MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Medium to long-term employment projections: Looking ahead to 2026

March 2018

New Zealand Government

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INNOVATION & EMPLOYMENT
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Ministry of Business, Innovation and Employment (MBIE)

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Executive Summary

The *Medium to Long-term Employment Outlook: Looking Ahead to 2026* report presents the Ministry's employment projections to 2026.

Over the 10 years to 2026, employment is projected to grow by 471,500 (or by 1.8 per cent each year). The top three biggest contributors to employment growth will be business services (76,300), retail trade, accommodation and food services (95,000), and construction and utilities (61,300). These sectors will experience the fastest growth rates and will help stimulate demand for more highly skilled workers.

As business and tourism-related services continue to grow over the next 10 years, employment growth in all skills levels is expected to remain solid. In broad terms, employment growth by occupation is projected to be strongest for highly skilled and skilled occupations, and weakest for elementary and semi-skilled occupations. Office and practice managers is the occupation projected to grow fastest, followed by some IT roles and other occupations prominent in business services, construction, and tourism-related sectors.

The employment growth projected over the medium to long-term is based on strong to moderate economic growth driven by continuing population growth and increasing gains from the expanding business services sector and in goods and services exports.

The Ministry uses these projections to gain insights on where future jobs may be and which skills are likely to be in demand over the next 10 years. Projections are updated annually using the latest information on economic, demographic and global trends shaping the New Zealand economy and labour market.

Introduction

This report presents the Ministry's employment projections to 2026. It gives an indication of the overall outlook for future employment growth, and breaks down this growth by industry sectors and occupations.

The Ministry projects employment to increase by 471,500 (or 1.8 per cent per year) over the longer term (10 years to March 2026). In the medium-term (five years to March 2021), stronger employment growth of 2.3 per cent each year is projected, increasing employment by nearly 286,000 up to 2021. Employment growth is anticipated to be slightly weaker between 2021 and 2026, adding 185,700 more workers (a growth rate of 1.4 per cent each year).

Highly skilled workers (managers and professionals) will be most in demand over the medium to long-term, reflecting strong growth in the business services sector. The retail trade, accommodation and food services industry will also provide steady employment growth, reflecting ongoing strength in tourism to New Zealand. Continuing positive net migration will fuel household spending and activity in the construction and business services industries that will drive stronger employment growth over the forecast period, especially over the medium term. Over the longer term, diminishing net migration should lower growth in the labour force and restrain employment growth rates.

The Ministry uses these projections to gain insights on where future jobs may be and which skills are likely to be in demand over the next 10 years. The projections inform its medium and long-term policy advice relating to immigration settings and are available for priority setting in tertiary education and industry training. Projections are updated annually using the latest information on economic, demographic and global trends shaping the New Zealand economy and labour market.

47,200 more workers on average each year to 2026

We project employment growth over the 2016-21 medium-term period to average 2.3 per cent per year, and then 1.4 per cent per year over the subsequent 2021-26 long-term period (see Table 1). Over the entire 10-year period (2016-26), annual employment growth is expected to average 1.8 per cent or 47,200 more workers each year.

Table 1: GDP, employment and productivity changes (March years[1])

(Historical (2011-16) and projected growth, average annual percentage change)

Annual average percentage change	**2011-16 (%)**	***2016-21 (%)***	***2021-26 (%)***	***2016-26 (%)***
GDP growth	2.9	*3.2*	*2.6*	*2.9*
Labour productivity growth	1.1	*0.9*	*1.2*	*1.1*
Employment growth	1.8	*2.3*	*1.4*	*1.8*

Source: MBIE CGE model runs for 2016-21 and 2016-26 periods; Results for the 2021-26 period derived from the CGE model runs.

Note: This employment growth is associated with the projected GDP growth and productivity increase (from 0.9 per cent in 2017 to 1.1 per cent) over the 10 years to 2026.

The steady employment growth over the projection period reflects the impact of industry groups expected to drive economic growth in the long-term. Figure 1 plots the relationship between levels of employment and economic growth by industry groups between 2016 and 2026. The size of the bubbles shows each industry groups' share total employment by 2026. The upper-right hand panel of Figure 1 shows where projected employment growth is strongest. Higher than average annual GDP and employment growth in retail trade, accommodation and food services, construction and

[1] All projections on a year to 31 March basis (i.e. Annual Average Percentage Change).

utilities, and business services, supports overall employment growth over the next decade. Together, these three sectors (with an increase of 232,600) provide nearly half of the total employment gains and more than a third of the total GDP growth over the period. While elements of these sectors are associated with lower labour productivity levels, they are expected to experience productivity gains as GDP growth is forecast to exceed employment growth over the 10 years to 2026.

The lower-left panel of Figure 1 shows which industry groups are projected to experience slower than national rates of GDP and employment growth over the projection period. We anticipate that employment opportunities in the public sector, including health care and social assistance, education and training, and public administration and safety, will be steady, but weaker than the more private sector orientated service industries. The lower-right panel of Figure 1 shows a different growth pattern. We project that employment growth in industry groups such as information media and telecommunications, and finance and insurance services, which have relatively high labour productivity to be more modest despite higher than average GDP growth over the next decade.

Figure 1: Some industries are projected to generate more jobs than others, as employment and GDP growth tend to go hand-in-hand

(Annual average GDP and employment growth projected between 2016 and 2026)

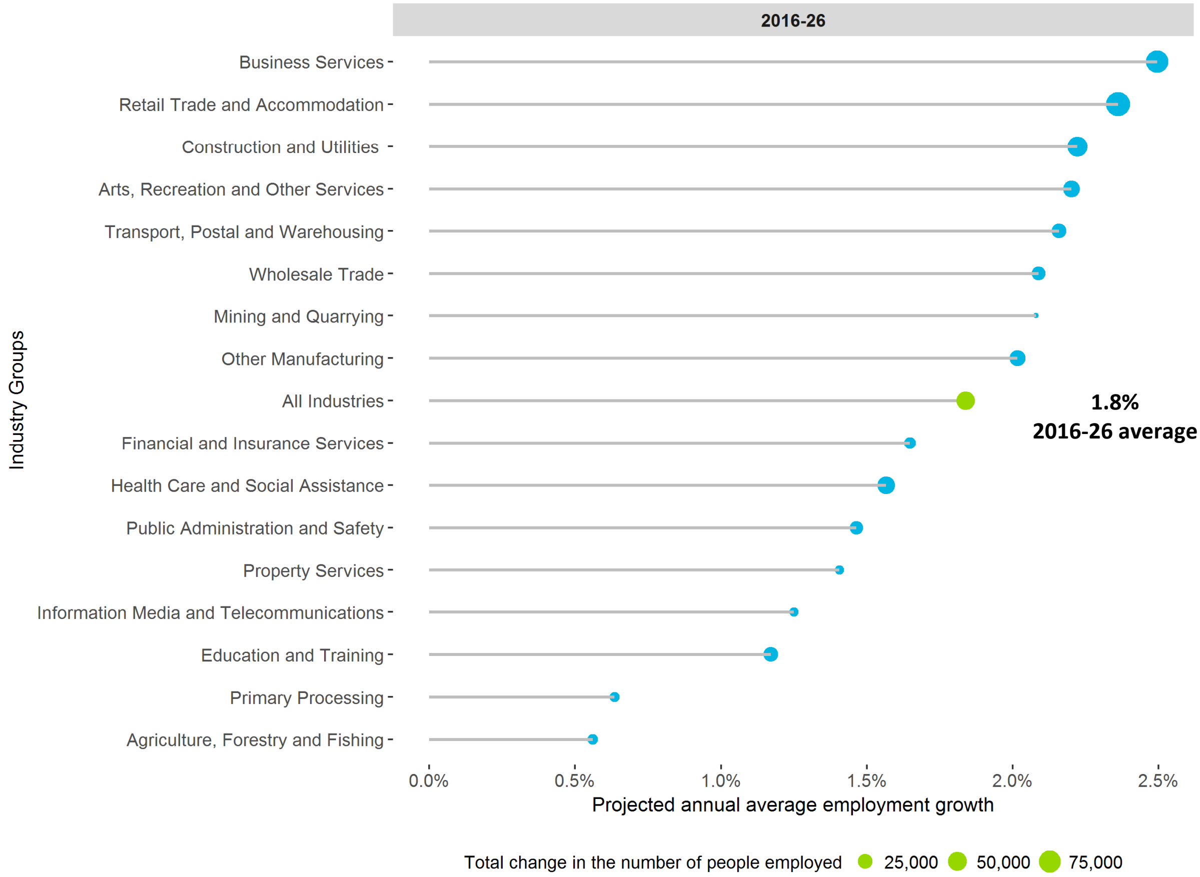
Note: Vertical line marks the national annual average GDP growth rate of 2.9 per cent per year for the 10 years to 2026, and the horizontal line marks the annual average employment growth rate of 1.8 per cent per year to 2026. The business services sector combines professional, scientific and technical services, and administrative and support services. Primary processing includes food and wood manufacturing.

Employment shift to services will continue over the next 10 years

Eight of the 16 industry groups will have higher than average annual employment growth (>1.8 per cent per year) over the 10 years to 2026. Of these industry groups, business services will have the strongest annual growth (2.5 per cent or 7,600 per year), followed by retail trade and accommodation (2.4 per cent or 8,100), and construction and utilities (2.2 per cent or 6,100) (see Figure 2). Strong growth in household spending, residential investment, and tourism activities, will underpin this growth.

We project that agriculture, forestry and fishing, and primary processing industries are likely to experience the weakest (less than one per cent on average) growth in the coming 10 years. Modest annual growth (1.0 to 2.0 per cent) is projected in some private sector related industry groups including information, media and telecommunications, property services, and finance and insurance services. Employment in public sector related industry groups is also projected to be modest.

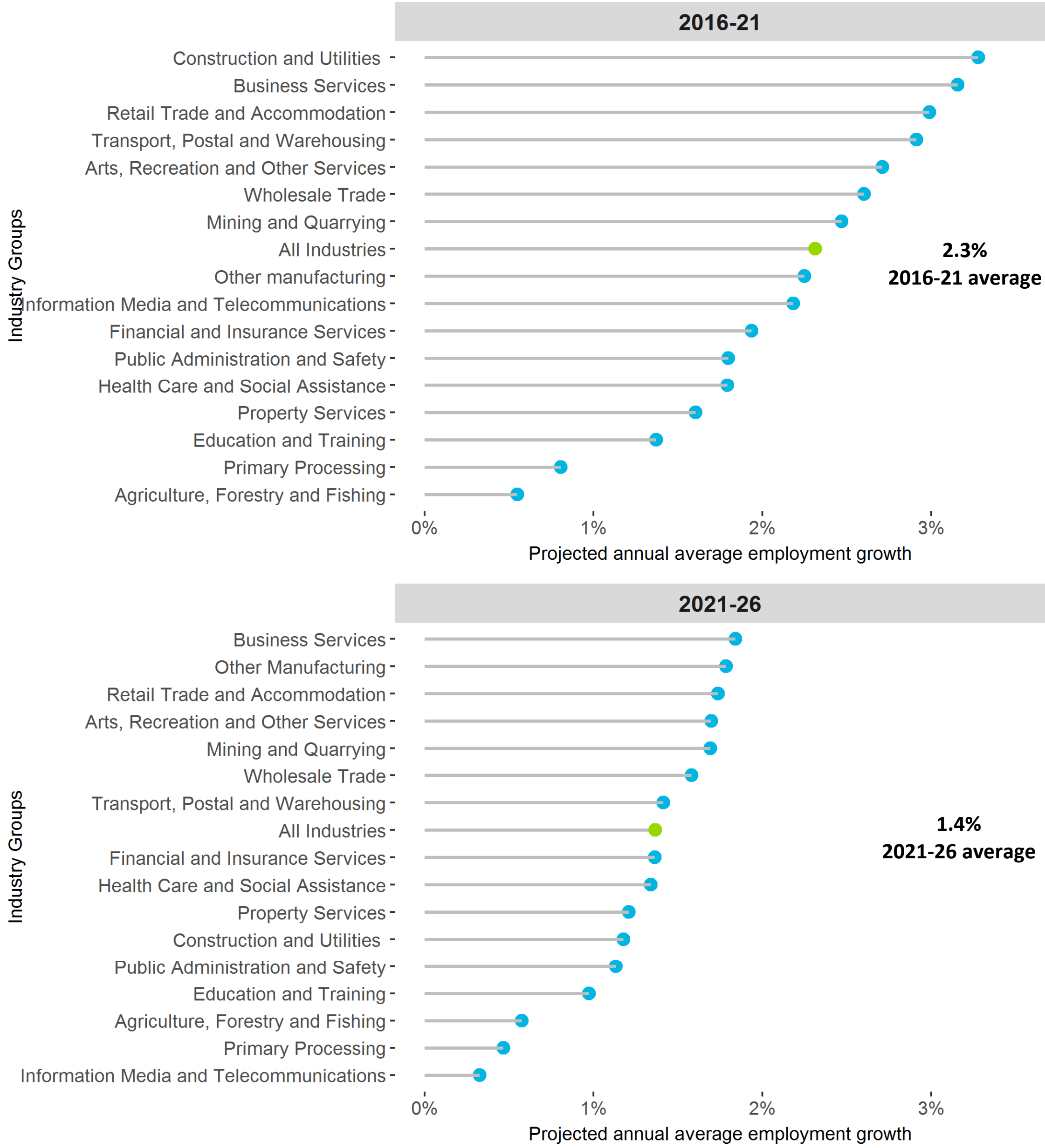
Figure 2: Business services, Retail trade and Construction will drive employment growth
(Annual average percentage changes between 2016 and 2026)



Note: The projected growth from the 2016 baseline was generated using the MBIE CGE Model and are based on assumptions around industry level productivity, demographic factors along with economic and fiscal outlook over the next 10 years. We combine ANZSIC06 1-digit industries to create broader industry groups. For example, primary processing includes food, beverage and tobacco manufacturing and wood and paper products manufacturing.

Figure 3: Employment is projected to fastest in the construction sector in the 2016-21 period and business services in the 2021-26 period

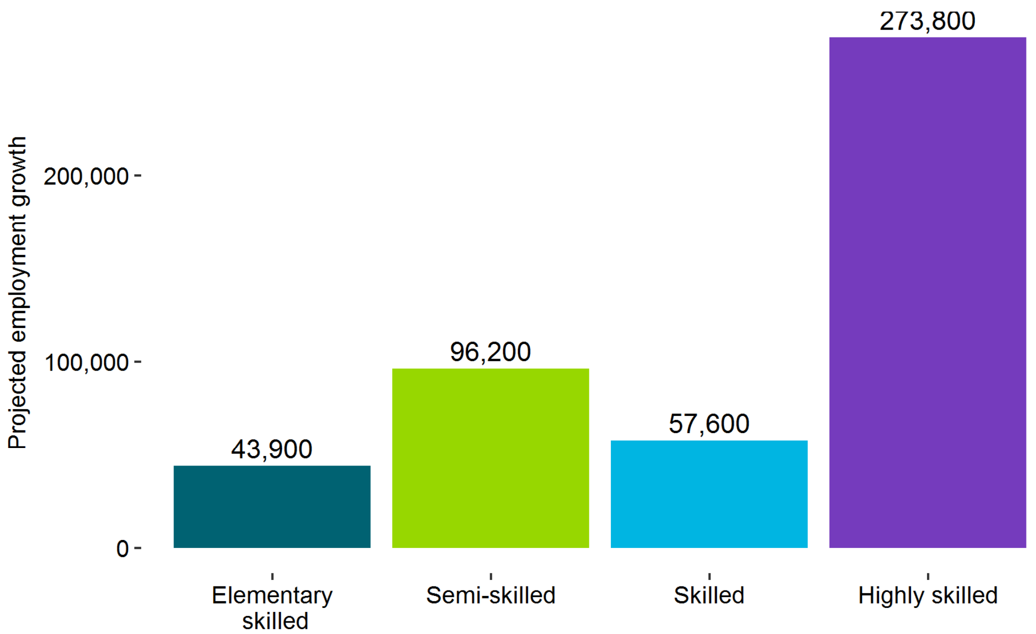
(Fastest to slowest growing industry groups, ranked according to 5-yr average growth rates)



27,400 more highly skilled workers each year to 2026

As business services grow over the next 10 years, strong employment in highly skilled (managers and professionals) occupations should continue. Over the projection period, employment for highly skilled occupations is expected to increase by 273,800 (see Figure 4). Within this group, annual growth with be fastest for business and systems analysts, ICT managers, and advertising, public relations and sales managers.

Figure 4: Employment prospects strongest for highly skilled workers
(Employment change between 2016 and 2026)



Residential and non-residential building activities will support demand for 57,600 more skilled workers (technicians and trades workers) by 2026 (see Figure 4). Within the skilled occupation group, annual growth rates will be fastest for construction-related occupations like glaziers, plasterers and tilers, electricians, and engineering technicians.

Growth in tourism, business and administrative services sectors are projected to open up opportunities for more semi-skilled workers (sales, support and office workers), with 96,200 more workers in this group by 2026. Within the semi-skilled occupation group, annual growth will be most rapid for office and practice managers, program and project administrators, and sports and fitness workers.

Compared with other occupation groups, the demand for elementary skilled workers (machinery and plant operators, and other labourers) is projected to increase by nearly 44,000. This is about one in 10 employment opportunities expected to be generated between 2016 and 2026. The fastest growing occupations within this group are drivers (delivery and transport), and construction and mining labourers.

In broad terms, employment growth by occupation is projected to be strongest for highly skilled and skilled occupations, and weakest for elementary and semi-skilled occupations. This is sustained over both the medium term (2016-21) and the long term (2021-26) (see Figure 5). Total employment growth is also projected to slow from 2.3 per cent per year in the medium term to 1.4 per cent per year in the long term.

Figure 5: Business and building services drive strong demand for professionals and managers
(Annual average percentage change, 5-yr projection periods)

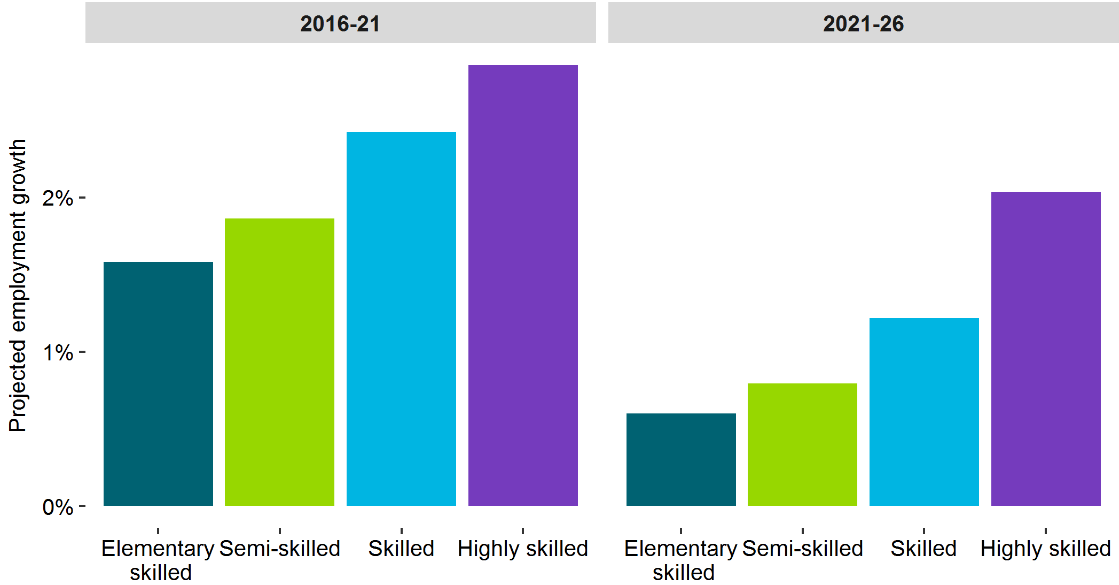
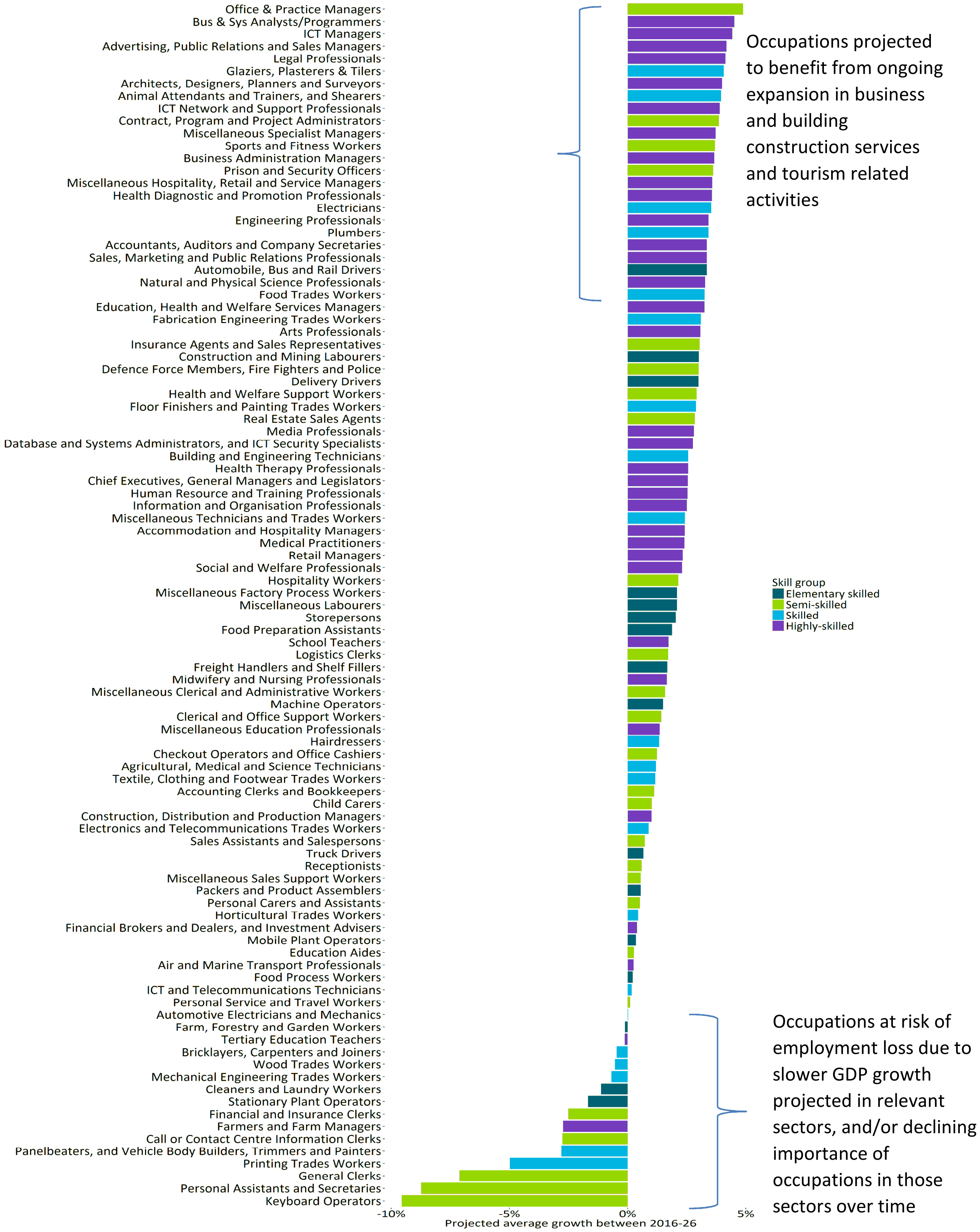


Figure 6 ranks 97 occupation groups according to growth rates over the 2016 and 2026 period. The ranking shows that among the top 25 rapidly growing occupations, 15 are highly-skilled, five are skilled, four are semi-skilled, and one is elementary skilled. Office and practice managers is the occupation projected to grow fastest, followed by some IT roles and other occupations prominent in business services, construction, and tourism-related sectors.

There will be strong demand for labourers and drivers (delivery and transport), even if these occupational groups are not in the top 25 occupations in terms of growth for the entire 2016-26 period. Figure 6 also shows that employment in some occupations is projected to decline in the 10 years to 2026, as a result of lower GDP growth in industries where they are employed along with their importance declining over time. The decline projected for skilled and semi-skilled occupations relates to the decline in printing services and a range of clerical work. Farmers and farm managers are the single highly skilled occupation continuing the decline it has seen in recent years.

Figure 6: Highly skilled occupations among the fastest growing occupations over the next 10 year
(Annual average growth rates, ANZSCO 3-digit)



Retirement effects

The employment growth described so far is due to expanding industries and occupations. It excludes job opportunities that arise as older workers retire. While 54,200 new jobs are projected to be available on average per year during the 2016-21 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 2021-26 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 projection period. The highest percentage growth will be amongst skilled workers and the highest number growth will be amongst highly-skilled workers (see Table 6).

Table 2: 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%
Total	**25**	**1.2%**	**31**	**1.3%**

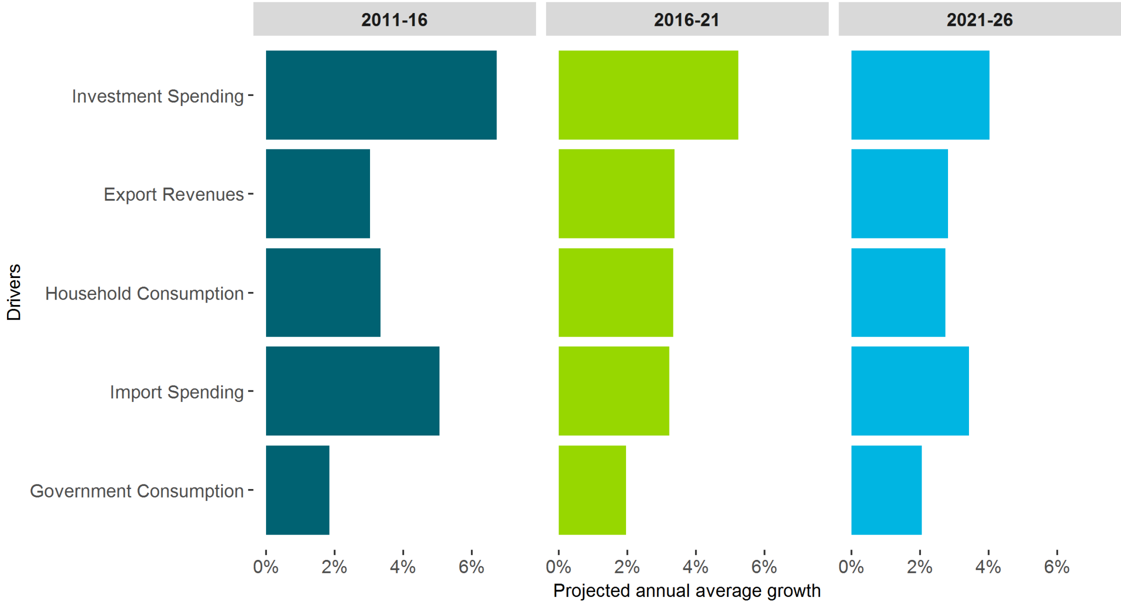
Source: MBIE Cohort component model using 7-yearly Census age cohorts; updated & extended

Household spending and investment to drive growth

Expectations about the economy have implications for potential productivity gains and labour market outcomes across various sectors. Over the next ten years, economic growth and demographic trends, underpin the employment projections.

The New Zealand economy is expected to grow at an average rate of 3.2 per cent in the medium-term (2016-21), and 2.6 per cent in the long-term (2021-26). These rates indicate an average rate of 2.9 per cent per year over the entire 2016-26 period. Investment (residential and infrastructure) spending will continue to drive economic growth over the projection period. However, with the Canterbury rebuilding activities coming off its peak, growth in investment spending over the projection period is weaker compared to the pace recorded between 2011 and 2016. Over the next 10 years, economic growth will be more broad-based and population growth driven (see Figure 7).

Figure 7: New Zealand economy expected to grow 2.9 per cent each year to 2026, with demographic changes expected to positively weigh in on household consumption and investment
(Key drivers of economic growth, historical and projection periods, annual average percentage change)



Source: Statistics New Zealand; MBIE

Note: Growth rates over the projections periods were estimated using the MBIE CGE Model. Projected economic growth to 2026 may cover the next business cycle in its entirety as well as the end of the present cycle. Historical growth rates are actual rates based on gross domestic product (GDP)- expenditure, chain volume value for the year ending March.

Strong growth in domestic demand underpins the medium-term employment projections. 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 (2.5 per cent on average) and growth driven by domestic household consumption (3.3 per cent). More importantly, this period will experience strong import (4.3 per cent) and investment growth (5.2 per cent) related to residential construction and infrastructure work across the regions and higher Government consumption (2.0 per cent on average).

The long-term economic outlook is slightly weaker than the medium-term. Stronger export growth (about 2.8 per cent) will support growth over the long-term. Import (3.4 per cent) and investment (4.0 per cent) spending growth will be weaker due to some of the construction activity being past the peak. The long-term outlook is also likely to see weaker but still modest household consumption (2.7 per cent) accompanied with slightly stronger government consumption (2.1 per cent) than anticipated in the medium-term.

The stronger export growth over the long-term arises from steady growth in exports of dairy (1.3 per cent over the entire period), meat (rising slightly from 1.4 per cent to 1.8 per cent) and horticulture (remaining at about 2.5 per cent) products. Exports of wood and logs are projected to be even stronger at about four per cent, while the growth in exports of tourism-related services will be about six per cent.

Labour productivity to rise over the long-term

Over the past five years, the New Zealand labour market saw strong growth in the labour force and record participation rates. Between 2012 and 2017, about 77,000 people joined the labour force on average each year, and participation rates rose to record-high levels. Since 2012, the growth in the labour force was largely driven by strong migration gains, with more arrivals and fewer departures of New Zealanders on an annual basis.

The labour force grew by more than 1.6 per cent each year during the 2011-16 period and is projected to grow about 1.0 per cent each year between 2018 and 2028 to reach nearly three million by 2028.[2] In the long-term, labour force growth will slow as net migration falls from its recent high levels and the participation rate declines due to New Zealand's aging population. The record high participation levels experienced presently are not likely to be sustainable as the baby boomers age further, 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 be placed on raising productivity for sustained economic growth.

Increasing labour supply constraints arising from lower participation levels, and difficulty in finding and retaining skilled workers will push up labour costs, which could lead to firms increasing their capital investment. Such interactions could result in improvements in labour productivity. Over the projection period, annual labour productivity growth is to increase from 0.9 per cent between 2016 and 2021 to 1.2 per cent in the five years to 2026.

[2] These are projections made in 2017 using the 2013 Census base combining the median (50th percentile) projections with the high net migration scenario to reflect the strengthening net migration. Statistics New Zealand will update these projections early in 2020, taking into account the 2018 Census.

Alternate Labour Supply Scenarios – Implications for the labour market and the economy

Net migration levels have a strong influence on population and labour supply growth. Between 2012 and 2017, labour supply grew an average 2.7 per cent per year due to record net migration levels. Net migration accounted for more than 70 per cent of the 2.1 per cent population growth in 2016 and 2017, up from 20 per cent in 2013, when the population grew by only 0.8 per cent.

In the baseline scenario used in this report, labour supply growth rate averages 1.7 per cent during the medium-term (2016-21). This growth rate includes a 2.5 per cent growth already seen between 2016 and 2017. In the long-term (2021-26), the average labour supply growth rate falls to 1.2 per cent, when the net migration levels could average 25,000. Labour supply growth rate averages 1.4 per cent over the 2016-26 period.

In order to address some of the uncertainty in the rate at which labour supply grows in the long-term, we considered alternative labour supply scenarios to show their impact on the employment and economic growth projections and consequently on labour productivity. The table below summarises how low to high labour supply growth impacts on the rates at which employment, GDP and labour productivity grow over the projection period.

Table 3: Growth under alternate labour supply scenarios

Labour Supply Growth Scenarios	Average growth rate (%) 10 years to 2026		
	GDP	Employment	Productivity
Low (0.7%)	2.5	1.1	1.3
Baseline (1.4%)	2.9	1.8	1.1
High (1.7%)	3.1	2.1	1.0

Note: The labour supply scenarios incorporates growth driven by net migration returning to long-run average (low), and higher than the record net levels seen in recent years (high).

Employment outlook amidst digitisation and automation

In recent years, there had been increasing concern about the implications of digitisation and automation on the future demand for skills and labour. In particular, there is concern that technological advances might result in a 'jobless future', with occupations at high-risk of automation eliminated. However, the risk to jobs does not necessarily translate to actual employment losses. This is because digitisation and automation can complement labour, and could create opportunities for new products and services. These changes could mean that firms could require additional labour with different skills set.

Appendix

Methodology

The Ministry of Business, Innovation and Employment (MBIE) projections reported here use a Computable General Equilibrium (CGE) model developed by the Business and Economic Research Limited (BERL) for use by the Ministry of Business Innovation and Employment.

The forecast update commenced in January 2018 after the 2017 Half Yearly Economic and Fiscal Update (HYEFU) of the Treasury was released in December 2017. The 2016-21 macro-economic outlook underpinning the employment outlook across the broad industries is broadly consistent with the 2017 HYEFU. This covers projected growth in export, import, investment along with private and public consumption as well as GDP. The projections are extended out to the long- term to 2026 using a “consensus” view of the impact of projected world and regional economic growth for trading partners on economic growth in New Zealand.

The latest Treasury projections provided the macro-economic setting for the medium term (2016-21). This setting included household or private consumption growth of 3.3 per cent, export growth of 2.5 per cent, import growth of 4.3 per cent and Government or public consumption growth of 2.0 per cent, on average, for the 2016-21 period. The setting was modified for the 2016-26 period, with slightly higher export (2.8 per cent), lower import (3.4 per cent) and lower household consumption growth (2.7 per cent) was used.

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 (summarised into skill groups) are analysed and included in this report. Regional projections are not available for the medium-long term due to the lack of historical regional GDP data by industries for a sufficient period, including for recent years.

The retirement levels and projections across the different skill groups are from a separate analysis of cohort components. The relevant (ANZSCO 3-digit) occupational data by age groups from the latest available 2013 and previous 2006 Censuses are used to update retirement levels and average rates of change over the 2006-13 inter-census period. The projections for the next seven-year period (2013-20) are based on overall population projections by the corresponding age groups. Actual average retirement levels and rates of change over the 2013-18 period for 3-digit ANZSCO occupational groups will be possible when the relevant information from the 2018 Census to be conducted shortly becomes available.

Risks and caveats

The assumptions and judgements underpinning the projections are subject to a range of risks and uncertainties. The main downside risks on the external front are weaker prospects and prices for some of our 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.

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