



**MINISTRY OF BUSINESS,  
INNOVATION & EMPLOYMENT**  
HĪKINA WHAKATUTUKI

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# Medium to long-term employment forecasts: Looking ahead to 2025

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February 2017

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ISSN 2253-413X

February 2017

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## Summary

This report presents the Ministry's employment forecasts to 2025. Employment is forecast to grow by 1.9 per cent annually, adding about 48,000 workers on average per year to the workforce in the next 10 years. Employment growth is projected to remain above the long-run average in the medium-term (five years to 2020) but decline slightly in the longer term (five years to 2025).

Demand for highly-skilled workers (managers and professionals) will be the strongest over the medium to long-term. The hospitality industry will also provide steady employment growth over the 10 years to 2025. Strong migration-led household spending and activities in the construction and business services industries will mainly drive employment growth over the forecast period. Over the forecast period, strong employment growth is related to an increase in labour supply resulting from higher net migration. Net migration is forecast to remain high in the next two years and is likely to be above the long-term average in the medium to long term.

The Ministry uses the forecasts to inform its medium and long-term policy advice relating to immigration policy settings and priority setting for tertiary education and industry training.

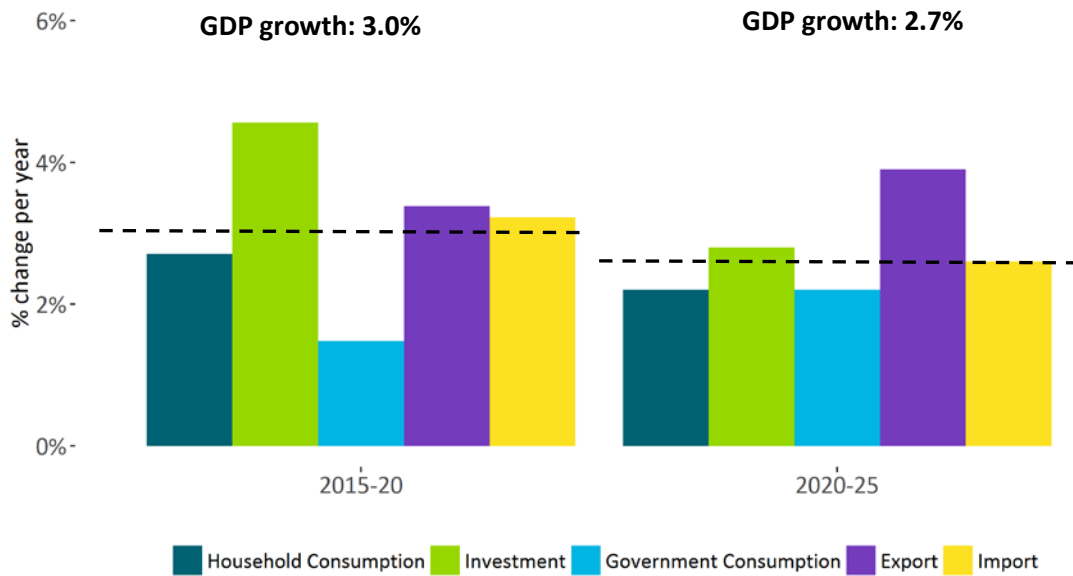
## Key points

- Employment is projected to grow annually by 2.3 per cent (or 54,200 on average) in the 2015-20 period and 1.6 per cent (or about 41,800 on average) over the following five years to 2025.
- This employment growth is supported by strong economic growth — average annual GDP growth of 3.0 per cent and 2.7 per cent over the 2015-20 and 2020-25 periods.
- The construction and utilities industry (6,800 workers per year) is forecast to show the strongest gain in employment in the 10 years to 2025. Employment growth (1,300 workers per year) will be weakest in the primary industries.
- Employment growth will be strongest for highly-skilled occupations (2.5 per cent or 27,400 annually), and weakest for lower-skilled occupations (1.3 per cent or 14,200 annually) over the forecast period. Growth for skilled occupations will be stronger in the medium term (2.6 per cent) but will moderate in the long term (1.6 per cent).
- Increasing labour supply constraints arising from an ageing population result in higher productivity growth over the 2020-25 period compared with the 2015-20 period (1.1 per cent per year compared to 0.7 per cent).
- About 30,000 workers are projected to retire during the 2013-20 (post-census seven year) period, even with further increases in participation by the older workers.

# Household spending and residential investment to drive growth

Our projections show the economy growing by 3.0 per cent per year on average between 2015-20 (medium-term) and by just under 2.8 per cent on average over the 10-year period covering 2015-25 (see Table 1). This indicates economic growth of about 2.7 per cent per year on average over the 2020-25 period (long-term).

**Figure 1: Key drivers of economic growth for 2015-20 and 2020-25 periods**



Projected economic growth to 2025 may cover the next business cycle in its entirety as well as the end of the present cycle. The average GDP growth rates over the five and 10-year periods are projected by our modelling approach. The growth rates incorporate both the long-term drivers of economic growth, such as export growth and household consumption, and the surge in residential and infrastructure investment in the medium-term (see Figure 1).

Strong growth in domestic demand underpins the medium-term employment projections (2015-20 period). Activities in the construction, tourism and services industries and population-led growth in household spending will drive employment growth during this period. The medium-term also incorporates a balance between an export-led growth (3.4 per cent on average) and growth driven by domestic household consumption (2.7 per cent). More importantly, this period will experience strong import (3.2 per cent) and investment growth (4.6 per cent) related to residential construction and infrastructure work across the regions and lower Government consumption (1.5 per cent on average).

The long-term economic outlook (2020-25 period) is slightly weaker than in the medium-term. Stronger export growth (about 3.9 per cent) will support growth over the long-term. Import (2.6 per cent) and investment (2.8 per cent) spending growth will be weaker due to construction activity being past the peak. The long-term outlook is also likely to see slightly weaker household consumption (2.2 per cent) but stronger government consumption (2.2 per cent) than in the medium-term.

The stronger export growth over the long-term arises from a steady growth (1.8 per cent over the entire period) in dairy exports and export growth in meat (rising slightly from 2.0 per cent to 2.1 per cent) and horticulture (remaining at over 3.0 per cent). Exports of wood and logs along with basic metal exports are projected to be even stronger at above four per cent while the growth in export of tourism services will be at about seven per cent.

Expectations about the economy have implications for labour market outcomes across various industries and the potential for productivity gains. Associated with the economic growth path is the size of import growth required to meet the needs for residential investment and infrastructure projects across the country, and capital replacement in manufacturing and in the primary sector.

## 48,000 more workers on average each year to 2025

We project employment growth over the 2015-20 period to average 2.3 per cent per year, and a slower pace, 1.6 per cent on average over the subsequent 2020-25 period (see Table 1). Over the entire 10-year period (2015-25), annual employment gain will average 1.9 per cent — 48,000 more workers on average each year.

**Table 1: GDP forecast, employment and productivity changes (March years<sup>1</sup>)**

Annual average percentage change	2015-20 (%)	2020-25 (%)	2015-25 (%)
GDP growth	3.0	2.7	2.8
Labour productivity growth	0.7	1.1	0.9
Employment growth	2.3	1.6	1.9

*Source:* MBIE CGE model runs for 2015-20 and 2015-25 periods; Results for the 2020-25 period derived from the CGE model runs.

*Note:* This employment growth is associated with the projected GDP growth and productivity increase (from 0.7 per cent to 1.1 per cent) over the medium to long-term.

Employment is projected to increase by 271,200 between March 2015 year and March 2020 year. This includes strong growth in the construction and utilities, and business services.

Over the 10-year period to 2025, employment is projected to increase by 480,200, implying a 208,900 increase in employment between 2020 and 2025. This equates to an average annual employment growth of 54,200 between 2015 and 2020, and 41,800 between 2020 and 2025.

## Labour productivity to rise over the long-term

The labour force grew on average by about 1.6 per cent each year between 2011 and 2016<sup>2</sup>. This includes a historically unprecedented high level of net migration gain over the past two years, which is expected to remain well above long-term average levels in the medium-term. The labour force will continue to grow in the medium-term at 1.7 per cent but at a slower rate in the long-term at 1.5 per cent as net migration falls from its current high levels. Statistics New Zealand projections indicate that the labour force will grow at about 1.6 per cent per year between 2015 and 2038.<sup>3</sup> Long-term economic growth can only be sustained from labour productivity gains even with relatively high rates of labour supply growth.

<sup>1</sup> All forecasts in this report are presented on a year to 31 March basis (i.e. Annual Average Percentage Change), and are not point-to-point changes which compares the March quarter result with the March quarter of the previous period.

<sup>2</sup> Calculated based on year to March results from the Household Labour Force Projection.

<sup>3</sup> These are based on Statistics New Zealand median (50<sup>th</sup> percentile) projections, assuming an annual net migration of 25,000 each year after 2016. See [National Labour Force Projections: 2015\(base\)–2068](#).

During the 2020-25 period, already high overall participation levels may not be sustainable as more baby boomers enter retirement age, with some working fewer hours, while others leave the labour force completely. This will constrain New Zealand's ability to raise employment and participation levels on an on-going basis, and thus in the long-term greater reliance will need to be placed on rising productivity for economic growth.<sup>4</sup>

Reduction in labour supply will push up labour costs and lead to increased capital investment by firms. This is forecast to result in an average annual productivity growth of 0.7 per cent in the 2015-2020 period, rising to 1.1 per cent in the 2020-25.

## Construction and business services will drive growth

Eight out of the 16 industry groups will have higher than average annual growth (1.9 per cent or 48,000) over the 10 years to 2025. Of those industry groups, the construction and utilities industry will have the strongest annual growth (2.7 per cent or 6,800), followed by business services (2.5 per cent or 8,100 on average) and other manufacturing industries (2.4 per cent or 3,500) (see figure 2 and table 2). Strong growth in household spending and residential investment over the forecast period underpins the forecast growth in those industries.

Weak to moderate growth is projected for a number of industry groups over the forecast period. The agriculture, forestry and fishing industry, along with education and training industry, will experience the weakest annual growth (less than one per cent), in the 10 years to 2025. The public administration and safety and information, media and telecommunication industries are forecast modest growth, both at 1.3 per cent, over the 2015-2025 period.

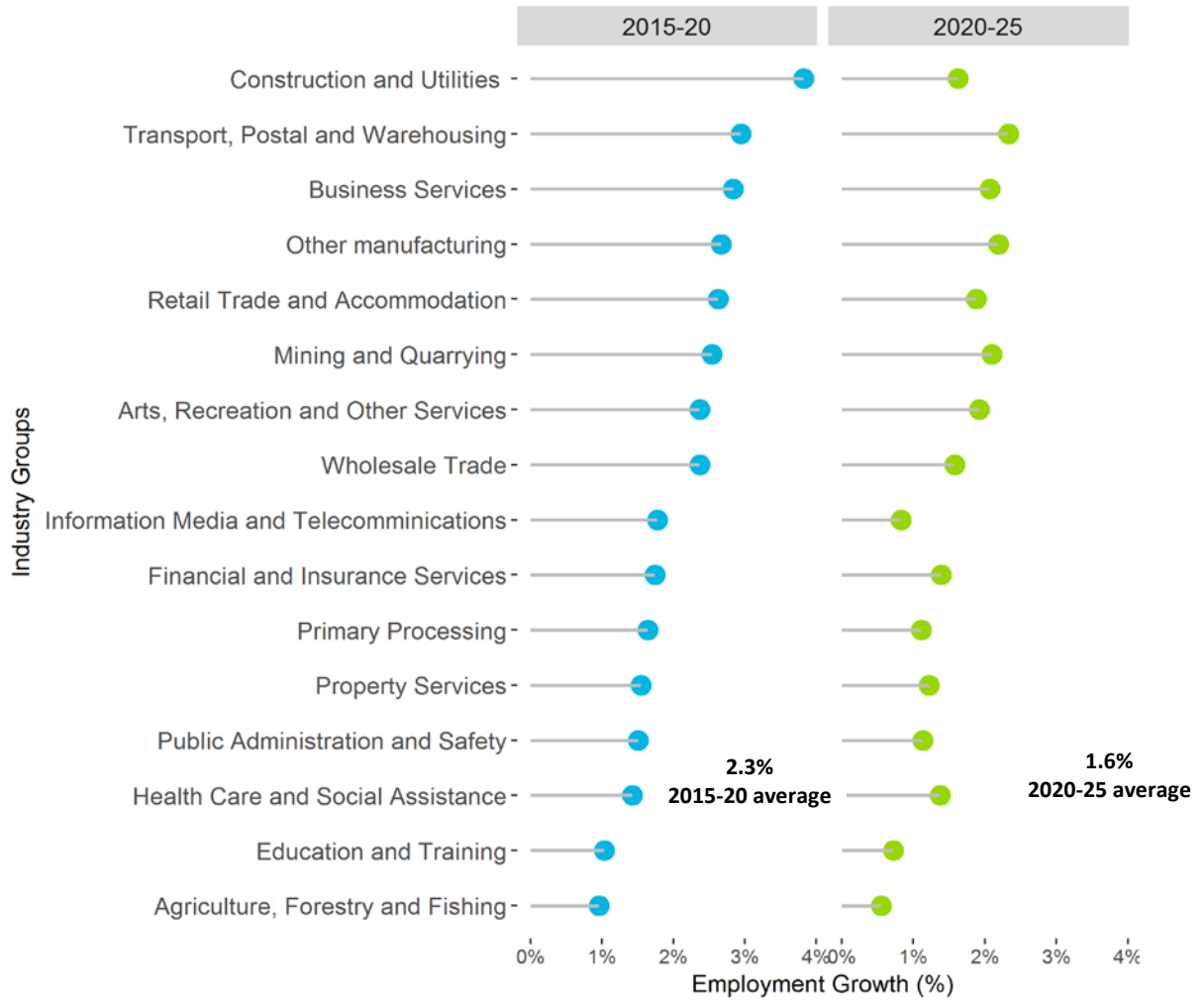
**Table 2: Employment growth for industry groups for 5 & 10 years and average annual percentage changes**

Industry Groups	2015-20 (5 years)		2020-25 (5 years)		2015-25 (10 years)	
	(000)	(%)	(000)	(%)	(000)	(%)
Agriculture, Forestry and Fishing	8.2	1.0	4.9	0.6	13.2	0.8
Mining and Quarrying	0.9	2.5	0.8	2.1	1.7	2.3
Primary Processing	8.9	1.6	6.4	1.1	15.3	1.4
Other Manufacturing	18.2	2.7	16.9	2.2	35.1	2.4
Construction and Utilities	45.5	3.8	22.4	1.6	67.8	2.7
Wholesale Trade	13.8	2.4	10.1	1.6	23.9	2.0
Retail Trade and Accommodation	51.1	2.6	41.0	1.9	92.1	2.3
Transport, Postal and Warehousing	14.8	2.9	13.4	2.3	28.3	2.6
Information Media and Telecommunications	3.8	1.8	1.9	0.8	5.7	1.3
Financial and Insurance Services	5.8	1.7	5.0	1.4	10.8	1.6
Property Services	3.9	1.5	3.3	1.2	7.2	1.4
Business Services	44.2	2.8	36.5	2.1	80.7	2.5
Public Administration and Safety	11.1	1.5	8.9	1.1	20.1	1.3
Education and Training	9.4	1.0	6.8	0.7	16.2	0.9
Health Care and Social Assistance	14.6	1.5	15.1	1.4	29.6	1.4
Arts, Recreation and Other Services	17.1	2.4	15.5	1.9	32.6	2.1
<b>Total</b>	<b>271.2</b>	<b>2.3</b>	<b>208.9</b>	<b>1.6</b>	<b>480.2</b>	<b>1.9</b>

Source: MBIE CGE model runs for 2015-20 and 2015-25 periods; results for the 2020-25 period derived.

<sup>4</sup> The Conference Board, a global, independent business membership and research association undertakes medium-long-term outlook <https://www.conference-board.org> using growth accounting; [https://www.conference-board.org/GEO\\_Methodology\\_Nov20161.pdf](https://www.conference-board.org/GEO_Methodology_Nov20161.pdf)

**Figure 2: Fastest to slowest growing industry groups, 2015-20 and 2020-25 periods**



Note: Retail trade and accommodation includes food services; primary processing covers food & beverage and wood product manufacturing.

## 27,400 average annual increase for highly-skilled occupations

Employment growth is projected to be the strongest in highly-skilled (managers and professionals) occupations (see table 3), growing steadily at about 2.5 per cent (or 27,400) each year over the 2015-25 period. Within the highly-skilled occupation group, annual growth will be fastest for advertising, public relations and sales managers (up 4.5 per cent or 2,200) and ICT managers (4.7 per cent or 500). Over the forecast period, employment in highly-skilled occupations will increase by 274,100.

The demand for skilled occupations (technicians and trade workers) will increase by 2.1 per cent each year to 2025. This is about 6,400 people employed each year in the skilled occupations. Annual employment growth for this occupation group will weaken from 2.6 per cent (or 7,500 on average) in the medium-term to 1.6 per cent (5,300 on average) in the long-term. Nearly 30 per cent of the 64,000 increase in employment of skilled occupations between 2015 and 2025 is from food trade workers (17,500). Within the skilled occupation group, annual growth will be fastest for glaziers, plasterers and tilers (4.8 per cent or 700) and electricians (4.2 per cent or 900 on average). These occupations will make up about a quarter of the total increase in employment for skilled occupations over the forecast period.

**Table 3: Employment growth for skill groups for 5 & 10 years and annual changes**

Skill-levels	2015-20		2020-25		2015-25	
	(000)	(ann. %)	(000)	(ann. %)	(000)	(ann. %)
Highly-skilled	147.9	2.9	126.2	2.2	274.1	2.5
Skilled	37.6	2.6	26.4	1.6	64.0	2.1
Semi-skilled	53.7	1.5	36.2	1.0	89.9	1.3
Elementary skilled	32.0	1.6	20.1	1.0	52.1	1.3
Total	271.2	2.3	208.9	1.6	480.2	1.9

Source: MBIE CGE model runs for and 2015-25 periods; results for the 2020-25 period derived.

Compared with the other occupation groups, the demand for semi-skilled (sales, support and office workers) and elementary skilled (machinery and plant operators and other labourers) will be modest, and is projected to weaken over time (see table 3). The fastest growing occupations within the semi-skilled group over the ten years to 2025 are: office and practice managers (5.4 per cent per year or 2,900 on average); contract program and project administrators (4.1 per cent or 1,200 on average); and insurance agents and sales representatives, and real estate agents (both growing at 3.1 per cent or 2,000 and 500, respectively each year).

For the elementary skilled group, the fastest growing occupations are drivers (3.9 per cent or 700 on average) construction and mining labourers (3.5 per cent or 930 on average) and delivery drivers (3.2 per cent or 200 on average). These occupations will make up a third of the 52,100 increase in employment for this group.



Figure 3. Employment growth by skill-levels and for 97 occupational groups, 2015-25



**Figure 4: Annual average percentage change, skill group, 2015-20 and 2020-25 periods**

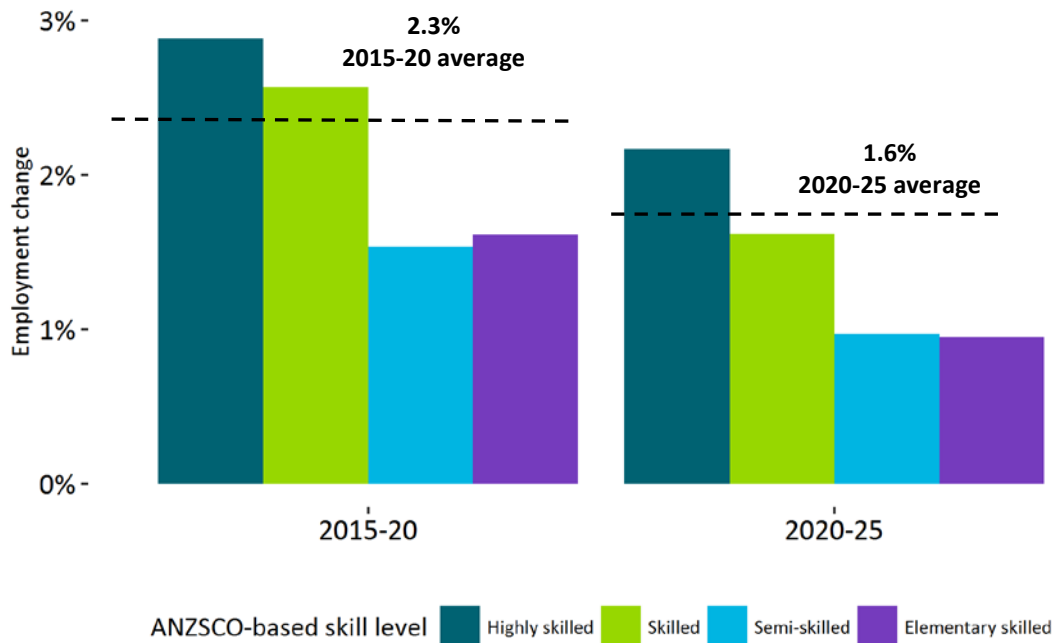


Table 4 lists the 25 occupational groups with the fastest growth during the 2015-25 period. These suggest that amongst the top 25, 13 of them are Highly-Skilled, six are Skilled, four are Semi-Skilled and two are Elementary-Skilled. There is a much higher representation of the higher skilled (Highly-Skilled and Skilled) occupational groups (19 out of 25) than the lower-skilled (6 out of 25) according to projected percentage growth in the 2015-25 period.

There will be strong demand for labourers along with demand for construction related managers, involved in building and construction activity especially during the 2015-20 period, even if these occupational groups are not in the top 25 occupations in terms of growth for the entire 2015-25 period.

### **14,200 more lower-skilled workers on average each year**

Lower-skilled workers (that is, Semi-Skilled and Elementary workers) will experience lower employment growth than higher-skilled workers, but are projected to be nearly a third (or 85,700 workers) of total employment growth to 2020, and more than a quarter (or 56,300 workers) during the subsequent five years to 2025.

The main industries employing lower-skilled workers are food processing, retailing, accommodation and construction. These industries also have particular importance for younger workers (15-24 year olds). In 2016, nearly a quarter of younger workers were employed in wholesale and retail trade, 15 per cent in accommodation and food services, 11 per cent in construction and utilities and about 10 per cent in manufacturing industries<sup>5</sup>.

<sup>5</sup> Extracted from the Household Labour Force Survey (HLFS) unit record. Data is for year ending March 2016.

**Table 4: Top 25 occupational groups<sup>6</sup> ranked by employment changes over 2015-25**

Occupational Groups	2015-20 (5 years)		2020-25 (5 years)		2015-25 (10 years)	
	(000)	(%)	(000)	(%)	(000)	(%)
Office and Practice Managers	14.7	6.1	14.4	4.6	29.1	5.4
Business and Systems Analysts, and Programmers	11.5	5.4	11.4	4.2	22.9	4.8
Glaziers, Plasterers and Tilers	3.9	6.0	3.0	3.6	6.9	4.8
ICT Managers	2.4	5.4	2.4	4.1	4.8	4.7
Advertising, Public Relations and Sales Managers	11.4	5.1	10.8	3.9	22.2	4.5
Legal Professionals	4.9	4.9	4.7	3.8	9.6	4.4
Architects, Designers, Planners and Surveyors	6.4	4.7	6.2	3.7	12.7	4.2
CT Network and Support Professionals	1.9	4.8	1.7	3.5	3.6	4.2
Electricians	5.2	5.2	3.9	3.2	9.1	4.2
Contract, Program and Project Administrators	6.3	4.7	5.8	3.5	12.1	4.1
Animal Attendants and Trainers, and Shearers	1.8	4.5	1.8	3.6	3.6	4.1
Plumbers	3.2	5.3	2.2	2.9	5.4	4.1
Miscellaneous Specialist Managers	2.7	4.4	2.5	3.4	5.2	3.9
Business Administration Managers	17.0	4.4	15.7	3.4	32.6	3.9
Automobile, Bus and Rail Drivers	3.4	4.3	3.3	3.5	6.8	3.9
Prison and Security Officers	3.8	4.5	3.2	3.1	6.9	3.8
Engineering Professionals	6.1	4.1	6.4	3.5	12.5	3.8
Miscellaneous Hospitality, Retail and Service Managers	4.8	4.3	4.4	3.3	9.3	3.8
Health Diagnostic and Promotion Professionals	2.6	4.1	2.5	3.3	5.0	3.7
Food Trades Workers	8.7	4.0	8.8	3.3	17.5	3.6
Fabrication Engineering Trades Workers	3.0	4.2	2.6	3.1	5.6	3.6
Sports and Fitness Workers	4.2	4.0	3.9	3.1	8.2	3.6
Accountants, Auditors and Company Secretaries	7.7	4.0	7.1	3.1	14.8	3.5
Sales, Marketing and Public Relations Professionals	4.7	4.0	4.3	3.0	9.0	3.5
Construction and Mining Labourers	5.3	4.3	4.0	2.7	9.3	3.5
<b>Total</b>	<b>271.2</b>	<b>2.3</b>	<b>208.9</b>	<b>1.6</b>	<b>480.2</b>	<b>1.9</b>

Source: MBIE CGE model runs; 2020-25 period results derived.

## Retirement effects

The employment growth described so far is due to expanding industries and occupations and excludes job opportunities that will arise as older workers retire. While 54,200 new jobs may be available on average per year during the 2015-20 period, additional workers are likely to be required to replace those retiring from the labour force. The Ministry estimates that this 'retirement demand' has been about 25,000 jobs per year over the recent seven-year inter-census period (2006-13). Over the subsequent seven-year period (2013-20) retirement demand is estimated to rise to 31,000 per year and new job growth slows towards 41,800 per year during the 2020-25 period.

Over the projection period (2013-20), overall retirement demand will rise to 1.3 per cent per year from 1.2 per cent in the 2006-13 seven-year inter-census period. Demand for workers arising from retirement will be spread across all skill levels over the forecast period. The highest percentage growth will be amongst skilled workers and the highest number growth will be amongst highly-skilled workers (see Table 6).

<sup>6</sup> Based on the 3-digit level of the Australia-New Zealand Standard Classification of Occupations (ANZSCO).

**Table 6: Retirement demand by skill-level, averages 2006-13 and 2013-20**

Skill-levels	2006-13		2013-20	
	(000)	(%)	(000)	(%)
Highly-skilled	10	1.2%	12	1.2%
Skilled	4	1.2%	5	1.5%
Semi-skilled	6	1.1%	9	1.2%
Elementary skilled	5	1.2%	5	1.3%
<b>Total</b>	<b>25</b>	<b>1.2%</b>	<b>31</b>	<b>1.3%</b>

Source: MBIE Cohort component model using 7-yearly Census age cohorts; updated & extended

## Appendix

### Methodology

The Ministry of Business, Innovation and Employment (MBIE) forecasts were derived using a Computable General Equilibrium (CGE) model developed by Business and Economic Research Limited (BERL) for use by the Ministry of Business Innovation and Employment.

The latest NZIER Consensus forecasts for the 2017-20 period informed the macro-economic setting underpinning the forecasts, combined with actual data for the 2015 and 2016 March years. The setting included household or private consumption growth of 2.7 per cent, export growth of 3.4 per cent, import growth of 3.2 per cent and Government or public consumption growth of 1.5 per cent on average for the 2015-20 period. The setting was also modified for the 2015-25 period where slightly higher export (3.6 per cent), lower import (2.9 per cent) growth and lower household consumption growth (2.4 per cent) was used.

The forecast update commenced in October 2016, and is broadly consistent with the New Zealand Institute of Economic Research's Consensus Forecasts of economic drivers for the medium-term to 2020 released in December 2016. This covers export, import, private and public consumption growth along with GDP growth. It is extended further out to the long-term to 2025 using a "consensus" view of the impact of projected world and regional economic growth for trading partners on economic growth in New Zealand.

The modelling is focused on the long-term overall (trend) economic growth and growth across industries disaggregated at the national accounts level. Employment growth across industries and occupational groups (also summarised as broad skill groups) for this timeframe are analysed for inclusion in this report. Regional forecasts for this extended outlook period are unavailable due to the lack of historical regional GDP data by industries for a sufficient period, including for years that are more recent.

The retirement levels and forecasts across the different skill groups are from a separate analysis. The relevant (ANZSCO 3-digit) occupational data by age groups from the 2006 and 2013 Censuses used to update retirement levels and changes for the 2006-13 inter-census period. The projections for the next seven-year period (2013-20) based on overall population projections by the corresponding age groups.

## **Risks and caveats**

The main downside risks external to the economy are weaker prospects and prices for some of the key export products and uncertainties about economic growth amongst New Zealand's main trading partners. On the domestic front, household consumption and residential investment and infrastructure work will drive growth in the medium-term, but is likely to ease over the long-term, as construction activity and population-led consumption growth stabilises.

An increasing labour supply constraint arising from an ageing population underpin the employment outlook, resulting in a higher productivity growth over the 2020-25 period compared with the 2015-20 period (1.1 per cent per year compared to 0.7 per cent). The labour supply constraint is anticipated to push up labour costs further out and lead to increased capital investment by firms.

The employment forecasts are based on GDP growth and other macroeconomic forecasts and productivity assumptions at the industry level, and are indicative of the likely growth path of employment. Because a top-down macroeconomic approach was used to forecast employment changes by industry, care is needed when interpreting specific industry employment forecasts.

