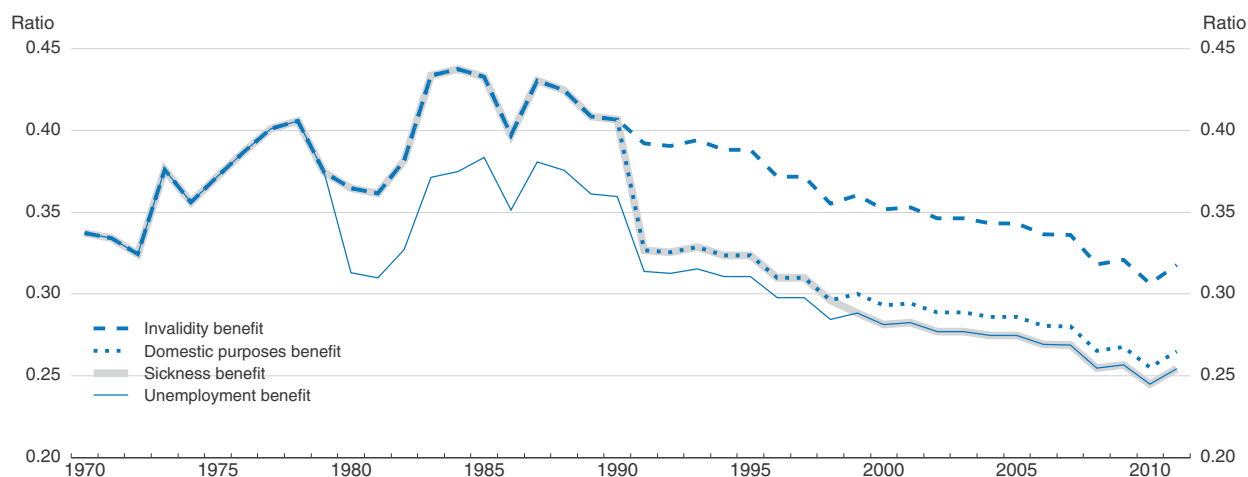


1. As most beneficiaries also receive supplementary benefits, such as the Accommodation Supplement and family tax credits, their total income is likely to be higher than shown in this figure. However, increases in family tax credits have been targeted mainly to low-income working households rather than 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
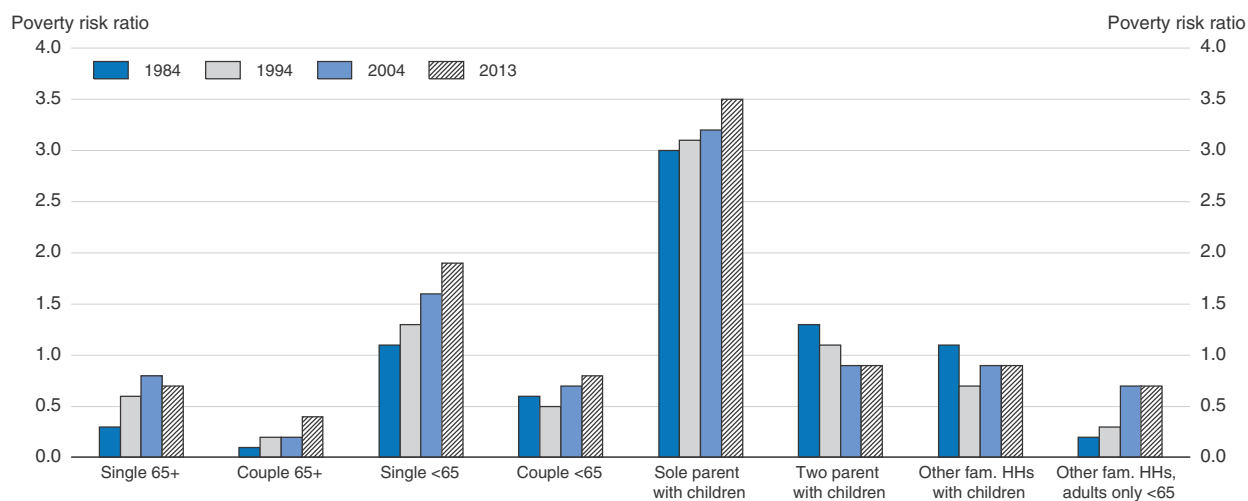


1. The poverty risk ratio is the ratio of the poverty rate for a particular group divided by the poverty rate of the whole population.

*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.

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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
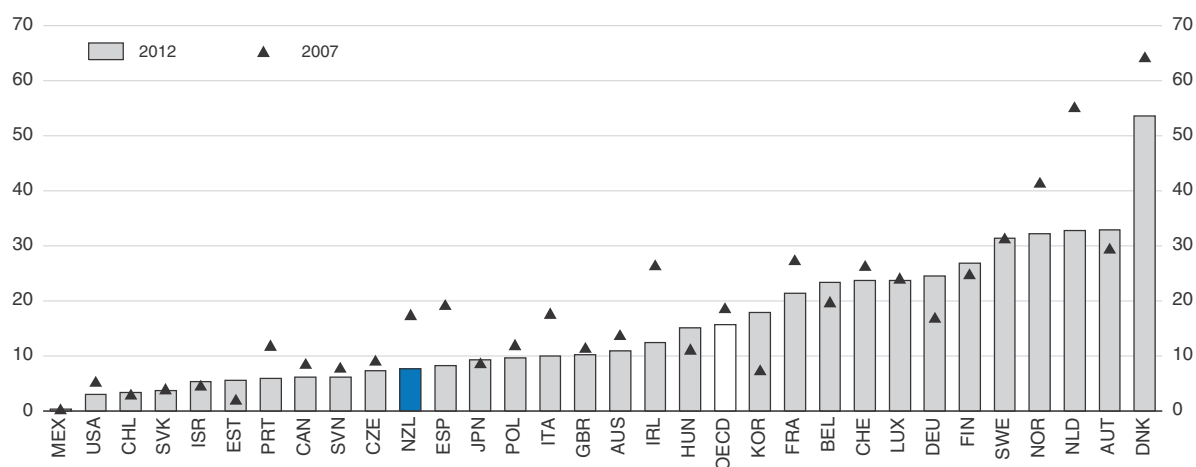


1. The latest available year is 2011 for Australia, Ireland, Israel, Luxembourg, Poland and Spain; and 2009 for the United Kingdom. The OECD average excludes Greece, Iceland and Turkey. For 2007, data refer to 2008 for Chile.

*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
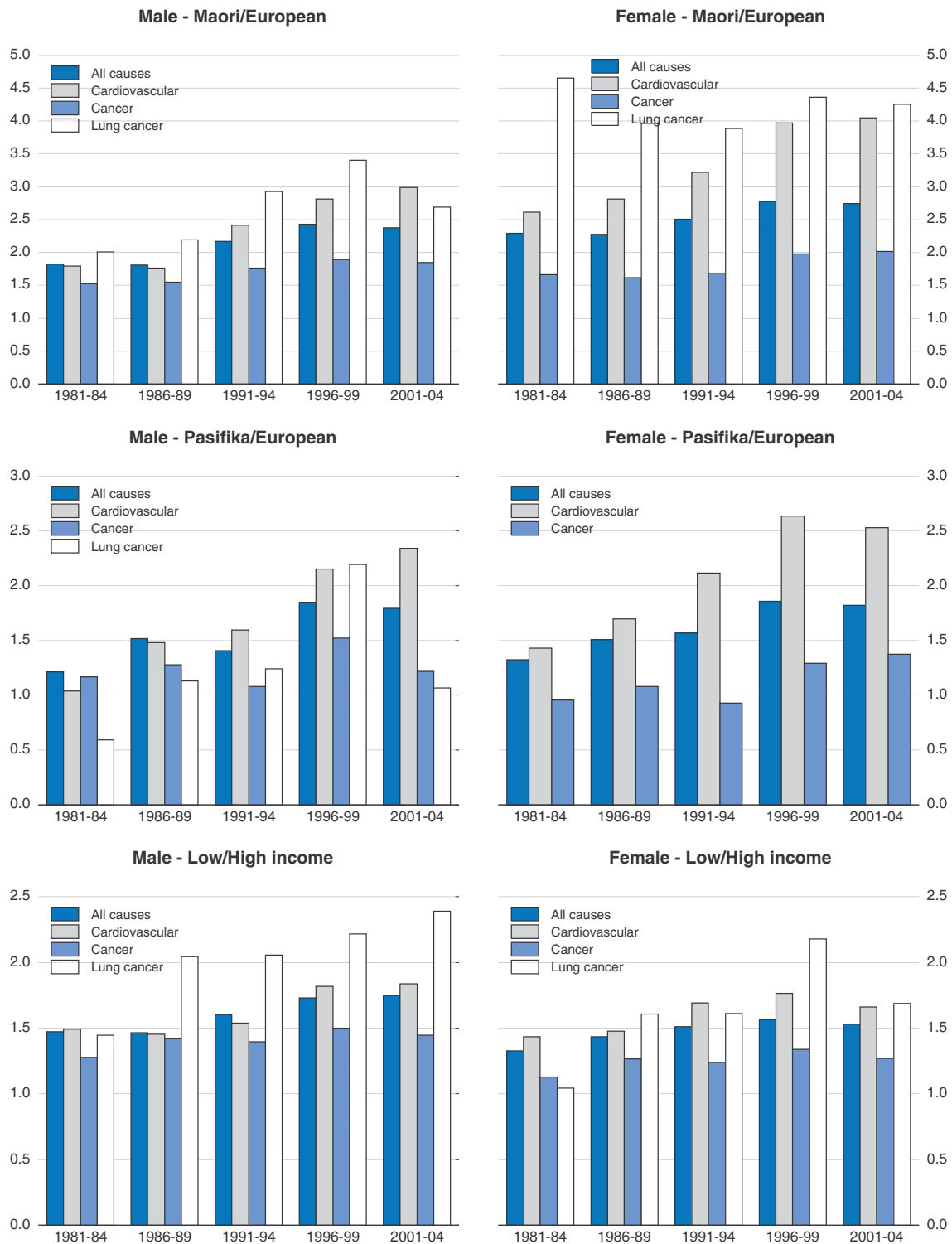


*Source:* OECD calculations based on data extracted from the New Zealand Census Mortality Study WebTable Results, *www.otago.ac.nz/ NZCMSWebTable/.*
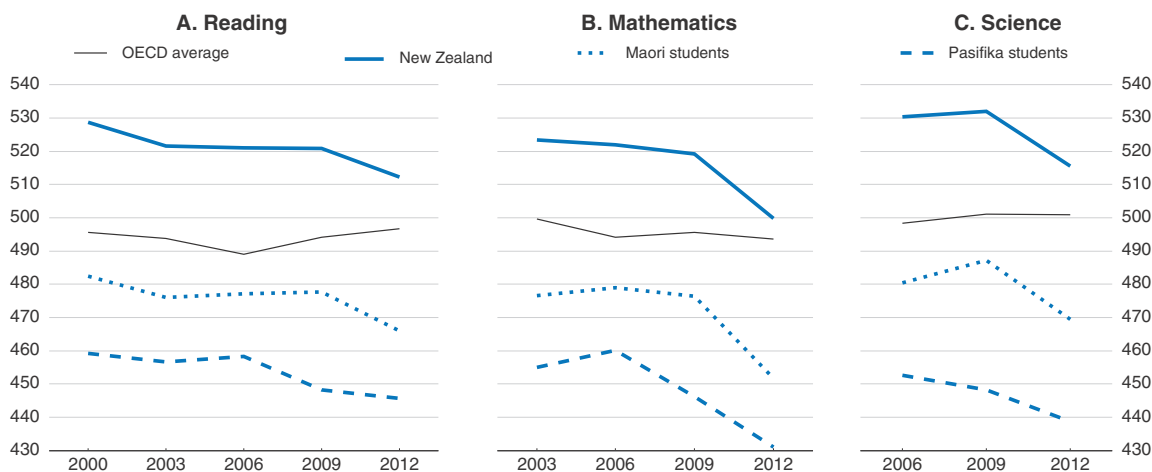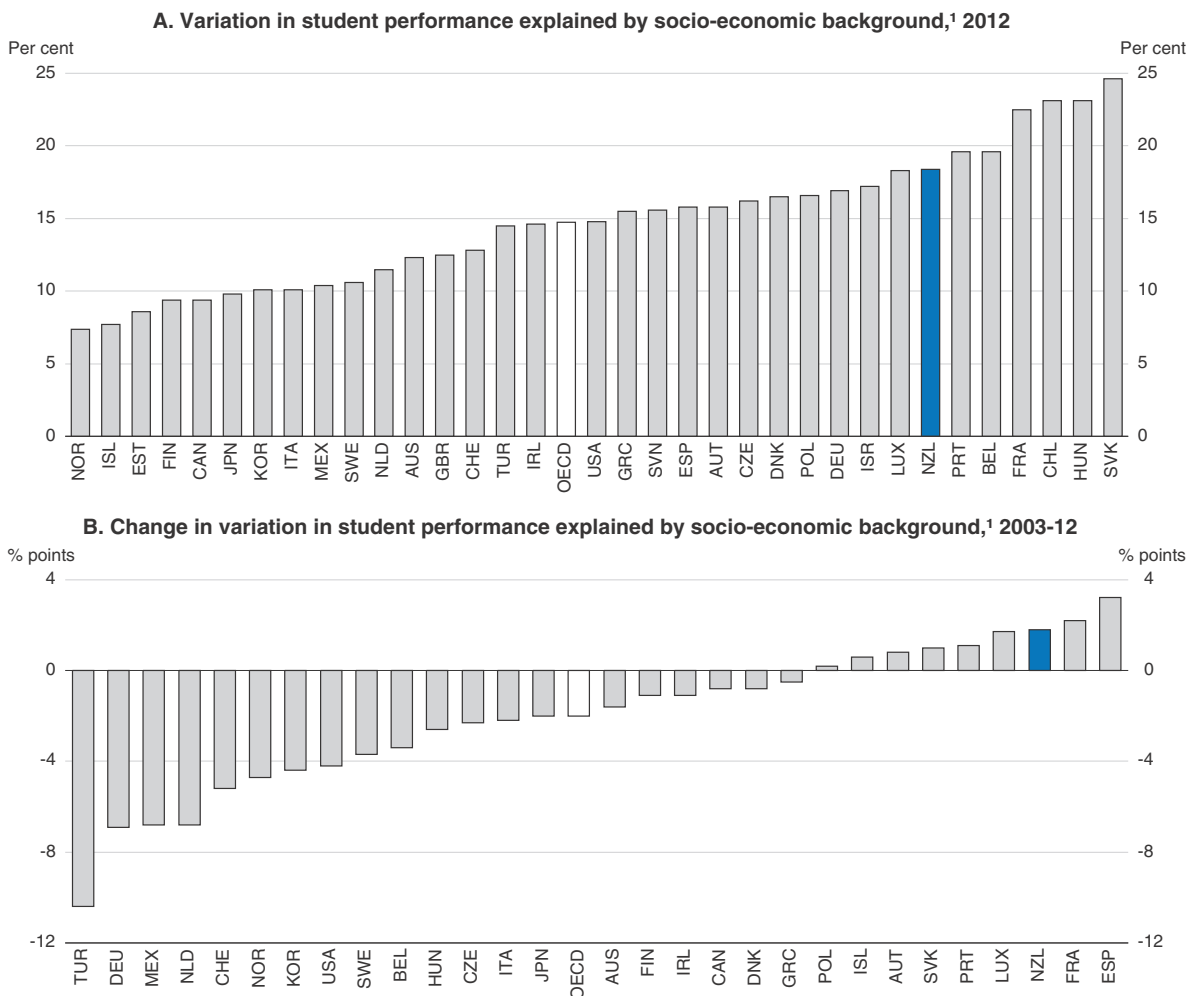
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Figure 28. **New Zealand's average PISA scores have fallen**



Source: OECD, PISA Results, various years.

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Figure 29. **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. and Table II.2.9b.

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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**
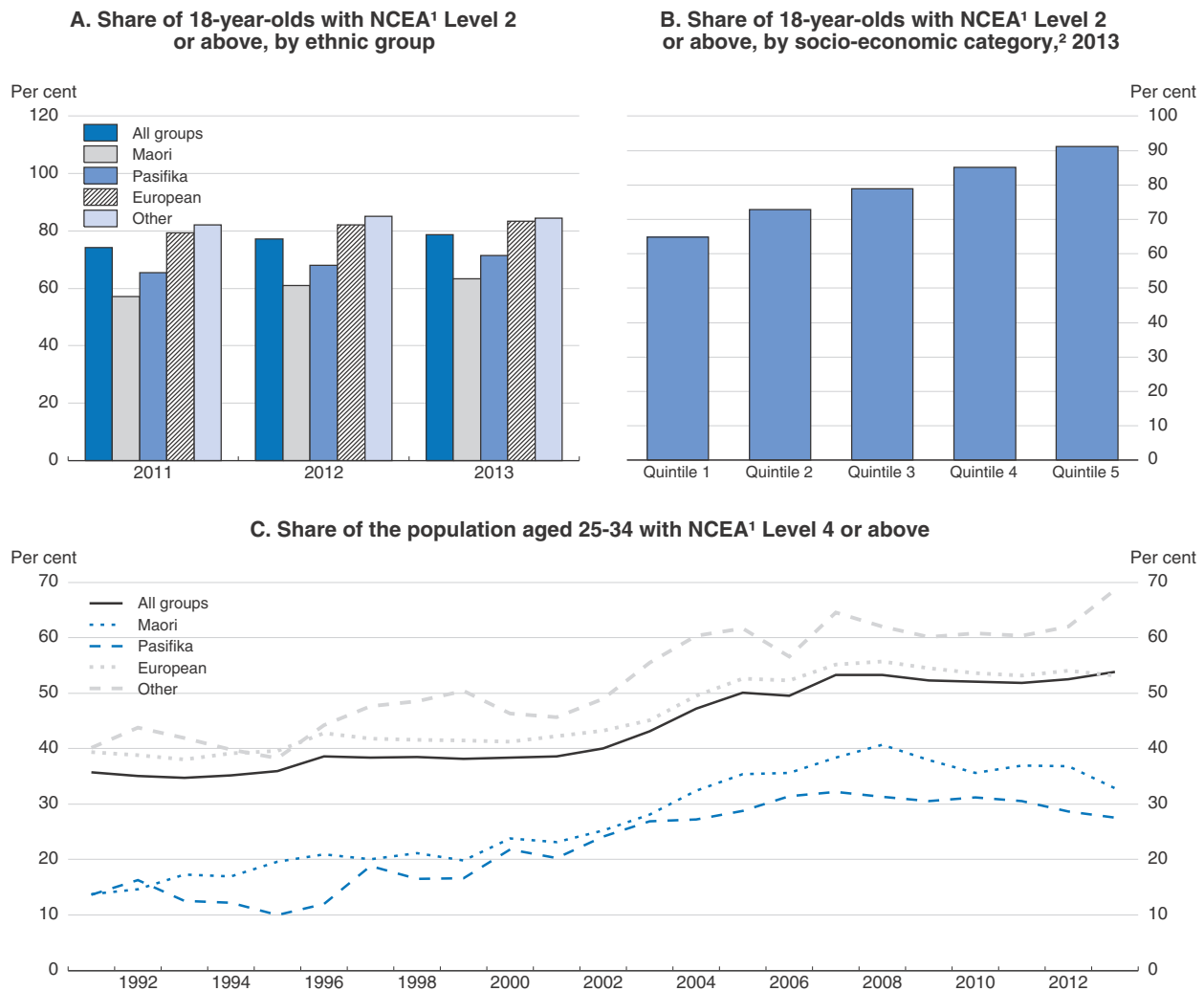


1. National Certificate of Educational Achievement.
2. Socio-economic school district rankings. Quintile 1 schools have the lowest socio-economic ranking while quintile 5 schools have the highest.

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

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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
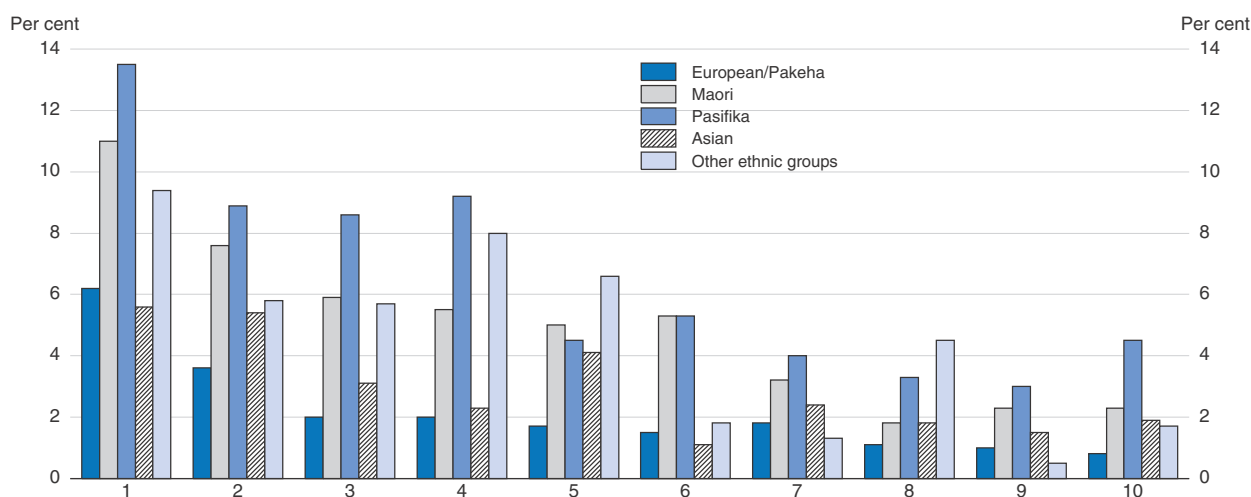


1. All schools are given a decile rating depending on the socio-economic status of the community their students come from. Decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic communities while decile 10 schools have the lowest.

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

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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.

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### 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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