The Labour Market and Skills in Auckland 2009-2019

Penelope Tuatagaloa

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Te Kaunihera o Tāmaki Makaurau

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Approved for Auckland Council publication by: Name: Eva McLaren Position: Manager, Research and Evaluation (RIMU)
Name: Alison Reid Position: Team Manager, Economic and Social Research and Evaluation
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Executive summary

Labour market dynamics are inextricably linked to the social and economic well-being of a society. The role of the labour market in improving economic and social outcomes is recognised by local and central government. For Auckland Council, many of the issues addressed in this report are of central importance to delivering both the Auckland Plan 2050, the long-term spatial plan for the city (Auckland Council, 2018) and the Mayor's vision for Auckland, 'a world class city where talent wants to live'.

This report updates the 2014 Auckland Council report, *The labour market and skills in Auckland 2014* (Wilson, R A 2014). It presents new and important insights into how the Auckland labour market is functioning, areas of skill mismatch, and who is at greatest risk of non-engagement with the labour market. The primary focus is on the 10-year period 2009 to 2019.

Overall state of the Auckland labour market

The Auckland labour market has largely recovered from the global financial crisis (GFC) in 2007-2008. As at March 2019, over two thirds (or 983,900 people) of the Auckland working age population (aged 15 years and over) were in the labour force[1]. Of this group, 4.4 per cent were unemployed.

Over the 10-year period from March 2009, the overall number of people in employment increased by 237,700, an increase of 33.8 per cent (higher than the working age population growth of 24.9%). This strong growth in employment reflects that not only are more jobs being created, but there are more people in Auckland to undertake them due to population growth. In recent years, the main driver of population growth has been immigration (Stats NZ, 2018a), with over 170,000 additional people added to Auckland's working age population from 2008 to 2018. In addition to strong population growth, there has also been an increased uptake of employment from within the local market, predominantly increasing participation by females and higher participation by older workers (aged 55 years and over).

The increasing number of females in the labour force could be driven by a number of factors including better maternal health, childcare and other family-oriented policies, having fewer children, higher educational achievement and economic necessity (Ortiz-Ospina and Tzvetkova, 2017 and Quast, 2011). For older people this is likely to reflect a mixture of factors, including the ageing and improved health of the population, changes to

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[1] Stats NZ defines individuals in employment as those who work one hour or more per week for pay, or work one hour or more per week without pay in work that contributed to a farm, business or professional practice owned by a relative (Refer Section 2.1.1 for a discussion on employment).

retirement policies that encourage people to remain in the workforce for longer and changing attitudes toward retirement (and increased tendency to postpone it).

These trends are also reflected in transition probabilities provided by Stats NZ, which show that the likelihood of an unemployed individual gaining employment was 37.1 per cent in March 2019, an improvement from 20.4 per cent in March 2009, and 29.5 per cent in March 2018. Conversely, the likelihood of moving from employment to unemployment has been lower than pre-GFC levels and has stabilised at around one in 100 people (compared to one in 50 people at the height of the recession).

Young people (aged 15-19 years) and Māori and Pacific People continue to show lower than average participation and employment rates, and higher unemployment rates. Whilst other groups have largely recovered to pre-recession levels, these groups have shown little if any improvement and in some cases their labour market outcomes have worsened. Of concern is the relatively high disengagement rate (as measured by the jobless rate and those Not in Employment, Education or Training (NEET)) of over one in four Māori and Pacific individuals in their early 20s (for example, at March 2019 Stats NZ measured 20.1% Pacific young people aged 15 to 24 years, and 19.8% Māori young people as NEET. This has serious implications for Auckland's future given that these cohorts will represent a proportionately larger share of the labour market in coming years.

Demand for labour

Employer demand for labour is most directly reflected in hiring decisions. When employers need skills, they create jobs or when a firm's output increases, employers demand more labour thus hire more staff.

Employment by skill levels[2] shows a polarised Auckland labour market, with Aucklanders working in either highly-skilled or low-skilled occupations, and significantly fewer people working in skilled or semi-skilled occupations. This polarisation has gradually increased over time. From 2008 to 2018, the number of people in higher skilled occupations increased faster than lower skilled ones (32.7% compared to 13.8% growth). This pattern is reflected in occupations, with the strongest growth in jobs recorded for managers, professionals, and community and personal service workers. In contrast, machinery operators and drivers, and clerical and administrative workers, had minimal growth over the 10-year period and only recovered from their pre-GFC levels by 2017.

When assessing online skilled job vacancies, the results were different with the largest increase for online vacancies (from December 2010 to December 2018) recorded for construction, manufacturing, primary and hospitality industries and in terms of

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[2] Refer Section 3.1 for definition of skill levels. As noted in the report skill levels as measured by qualifications only risks missing additional skills that people acquire through workplace training and informal learning, which are likely to have significant impacts on an individual's skills, employability and life pathways. Hence, this information provides an important, but only partial insight into the skills of Aucklanders.

occupations, for labourers, machinery drivers, trades and technical workers and community services workers. The increased demand in job vacancies in these industries and occupations could be driven in part by the strong growth in the Auckland housing market and construction generally.

Employment in Auckland's knowledge-intensive (KI) industries continued to grow faster than New Zealand as a whole (up by 2.3% per annum between 2008 and 2018 compared to 1.7% at the national level). Auckland has particular comparative advantages in KI industries related to advertising, finance, corporate head office management and investment.

Although the recent quarterly results are showing some improvements, signs of a tightening Auckland labour market continues with employers reporting it increasingly difficult to find the right workers (both skilled and unskilled) to fill vacant positions. The New Zealand Institute of Economic Research's (NZIER) Quarterly Survey of Business Opinion (QSBO) shows a net total of 41.9 per cent of firms surveyed reported it was more difficult to find skilled workers compared to three months prior and 22.2 per cent for unskilled labour as at March 2019.

Supply of skills

A skilled workforce is crucial to a high-functioning economy. Skilled workers increase productivity and enable innovation, and help drive growth in high-value industries.

The 2014 Survey of Adult Skills[3] measured the proficiencies of information-processing skills among adults (aged 16 to 65) living in New Zealand across three domains: literacy, numeracy and problem solving. The proportion of adults in Auckland with low levels of literacy and numeracy were 14 per cent and 22 per cent respectively. The results also found significantly lower average scores in all three skills among respondents in the 55-65 age group compared to all other age groups, Pacific People compared to all other ethnic groups, respondents with no educational qualifications than respondents with a qualification and those who were unemployed or out of the labour force than those who were employed.

The 2013 Census[4] reports that just over half of the Auckland population aged 15 years and over (51.5%) are low-skilled (have a school qualification or lower), 21.9 per cent have a degree or higher and 15.3 per cent have a post school qualification. The results show a higher proportion of Māori and Pacific People have low qualifications, and are therefore less likely than average to participate in the labour force. When compared to the 2006 Census, there were disproportionate increases for those with bachelor and higher

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[3] For more information on the Survey of Adult Skills and the full Auckland results, see Clark and Huang (2018).
[4] Detailed results from the 2018 Census of Population and Dwellings for highest educational qualification were not available at the time of writing.

degrees, and a reduction for those with no qualifications despite the overall population increase during this period.

While qualifications are a blunt measure of skills due to their inability to capture the compounding effects of experience and less formal training, the relatively high number of poorly qualified individuals has implications for Auckland's ability to leverage the skills of workers to increase innovation and productivity.

Match between demand and supply

Economies thrive when there is an ideal match between the supply of and demand for different skills within a population. When such a match exists, employers have an adequate supply of labour from which to build, grow and develop their businesses, and individuals have stable and rewarding employment.

There have been very few robust measures of the match between supply and demand of labour. Two approaches are discussed in this report, the relationship between unemployment and the ease of finding labour and the Beveridge Curve which matches the vacancy rate (demand of labour) against the unemployment rate (supply of labour).

The findings show a disconnection between the ease of finding labour and the availability of willing workers (as represented by the unemployment rate) which points to a poor match between the skills of workers and the needs of employers.

Concluding comments

A challenge for Auckland is to maintain the growth seen in recent years as the supply side factors that increased the country's labour supply is declining. A report by Infometrics shows net migration is falling which coupled with a tightening labour market (as shown in the report) means that capacity pressures are inhibiting further growth (Infometrics, 2019). At the same time, an analysis by Callaghan et al. (2018) suggests that an ageing New Zealand population will offset further increases in the participation of women and older people and as a result the overall participation rate is likely to remain flat out to 2035. To achieve economic growth, businesses need to invest more and not rely on a growing population to drive growth.

The current skills and education deficits of Aucklanders aged 15 years and over show a population with significant capacity for up-skilling. More specifically, there are substantial inequalities in levels of education and labour market outcomes for Māori and Pacific communities, who are projected to make up an increasing proportion of the Auckland labour market in the future. The continuation of these differences presents a warning that more needs to be done to close the gaps in educational attainment if Auckland is to have enough highly-skilled workers to fuel its economy in the future.

The results also suggest that there is a mismatch between the skills that workers possess and the skills that employers require. The long-term outlook for employment and skills is difficult to predict and is made even more so with the new future of work where technological changes are generating opportunities and challenges, requiring different business models and changes for workers. Upskilling of the current workforce is one answer to the significant proportion of low-skilled workers in Auckland; immigration of highly skilled workers is another. As such, Auckland needs to ensure it is seen as an attractive destination for skilled individuals, in order to both retain local talent and attract migrant workers.

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Glossary of acronyms

ANZSCO	Australian New Zealand Standard Classification of Occupations
GFC	Global financial crisis (2007-2008)
HLFS	Household Labour Force Survey (Stats NZ)
IT	Information technology
KI	Knowledge intensive
LEED	Linked Employer-Employee Dataset (Stats NZ)
MBIE	Ministry of Business, Innovation and Employment
MELAA	Middle Eastern/Latin American/African
NEET	Not in education, employment or training (youths aged 15-24)
NILF	Not in the labour force (but of working age)
NZIER	New Zealand Institute of Economic Research
QSBO	Quarterly Survey of Business Opinion (NZIER)
SVI	Skilled Vacancy Index

1.0   Introduction

Labour markets work much like other markets where employers demand labour, an important part of the production process, and individuals supply that labour, earning an income. A well-functioning labour market underpins a resilient and strong economy and has an important role in social and economic well-being.

Employment provides people with incomes to meet their basic needs and to contribute to their material comfort, and gives them options for how to live their lives (Stats NZ, 2019c). Stable employment helps the economy to grow and to retain a high standard of living and makes it less susceptible to shocks. Unemployment on the other hand has a negative effect on a person's socio-economic status and physical and mental health (Canterbury District Health Board, 2019). A high unemployment rate means that more people are jobless and without income, which in turn causes uncertainty reflected in lower consumer spending and consequently loss of production. New Zealand like many other countries closely monitor the unemployment rate (amongst other measures) as it reflects the labour market and overall economic conditions.

The current employment landscape is undergoing dramatic changes. Employers and employees must increasingly come to terms with an environment in which flexibility and adaptability take priority over job security and long-term employment, structured environments, and standardised roles and responsibilities (Cluver, 2019). Key global trends driving this fundamental change are technological progress, globalisation and population ageing. At the same time, developments such as increased labour market participation of women and greater migration flows have altered the supply of skills.

In light of these changes, it is becoming increasingly important to ensure that the skills of workers and individuals are aligned to the needs of the labour market. Individuals who do not possess the 'right' skills face poor labour market outcomes and skills mismatch can slow the adoption of new technologies, cause delays in production, increase labour turnover and reduce productivity (OECD, 2019).

The role of the labour market in improving economic and social outcomes is recognised by local and central government. For Auckland Council, many of the issues addressed in this report are of central importance to delivering both the Auckland Plan 2050, the long-term spatial plan for the city and the Mayor's vision for Auckland, 'a world class city where talent wants to live'.

The Auckland Plan 2050 sets out an intention to deliver an Auckland that is 'prosperous with many opportunities and delivers a better standard of living for everyone' (Auckland Council, 2018). It recognises the importance of the labour market in achieving a resilient and inclusive Auckland economy, and has identified three strategic directions to achieve this: Create the conditions for a resilient economy; Attract and retain skills, talent and investment; and Develop skills and talent for the changing nature of work and lifelong achievement. In addition, the plan outlines a vision to promote Māori success, innovation and enterprise – all are influenced by Māori labour market outcomes.

The information presented in this report will be of interest to a wide range of audiences, including local and central government agencies, universities, industry training organisations, economists, academics, community groups, as well as individuals looking to retrain into industries with the greatest growth opportunities.

It is envisaged that such information may be used as evidence to inform policy and strategy development, feed into ongoing research, as well as focus community organisations on areas of both need and opportunity. It may also contribute to the implementation of the Auckland Plan 2050 by providing a picture of both the current state of the labour market as well as important trends over the last decade.

1.1   This report

This report updates the Auckland Council report *The labour market and skills in Auckland 2014* (Wilson, R A 2014). It presents new and important insights into how the Auckland labour market is functioning, where there are areas of skill mismatch, and who is at greatest risk of marginalisation from the labour market.

A snapshot of the Auckland labour market in the March quarter 2019 is presented as well as trends over the previous 10 years. The timeframe reported on includes the global financial crisis (GFC) which had a significant impact on the Auckland labour market (Stats NZ, 2019d), as in many other countries.

A wide range of data sources are utilised, and these are explained within the relevant sections of the report.

The report is structured as follows:

- Section 2 describes the overall state of the Auckland labour market. This comprises insights into the Auckland working age population (defined as the usually resident population aged 15 years and over) in terms of participation in the labour force, employment and unemployment levels, labour movements into and out of unemployment, disengagement from the labour market and underemployment. The industrial composition of the Auckland economy is also discussed.

- Section 3 considers the nature of demand for labour across Auckland by providing insights into job availability as measured by growth in employment and online job vacancies. Difficulty finding appropriately skilled workers is also reported on as well as job creation/destruction statistics, worker turnover and levels of employment in Auckland's knowledge-intensive industries.

- Section 4 presents the education and skills profile of the Auckland working age population as measured by qualifications attained and abilities in literacy, numeracy and problem solving.

- Section 5 matches the supply and demand of labour in Auckland through two measures – the connection between the unemployment rate and ease of finding labour and the Beveridge Curve which matches demand as measured by the vacancy rate against supply measured by the unemployment rate.

The themes covered reflect dynamics or characteristics of the labour market that have important effects on both the functioning of the economy and on individual and community wellbeing. In addition to the broad themes above, the report focuses, where possible, on how these issues affect particular cohorts or groups, including youth, Māori and Pacific communities.

2.0 Overall state of the Auckland labour market

There are a number of important statistics that provide a detailed picture of how the Auckland labour market is performing. In this section, data are presented in relation to labour force participation, employment, unemployment, labour movements into and out of unemployment, disengagement from the labour market, underemployment, and the composition of Auckland's economy by industry. Viewed together, these data provide insight into pressures faced, and decisions made by both employers and employees in Auckland.

These data come primarily from the Household Labour Force Survey (HLFS), a nation-wide quarterly survey of approximately 15,000 households (or 30,000 individuals) (Stats NZ, 2019a). This is the basis of New Zealand's official measures of employment and unemployment. Additional information for this section was obtained from the Business Demographics dataset (Stats NZ, 2018) and Linked Employer-Employee dataset (LEED) (Stats NZ, 2019b). There is a lag in the availability of LEED data by approximately a year.

2.1 Overview of the labour force

An overview of the working age population (aged 15 years and over) in Auckland by labour force status is discussed here. The three general labour force status classifications are: employed, unemployed and not in the labour force. As at March 2019, over two thirds (68.2% or 983,900) of the population aged 15 years and over in Auckland were in the labour force[5]. Of this group, 4.4 per cent were unemployed, as outlined in Figure 1.

Figure 1: Working age population by labour force status, March 2019
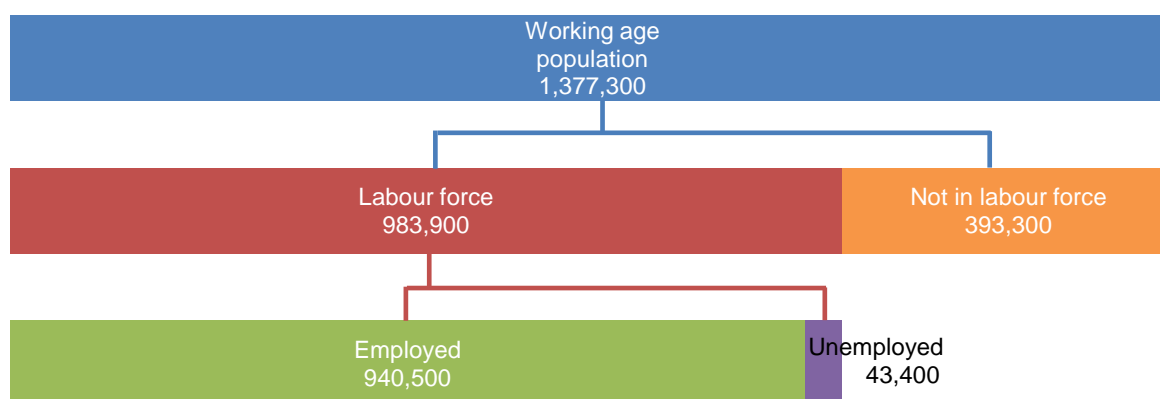
Source: Stats NZ, HLFS.

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[5] Stats NZ defines individuals in employment as those who work one hour or more per week for pay, or work one hour or more per week without pay in work that contributed to a farm, business or professional practice owned by a relative (Refer Section 2.2.2 for a discussion on employment).

Figure 2 depicts absolute numbers of the working age population in each of the three categories, and how they have varied over time. As shown, employment remained the largest and fastest growing category for those in the labour force.

Auckland reached its highest numbers of unemployed (more than 60,000 people out of work) in 2010 as the effects of the GFC peaked. Since then, unemployment has more or less decreased to an average of just over 40,000 people from March 2018 to March 2019.

Despite the spike in unemployment between 2008 and 2010, the number of people in work has been on the rise. Since March 2009, an additional 237,700 people were employed in Auckland (an increase of 33.8%), contributing 47.4 per cent to the national employment growth. The increase was driven largely by an upsurge in the six years from December 2012 with an additional 213,300 people employed in Auckland. During the same period the unemployment rate declined from 6.4 per cent to 4.4 per cent.

A sizeable number of people remained outside the labour force, which has been increasing less rapidly than employment due to a rising participation rate. Over the 10-year period from March 2009, the numbers of those not in the labour force increased by 41,100 people (or 11.7%) in Auckland.

The strong growth in employment over the 10-year period reflects that not only are more jobs being created, but there are more people in Auckland to undertake them due to population growth.

Figure 2: Working age population by labour force status, March 2009-March 2019
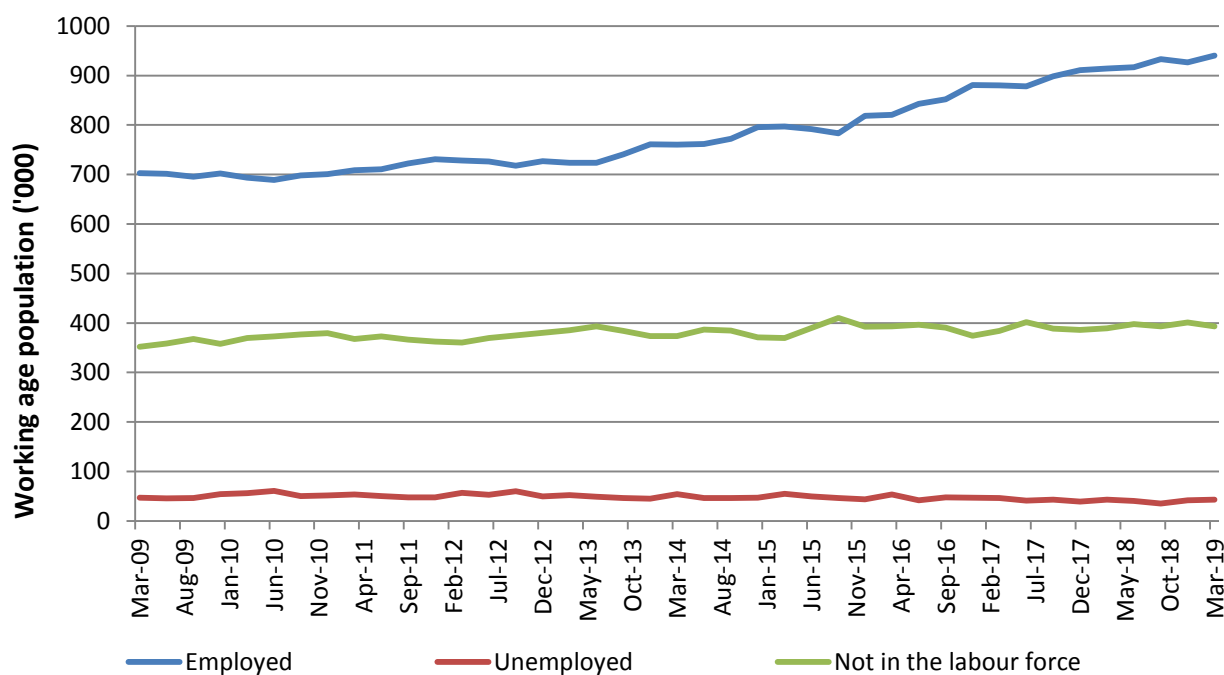
Source: Stats NZ, HLFS.

2.2 Participation, employment and unemployment

Participation, employment and unemployment rates are three of the most commonly reported and widely understood indicators of the state of the labour market. They tell us the percentage of the working age population that is in the labour force, what percentage is in paid work, and what percentage of individuals who want to work are unable to find a job. Together, these three indicators can provide insight into the pressures individuals are facing in relation to finding and keeping a job, and the decisions they make about whether to seek work or whether to pursue other, non-work activities.

These measures are discussed in this sub-section.

2.2.1 Participation

The participation rate refers to the number of working-age individuals who are working (officially 'employed') or seeking work (officially 'unemployed'), expressed as a percentage of the working-age population.

As at March 2019, 71.4 per cent of the Auckland population (aged 15 years and over) participated in the labour force, either by working or actively seeking work. This was very similar to New Zealand as a whole, with a participation rate of 70.4 per cent.

The overall participation rate increased by 5.0 per cent in the 10 years between March 2009 and 2018. During this period participation fluctuated, with a decrease between March 2009 and September 2010 (68.0% to 66.5%) – a direct result of the decline in employment numbers following the GFC. Between September 2010 and September 2016, participation fluctuated at just below 70 per cent and it subsequently increased to record levels of just over 70 per cent from December 2016. In terms of participation numbers, the strong growth since March 2009 (up by 31.2%) was higher than the working age population growth (of 24.9%) in Auckland.

High participation levels experienced in New Zealand in recent years occurred despite an ageing population, which (all else being equal) would have been expected to lower the participation rate (Callaghan et al. 2018). [6] The record high participation levels in Auckland and New Zealand therefore is a combination of strong population growth as noted earlier as well as increased employment uptake from within the local labour market – predominantly by females and older workers (aged 55 years and over).

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[6] Although the study is for New Zealand as a whole, it is expected that the findings will be very similar for Auckland, given the significance of Auckland in the New Zealand labour market. A third of all national businesses and employment is located in Auckland.

Participation by age

Participation in the labour force shows marked differences across different age groups both in terms of absolute numbers and participation rates, as illustrated in Figure 3.

In March 2019, highest overall participation was among individuals aged 25-39 and 40-54 (86.4% and 87.3% respectively). This compares to individuals in the 20-24 age group who have a slightly lower participation rate (78.3%), which could be explained by a number of individuals in this category still in formal education.

Those at the start and the end of their careers have markedly lower overall participation rates. In March 2019, less than half of those aged 15-19 years (42.0%) were participating in the labour force, the majority of whom will still be in formal education, and similarly for those aged 55+ (50.0%) the majority of whom will have been in retirement.

Figure 3: Participation numbers and rate (%) by age group, March 2019
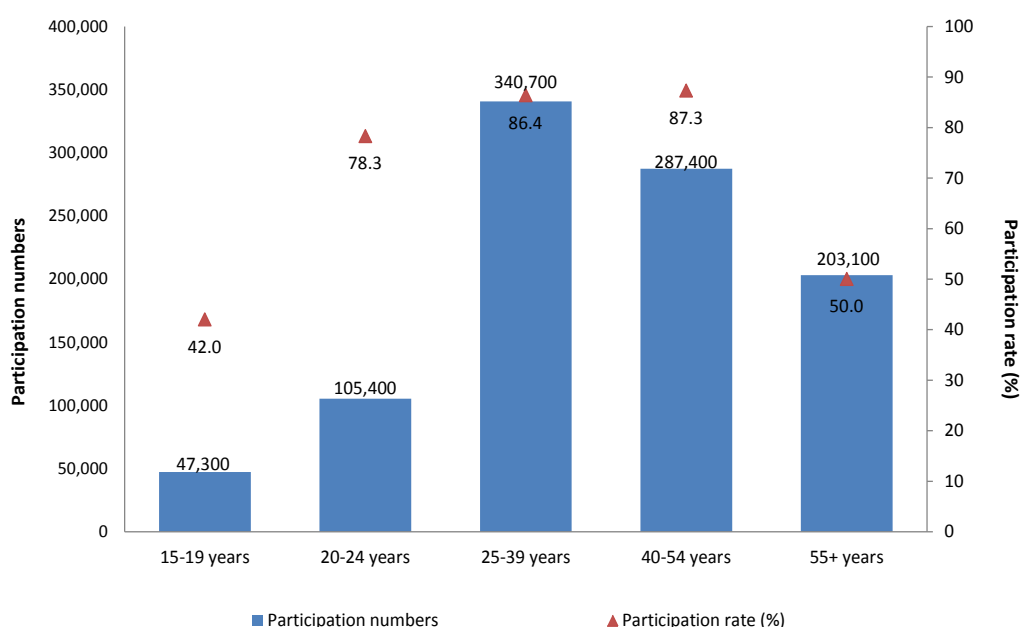
Source: Stats NZ, HLFS.

Just over a third of those who participated in the labour force in Auckland (34.6%) were aged 25-39 years, three out of ten (29.2%) were 40-54 years, one out of five (20.6%) were 55 years and over and 15.5 per cent were aged 15-24 years. Almost twice as many individuals aged 55 years and over (203,100) participated in the labour force compared to those aged 20 to 24 years (105,400) in the March quarter 2019.

Trends over time show the economic slowdown experienced in 2009 adversely affected young people (15-19 years) more than other age groups, as depicted in Figure 4. Participation for this group dropped from 44.6 per cent in March 2009 to 34.2 per cent in September 2010. By March 2019 all age groups, except 15-19 year olds had returned to their pre-GFC participation rates.

For the older age group (55+ years) there was a slight decline in the participation rate following the GFC, from 45.8 per cent in March 2009 to 44.2 per cent in September 2010. From then onwards there appears to have been a renewed upwards trend in the participation rate for this age group, and from June 2017 rates of 50 per cent and over were recorded, higher than pre-recessionary levels.

The 20-24 age group recorded the largest percentage increase in participation in the 10 years (March 2009 to March 2019) at 11.2 per cent, followed by the 55 + age group (9.2%), 25-39 age group (5.8%) and 40-54 year olds (5.6%).

Stronger growth was also observed in total participation numbers compared to population growth across all age groups (15 years and over), with the exception of young people aged 15 to 19 years. Total participation numbers among young people declined by 1800, despite an increase in its population by 2500. This could be for a number of reasons. For example, young people staying longer in education, finding it extremely difficult to enter the labour force (and remaining out of the labour force), or becoming disengaged from the labour market as shown by the high jobless and NEET rates (discussed in Section 2.4).

On the other hand, stronger increase in participation numbers for older workers (aged 55 and over) (up by 60.6%) was recorded compared to its population growth of 46.9 per cent. The increasing number of older workers participating in the labour force is likely to reflect a mixture of factors, including the ageing and improved health of the population, changes to retirement policies that encourage people to remain in the workforce for longer and changing attitudes toward retirement (and increased tendency to postpone it).

Figure 4: Participation rate (%) by age group, March 2009-March 2019
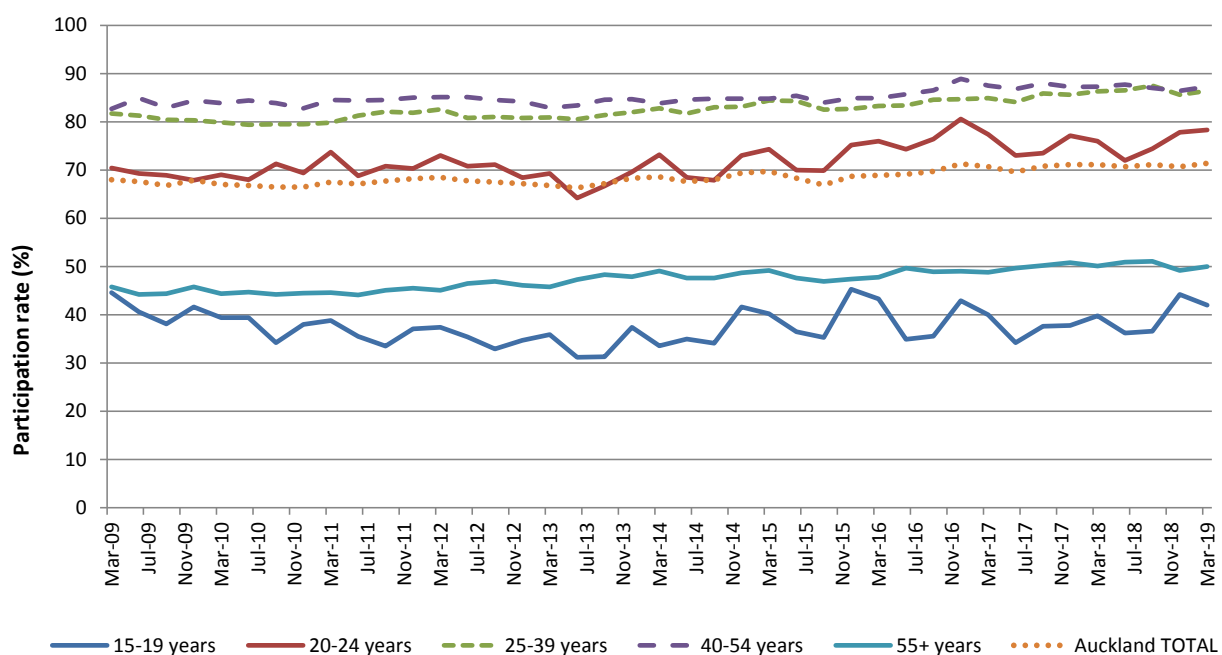
Source: Stats NZ, HLFS.

Participation by gender

As at March 2019, higher participation rates were recorded among males than among females, in all age groups (with the exception of those aged 15-19), and overall (Figure 5). In total 507,900 males participated in the labour force compared to 476,000 females. Males were slightly overrepresented in the labour force (51.6%) compared to their proportion of the working age population (48.7%).

Figure 5: Participation rate (%) by gender and age group, March 2019
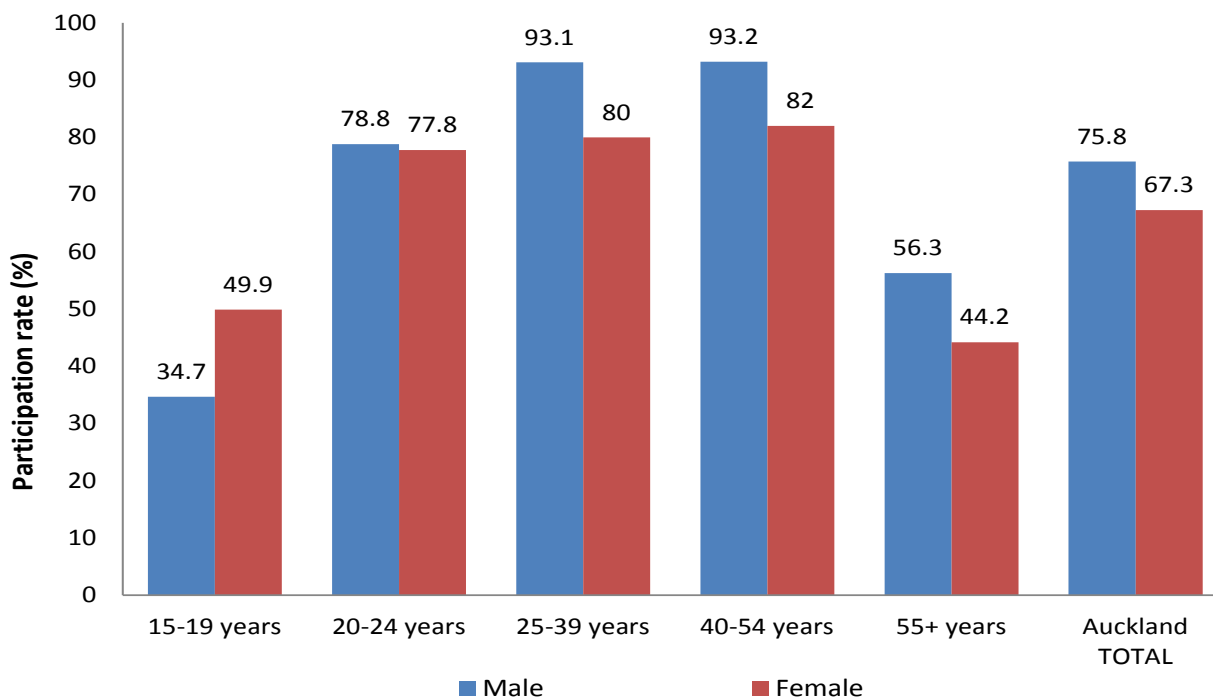
Source: Stats NZ, HLFS.

Figure 6 shows that overall male participation has been higher than female participation consistently over the 10-year period (March 2009 to March 2019). However, there has been stronger growth in participation among females (up by 10.0%) compared to males, who remained at roughly the same level (up by only 0.4%) during this period. The increase in numbers of females participating in the labour force (35.7%) was higher than the growth in female population (23.3%), whereas for males the increase in participation numbers (27.2%) was similar to its population growth (of 26.8%).

Further analysis by age shows that an increase in participation for males aged 20-24 years (of 6.9%), 25-39 years (3.6%), 40-54 years (3.2%) and 55 years and over (2.4%) had offset the 28.7 per cent decline in participation of young males aged 15-19 years. In comparison females recorded increased participation across all age groups since March 2009 with the largest increase of 21.7 per cent for females aged 15-19 years.

Since March 2018 (a year earlier), overall participation had increased for females (up by 2.9%) whereas the opposite was observed for males (a decline of 1.7%). This was largely driven by the youngest age group (15-19 years) with increased participation by females (up 29.3%) whereas for males it declined by 15.6 per cent.

Figure 6: Participation rate (%) by gender, March 2009-March 2019
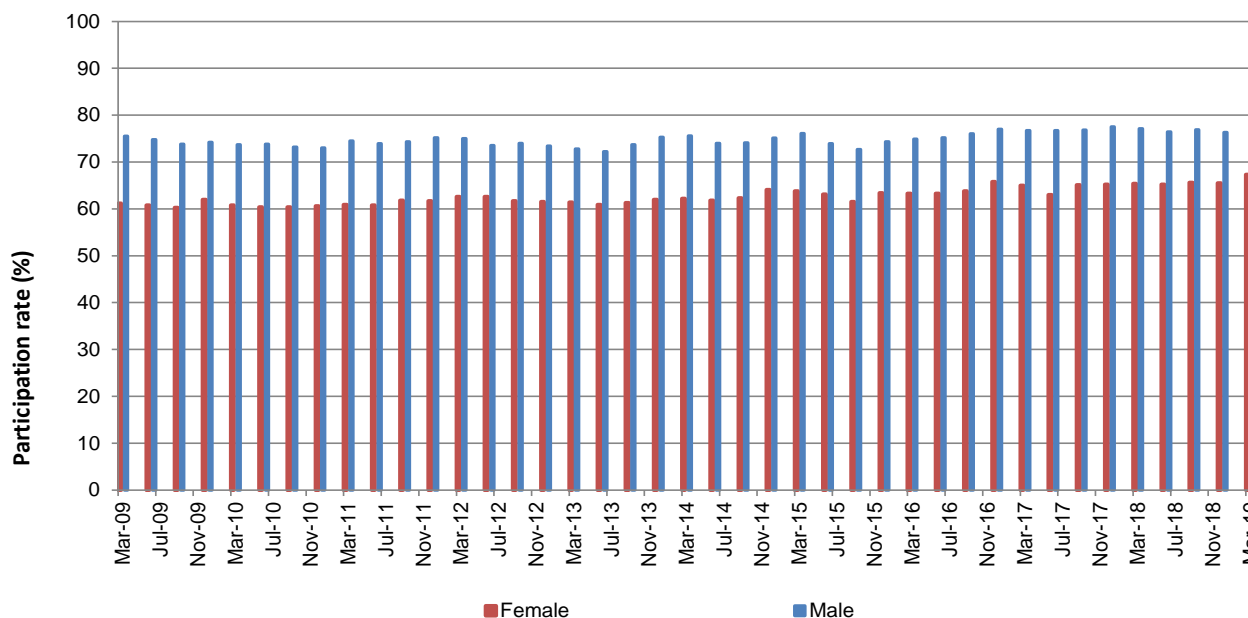
Source: Stats NZ, HLFS.

The increasing number of females participating in the labour force could be driven by a number of factors including better maternal health, childcare and other family-oriented policies, having fewer children, higher educational achievement and economic necessity (Ortiz-Ospina and Tzvetkova, 2017; Quast, 2011).

Participation by ethnicity[7]

There are a number of important differences across ethnic groups in Auckland.

At March 2019, the highest participation rate was recorded among people of European ethnicity (73.3%), and the lowest among Pacific People (63.8%), with Māori (67.1%), Asian (73.1%) and Middle Eastern/Latin American/African (MELAA)/Other (69.4%) in the middle (Figure 7).

Over half (57.4%) of those who participated in the labour force were European, just over a quarter (26.7%) were Asian, 12.6 per cent Pacific People, 7.9 per cent Māori and 2.3 per cent MELAA/Other. Slightly more Europeans participated than their proportion of the

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[7] Note that the groupings of ethnicities as discussed in this report are not mutually exclusive because people can and do identify with more than one ethnicity.

population (56.0%) and slightly less Pacific People (14.1% of the population). The others had similar proportions to their make-up of the working age population in Auckland.

Figure 7: Participation numbers and rate (%) by ethnic group, March 2019
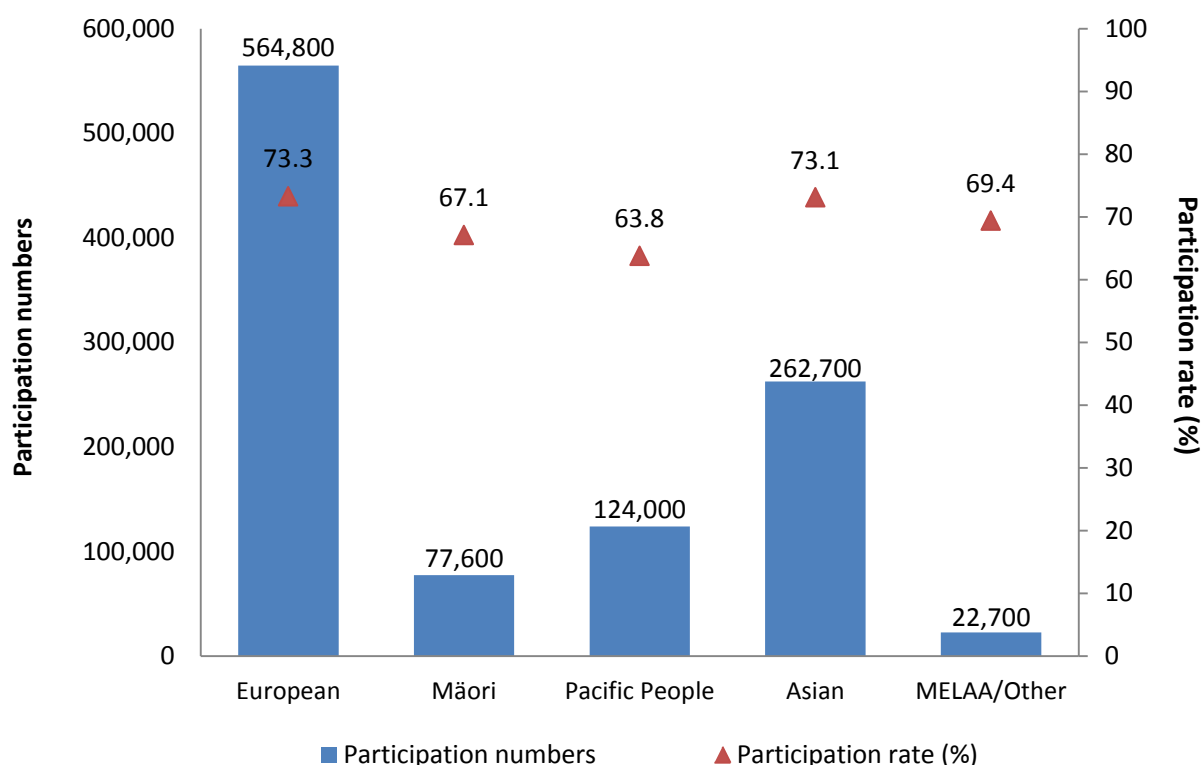
Note: The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity.
Source: Stats NZ, HLFS.

All ethnic groups experienced some decline in participation in 2009 and 2010 following the GFC (see Figure 8). The impact was greater for Māori and Pacific People. However, Māori recovered more quickly compared to Pacific People whose participation fell from 64.4 per cent in March 2009 to 55.2 per cent in December 2012.

Over the 10-year period, all ethnic groups recorded increased participation, Asian (by 14.0%), MELAA/Other (10.9%), Pacific People (6.3%), Māori (2.9%) and European (2.1%).

In terms of participation numbers stronger growth was observed for Asian (up by 75.0%) compared to its population growth (of 53.4%) since March 2009. Pacific People also recorded a strong increase in participation numbers (up by 56.0%) whereas its population grew by 46.8 per cent.

In the year ended March 2019, participation declined for Māori by 2.6 per cent and increased for Asian by 2.4 per cent. It remained about the same for the other ethnic groups.

Figure 8: Participation rate (%) by ethnic group, March 2009 - March 2019
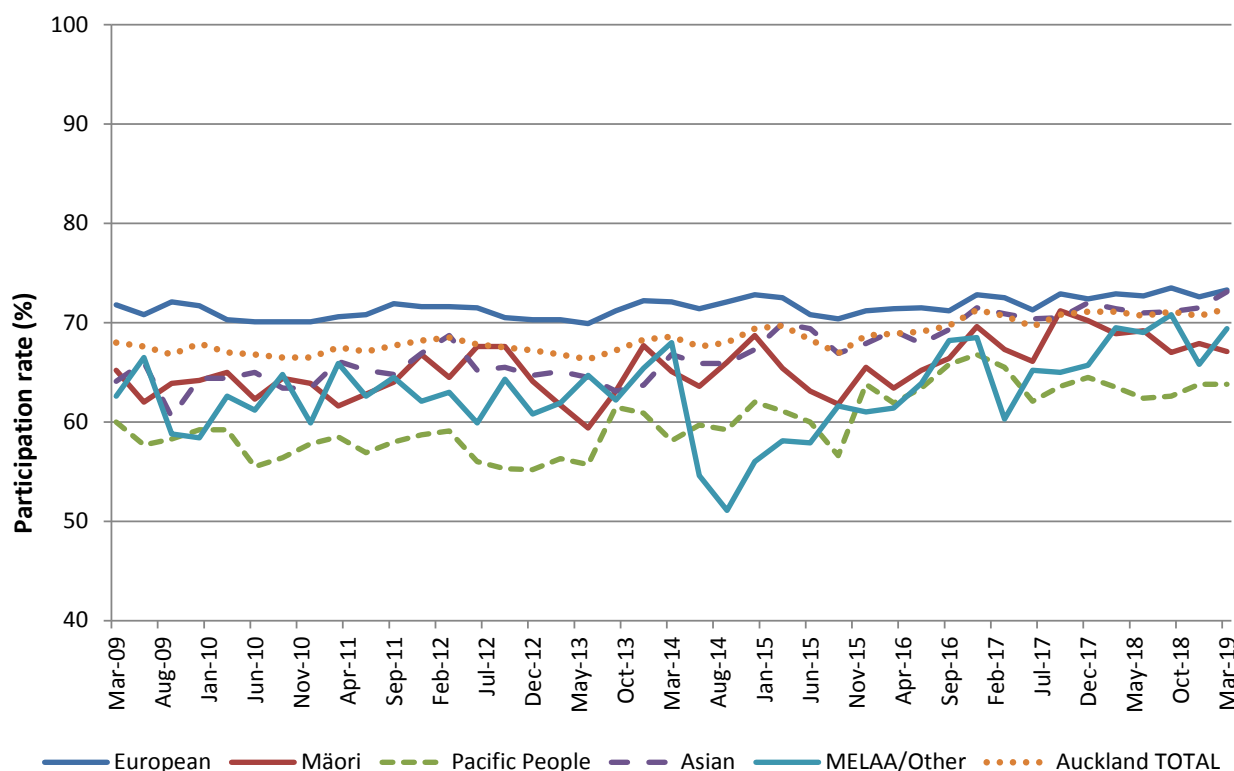
Note: Graph scale starts at 40% to show trends more clearly. The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity. Fluctuations observed for MELAA/Other could be partly due to a high sample error margin due to being a small sub-group.
Source: Stats NZ, HLFS.

2.2.2   Employment

The employment rate, as defined by Stats NZ, is the percentage of the working age population who work one hour or more per week for pay, or work one hour or more per week without pay in work that contributed to a farm, business or professional practice owned by a relative.

As at March 2019, the overall employment rate for Auckland was 68.3 per cent, similar to the national rate of 67.5 per cent.

It increased from 63.8 per cent in March 2009 (an increase of 7.1%, higher than the 5.0% increase in participation rate over this period). Compared to March 2018, the employment rate for Auckland increased slightly by 0.6 per cent (or from a rate of 67.9%).

Full-time and part-time employment

The majority of people in employment worked more than 30 hours a week (in full-time employment) (781,700 or 83.1%) as at March 2019. There had been an increase of 39.1 per cent since March 2009. Those in part-time employment (who worked fewer than 30 hours a week) totalled 158,800, an increase of 12.9 per cent since March 2009.

Full-time employed as a proportion of total employment also increased from 80.0 per cent in March 2009 to 83.1 per cent in March 2019 (or by 3.9%). The proportion of those in part-time employment on the other hand declined from 20 per cent of total employment in March 2009 to 16.9 per cent in March 2019 (down by 15.7%).

Figure 9: Full-time and part-time employment numbers (000s) and as a proportion of total employment (%), March 2009 and March 2019
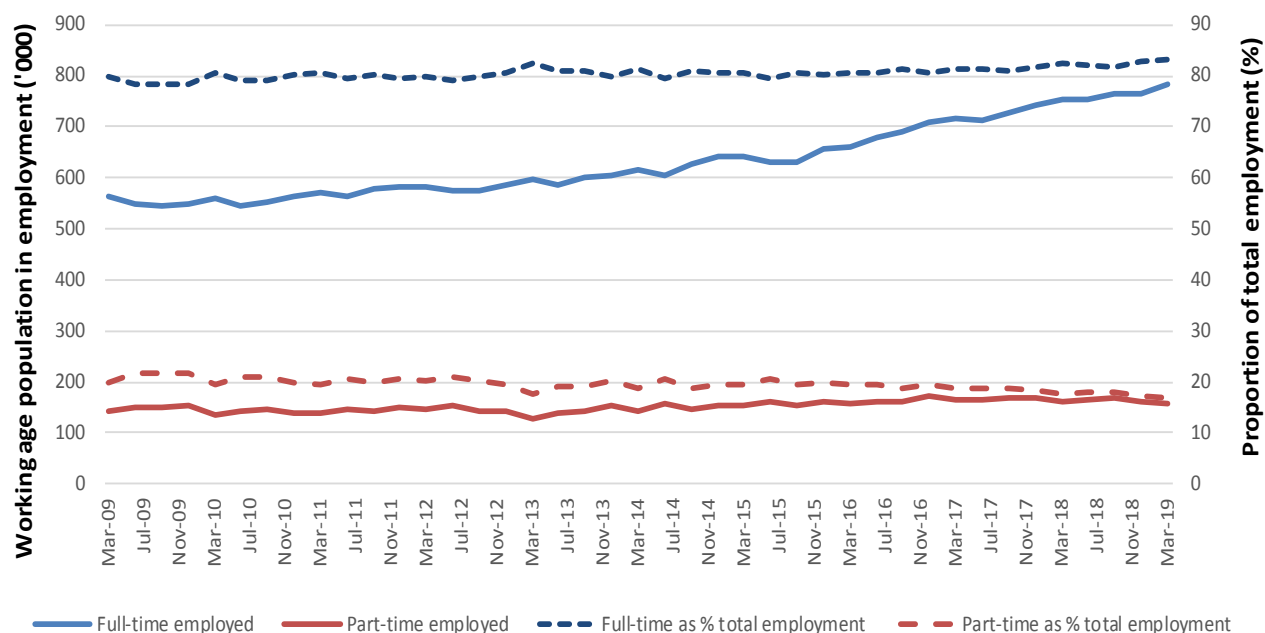
Source: Stats NZ, HLFS.

Levels of employment differ across population groups, meaning some are less likely to experience the positive benefits of employment. This is discussed in more detail below.

Employment by age

As with participation there are differences in the numbers of those in employment and employment rates between the different age cohorts reflecting the different stages of an individual's working life (Table 1). The majority of individuals aged between 20 and 54 years were in employment (40-54 years – 84.3%, 25-39 years – 83.7% and 20-24 years – 71.6%) compared to older people (55 years and over) where just under half (49.1%) were employed and one in three persons (33.0%) aged 15 to 19 years.

The difference between 15-19 year olds and the other age groups is greater for employment rates than participation rates, due to this age group also having higher rates of unemployment.

Table 1: Employment numbers and rate (%) by age group, March 2019

Age group	Employment numbers	Employment rate (%)
15-19 years	37,200	33.0
20-24 years	96,300	71.6
25-39 years	330,000	83.7
40-54 years	277,600	84.3
55+ years	199,400	49.1
Auckland TOTAL	**940,500**	**68.3**

Source: Stats NZ, HLFS.

The changes in the employment rate from March 2009 to March 2019 were similar to those observed for the participation rate. The similarity is somewhat unsurprising, given that 95.7 per cent of those who participated in the labour force in Auckland were in employment in March 2019. Over this 10-year period, the employment rate increased for all age groups except 15-19 years which declined by 8.6 per cent (Figure 10). Strong growth was recorded in the 20-24 year old group with employment increasing by 18.0 per cent, 55 years and over (up by 10.6%), 25-39 years (8.8%) and 40-54 years (5.6%).

Compared to March 2018, the employment rate had increased by 3.9 per cent for 20-24 year olds and by 3.8 per cent for the youngest age group (15-19 years). It had remained about the same for the other age cohorts. The increase in the youngest age group (15-19 years) broken down further by gender shows this was driven largely by the 25.4 per cent increase in the employment rate for females despite the 15.9 per cent decline for males.

Figure 10: Employment rate (%) by age group, March 2009-March 2019
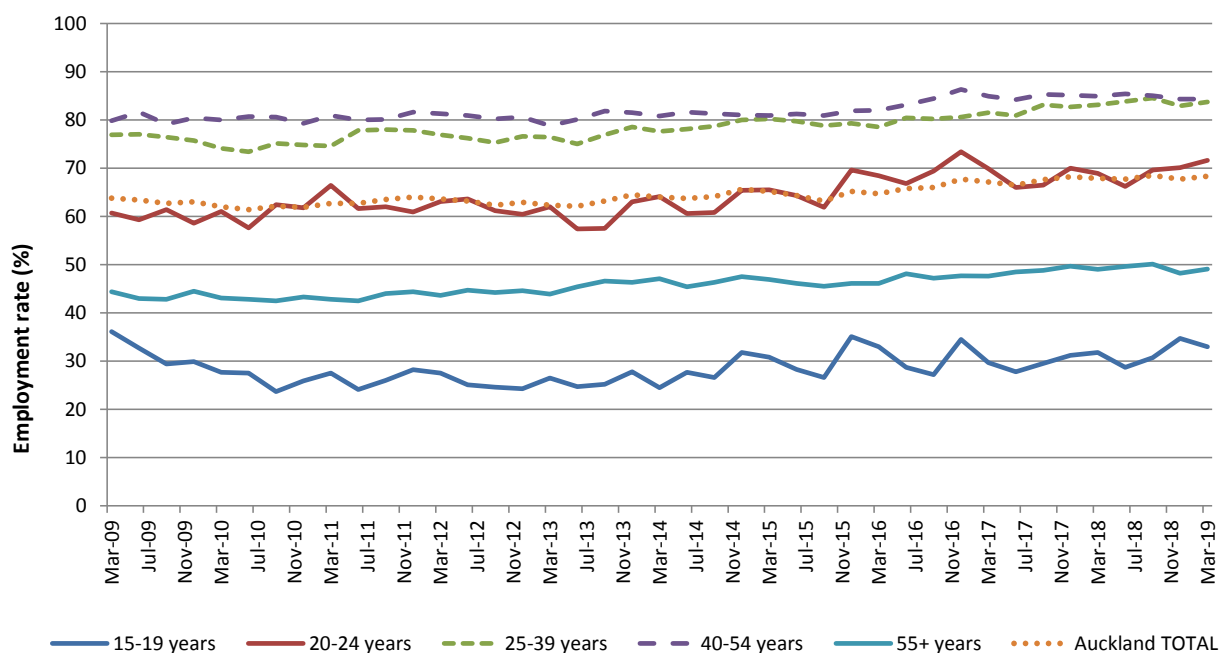
Source: Stats NZ, HLFS.

Employment by ethnicity

As at March 2019 employment rates were highest among those of European ethnicity (70.8%). Pacific People (57.4%) had the lowest employment rate, with Māori (61.6%), Asian (70.2%) and MELAA/Other (67.0%) in the middle (Table 2).

Table 2: Employment numbers and rate (%) by ethnic group, March 2019

Ethnic group	Employment numbers	Employment rate (%)
European	546,100	70.8
Māori	71,200	61.6
Pacific People	111,500	57.4
Asian	252,100	70.2
MELAA/Other	22,700	67.0
Auckland TOTAL	**940,500**	**68.3**

Note: The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity.
Source: Stats NZ, HLFS.

Employment rates increased for all ethnic groups in the 10-year period March 2009 to March 2019, most notably for Asian (up by 17.4%), MELAA/Other (15.3%) and Pacific People (11.5%) (see Figure 11).

Compared to March 2018, the employment rate had declined for Māori (by 2.4%) and Pacific People (by 1.4%) but had improved by 6.5 per cent for MELAA/Other and 2.6 per cent for Asian. It had remained at about the same rate for European.

Figure 11: Employment rate (%) by ethnic group, March 2009-March 2019
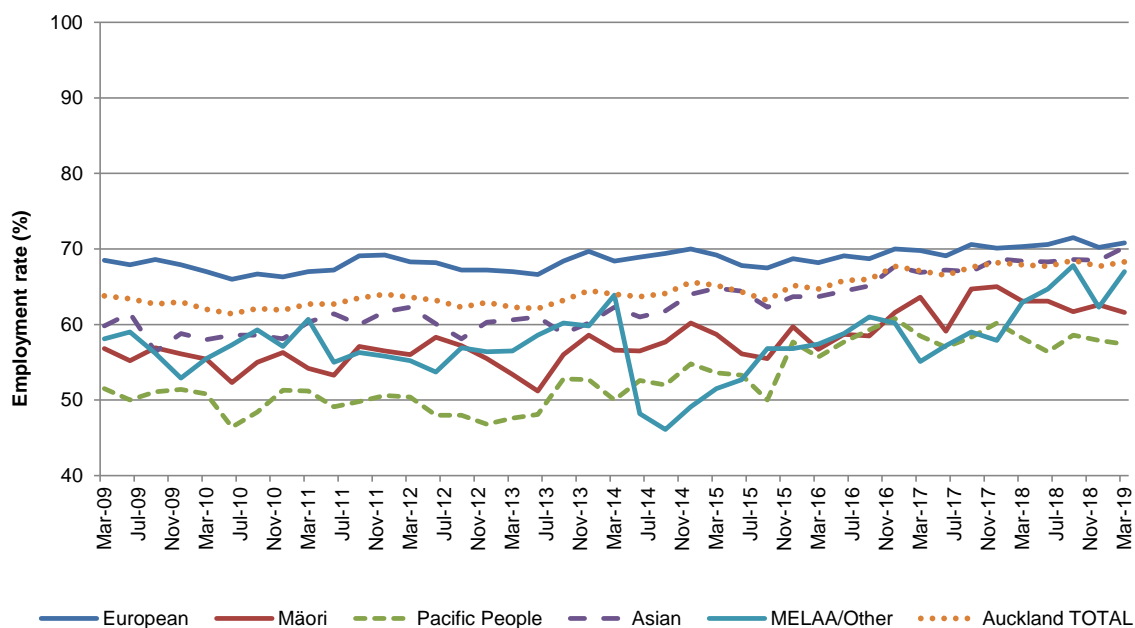
Note: Graph scale starts at 40% to show trends more clearly. The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity. Fluctuations observed for MELAA/Other could be partly due to a high sample error margin due to being a small sub-group.
Source: Stats NZ, HLFS.

2.2.3 Unemployment

The unemployment rate is the percentage of individuals in the labour force who are without a paid job, are available for work, and are actively seeking work.

As at March 2019, the overall unemployment rate in Auckland was 4.4 per cent, a decline of 15.9 per cent since March 2018. Within Auckland subgroups, rates of unemployment were relatively high among young people aged 15 to 19 years (21.4%), Māori and Pacific People (see Figure 12). Unemployment by age, gender and ethnicity are discussed in more detail below.

Figure 12: Unemployment rate for Auckland total and sub-groups, March 2019
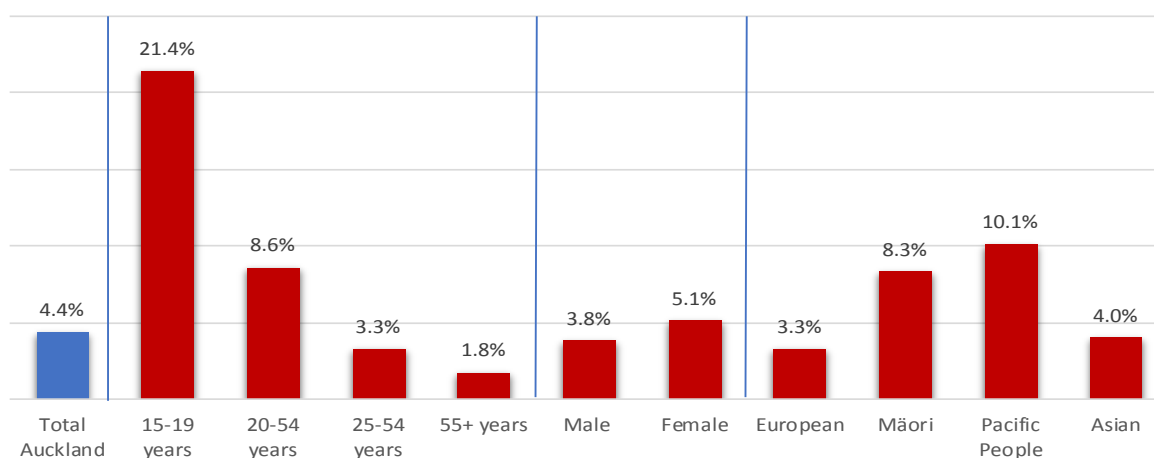
Note: The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity.

Source: Stats NZ, HLFS

As the GFC unfolded, unemployment rose sharply in Auckland as it did in the rest of New Zealand and in other developed countries. The effects of the GFC were felt more strongly in Auckland than in the rest of New Zealand, because of the greater concentration of hardest-hit industries in Auckland, such as finance and insurance, transport and storage, business services, and manufacturing (Infometrics, 2009).

As Figure 13 shows, although Auckland experienced a slight economic recovery and decrease in unemployment in the latter half of 2010 and throughout 2011, unemployment levels rose again in 2012 before falling again in 2013. The overall trend for unemployment in Auckland since 2010 appears to be downward, closing the gap with the rest of New Zealand, which has been relatively steady.

Since March 2009 Auckland's unemployment rate decreased by 30.2 per cent compared 10.1 per cent for the rest of New Zealand.

Figure 13: Unemployment rate (%) for Auckland and NZ March 2009-March 2019
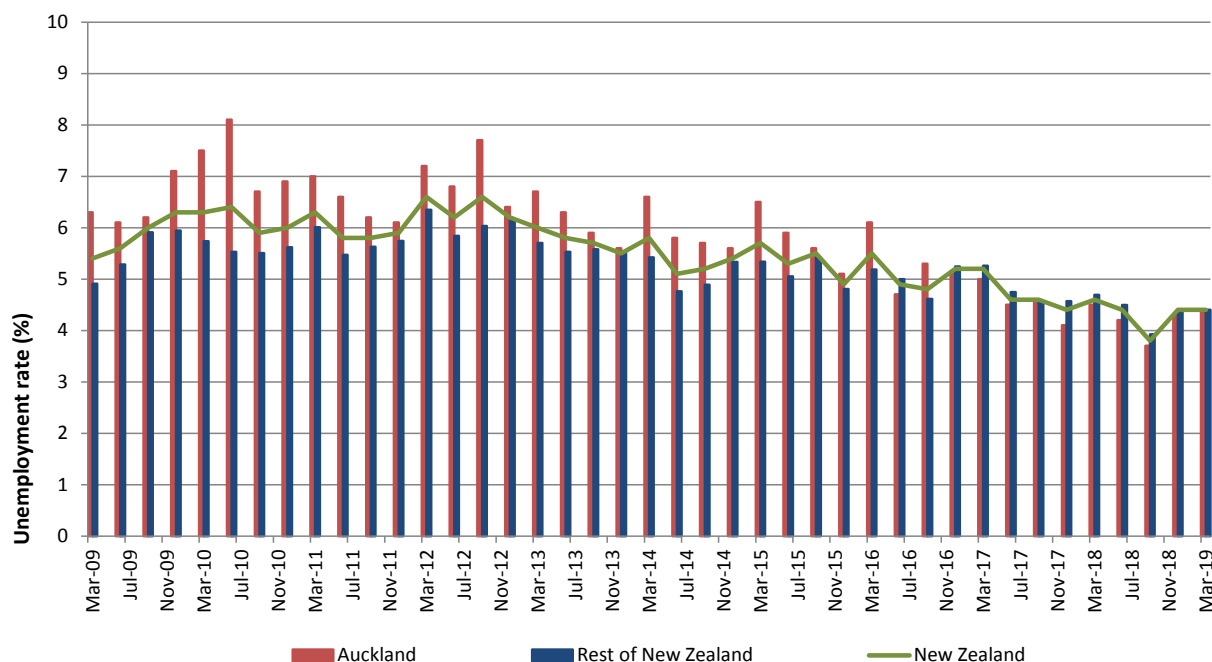
Source: Stats NZ, HLFS.

Unemployment by age

In March 2019, unemployment was higher for people in younger age groups (15-19 and 20-24 years) at 21.4 per cent and 8.6 per cent respectively, compared to 3.1 per cent for those aged 25-39 years, 3.4 per cent for 40-54 and 1.8 per cent for those aged 55 and over.

The breakdown of unemployment by age shows that over the 10 years since March 2009, 15-19 (in particular) and 20-24 year age groups have had significantly elevated levels of unemployment compared to older adults (Figure 14). These younger cohorts also disproportionately bore the brunt of the economic downturn in 2009, with both age groups experiencing sharper increases in unemployment than older cohorts. The impact was more pronounced and lasted longer for the younger age group (15-19 years), from 19.2 per cent in March 2009 to a peak of 32.0 per cent in June 2011. Rates remain elevated for these two groups, although with an apparent downtrend since 2011.

Over the 10-year period since March 2009, the unemployment rate had declined for all age groups except for 15-19 year olds which increased by 11.5 per cent.

In the year since March 2018 the same was also observed for this age group with unemployment increasing by 6.5 per cent as well as for 40-54 year olds (up by 21.4%). Unemployment had declined for all the other age groups during this period.

Figure 14: Unemployment rate (%) by age group, March 2009-March 2019
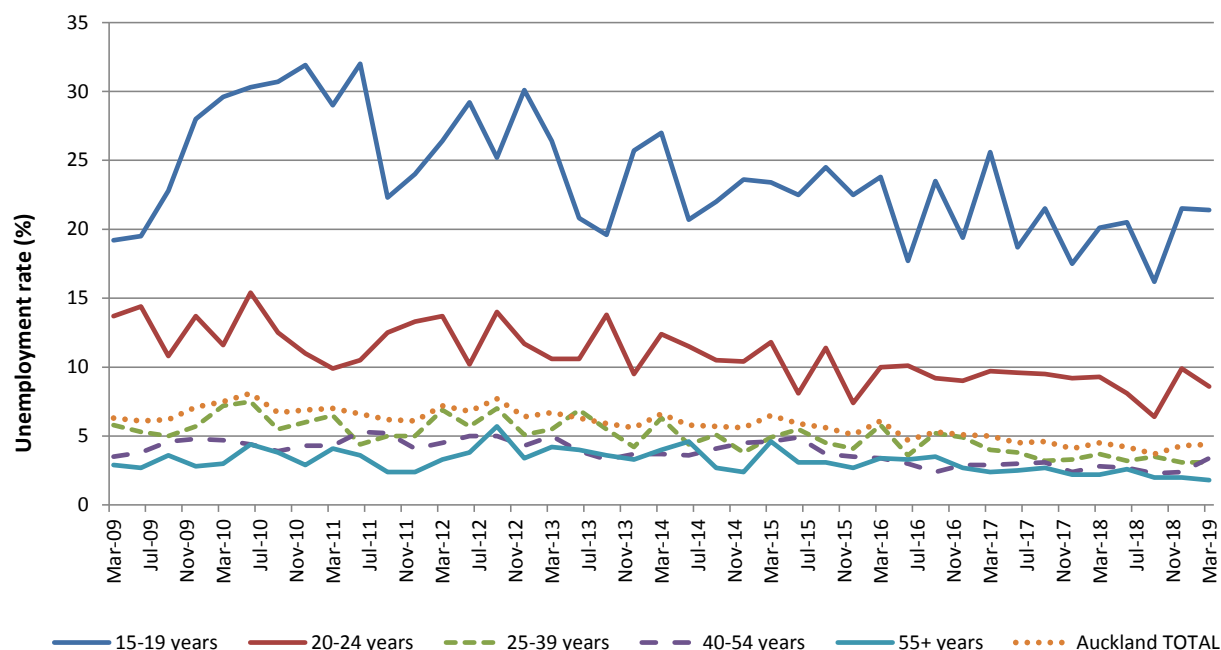
Source: Stats NZ, HLFS.

Unemployment by gender

The unemployment rate as at March 2019 was higher for females (5.1%) compared to males (3.8%) in Auckland.

When broken down by age-group it showed the unemployment rate was higher for females than males across most age groups except for 15-19 year olds as shown in Figure 15. For this age group an unemployment rate of 22.2 per cent was recorded for males compared to 20.9 per cent for females.

Figure 15: Unemployment rate (%) by gender and age group, March 2019
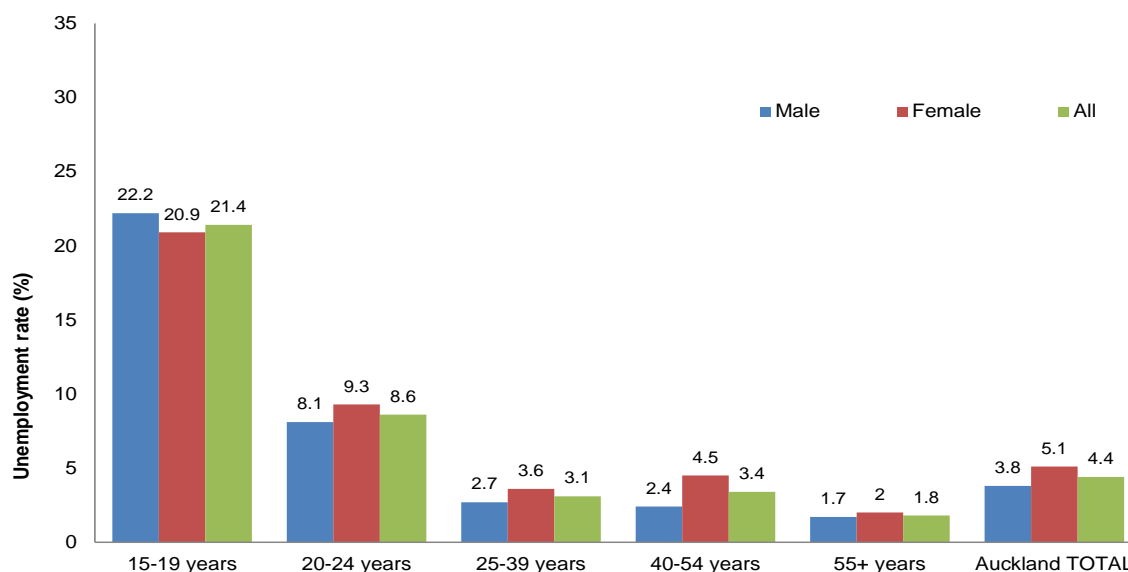
Source: Stats NZ, HLFS.

Since March 2009, the unemployment rate has been, on average, slightly higher for females (6.4%), than males (5.4%). During this period the unemployment rate for males fell by a considerable 44.1 per cent compared to females down by 10.5 per cent.

Females were slightly more negatively affected by the economic recession than males, with unemployment reaching a peak of 8.2 per cent in June 2010 compared to 7.9 per cent for males (see Figure 16). From mid-2011, the unemployment rates among males and females converged, but in 2013 the rate for females failed to drop as much as for males. However, from mid-2015 there has been a sharp and steady decline in the unemployment rate for females (it decreased by 44.0% from June 2015 to December 2018) and in the two quarters September 2018 and December 2018, it was lower than the rate for males. This trend was reversed in the March quarter 2019 with the unemployment rate for females increasing by a significant 21.4 per cent and male declining by 15.6 per cent (compared to December 2018).

Analysis by age group shows the unemployment rate for males declined for all age groups except for 15-19 year olds (which increased by 9.4%) from March 2009. For females the unemployment rate increased for those aged 40-54 years by 66.7 per cent, 15-19 years by 16.8 per cent and remained the same for 55 years and over. It declined for the other age groups.

Since March 2018 (a year earlier), the unemployment rate for females increased by 6.5 per cent whereas for males it remained at the same rate.

Figure 16: Unemployment rate (%) by gender, March 2009-March 2019
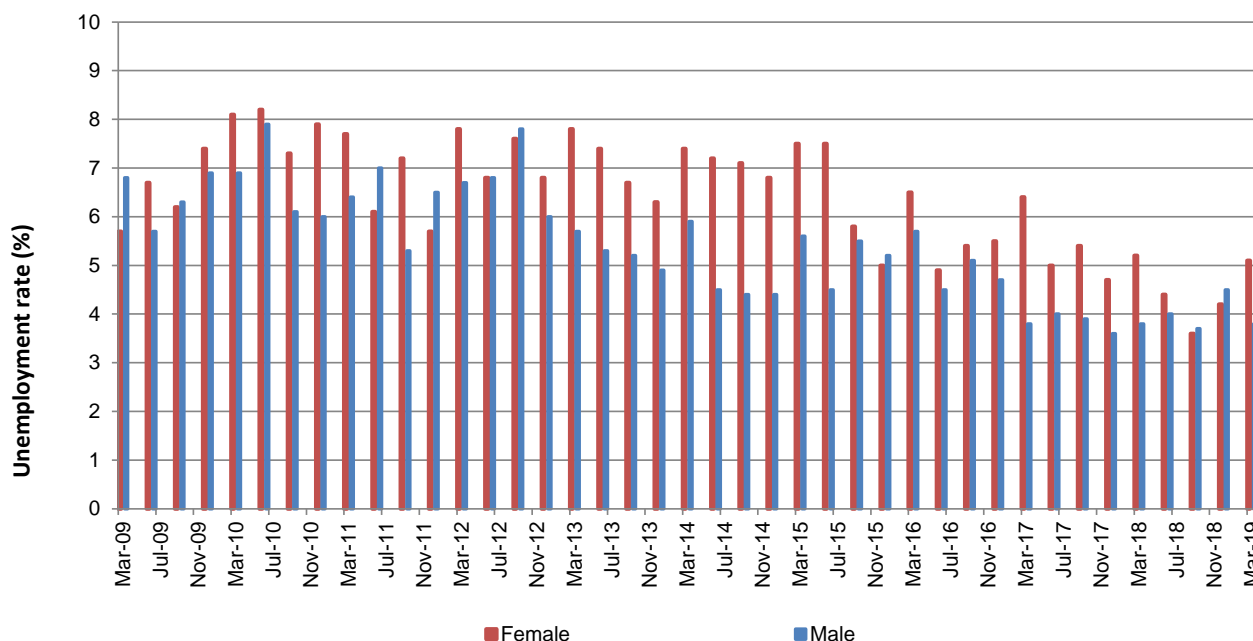
Source: Stats NZ, HLFS.

Unemployment by ethnicity

In March 2019, unemployment rates were higher for Pacific People (9.3%) and Māori (7.7%), compared to 5.2 per cent for MELAA/Other, 4.1 per cent for Asian, and 3.2 per cent for European.

Māori and Pacific People have experienced persistently higher levels of unemployment than European and Asian since March 2009, as seen in Figure 17. During this period the unemployment rate declined for all groups, by 40.3 per cent for Asian, 35.2 per cent for Māori, 28.9 per cent for Pacific People and 26.7 per cent for European.

From March 2018 to March 2019, the unemployment rate declined for all groups except Pacific People which increased by 20.2 per cent. It declined by 8.3 per cent for European, 4.8 per cent for Asian and 1.2 per cent for Māori.

Figure 17: Unemployment rate (%) by ethnic group, March 2009-March 2019
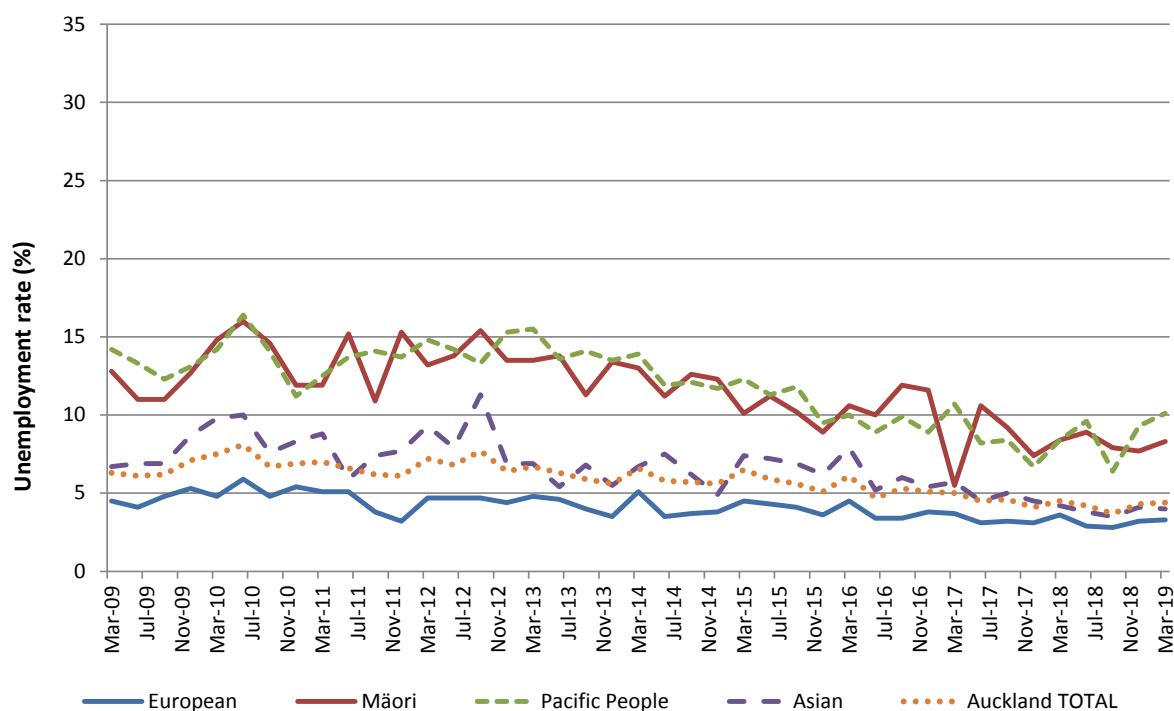
Note: The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity. People could choose more than one ethnicity and categories are not exclusive. Data for MELAA is suppressed by Stats NZ due to excessive error margins arising from small sample sub set, hence this group is not shown in this graph.

Source: Stats NZ, HLFS.

While there is likely to be a degree of crossover between the patterns seen for ethnicity and age as a result of the relative youth of Māori and Pacific communities, ethnicity and age appear to be independent predictors of unemployment rates. Differences among ethnic groups are still seen within each age cohort, and differences among age groups are still seen within each ethnicity.

Unemployment by qualification levels

This sub-section reports on educational qualification levels, as there is a correlation with unemployment levels. The unemployment rate for those with no school qualification was higher at 8.5 per cent compared to 5.1 per cent for those with Year 11 or NCEA Level 1 qualification, 4.7 per cent for those with Year 12 or NCEA Level 2 qualification and 3.6 per cent for Year 13 or NCEA Level 3 qualification, as at March 2019.

Figure 18 shows that the unemployment rate for this group (those who left school with no qualification) has been higher than those with school qualifications since March 2009, peaking at 12.2 per cent in March 2010. More recently, the quarterly unemployment rate for this group fell to 6.5 per cent in March 2018, but by March 2019 it was up to 8.5 per cent again (below the average over the 10 years of 9.4%).

Figure 18: Unemployment rate (%) by school qualification level, March 2009-March 2019
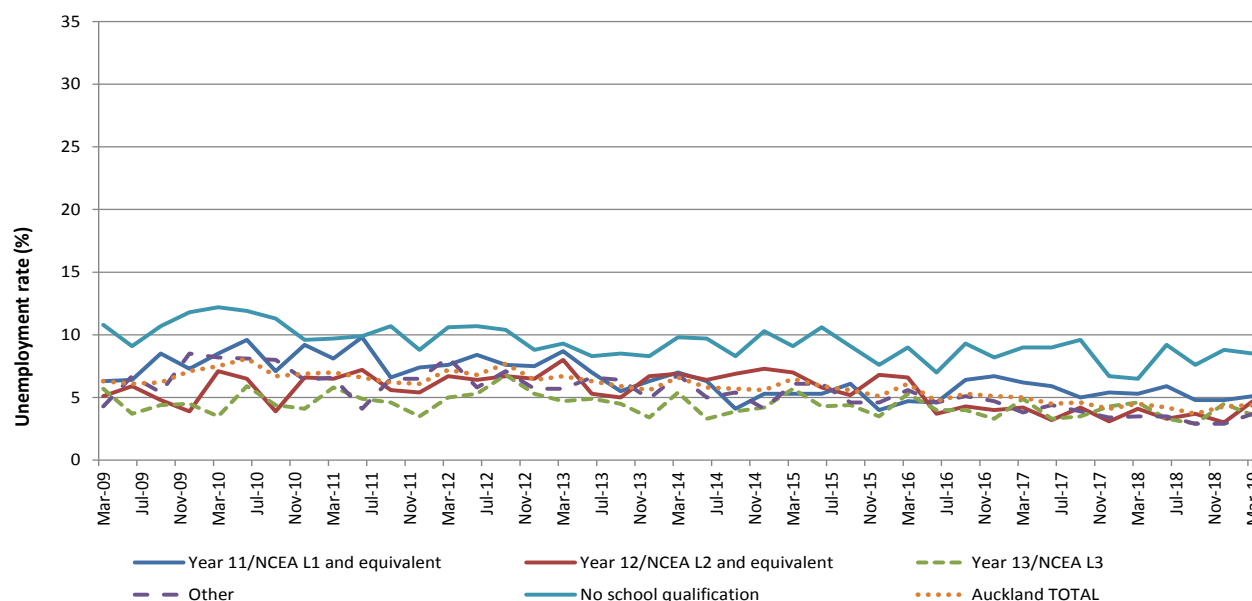
Source: Stats NZ, HLFS.

Unemployment by location

Figures 19 and 20 respectively show the number of unemployed and the rate of unemployment at March 2019, by Auckland's 21 local board areas.

The presence of large numbers of unemployed youth in some areas may reflect the fact that there is a large youth population, and the proportion of those young people who are unemployed may be relatively low. An example of this is the Howick Local Board.

On the other hand, some areas have smaller numbers of unemployed but higher proportions, for example, Papakura Local Board. Young people in these areas may be of particular concern as this may indicate there is more chance of becoming unemployed due to social or economic circumstances.

The four local board areas that make up the Southern Initiative (TSI)[8] had the four highest unemployment rates; Māngere-Ōtāhuhu 8.1 per cent, Ōtara Papatoetoe 7.4 per cent, Manurewa 6.3 per cent and Papakura 6.2 per cent.

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[8] The Southern Initiative area is a major place-based regeneration project in south Auckland included in the Auckland Plan. It covers the four local board areas of Māngere-Ōtāhuhu, Ōtara Papatoetoe, Manurewa, and Papakura.

Figure 19: Unemployment numbers by local board area, March 2019

Legend — Number of unemployed by local board area:
- No data
- 1400 - 2000
- 2001 - 2500
- 2501 - 3000
- 3001 - 3500
- 3501 - 4000
- Southern Initiative boundary

Map labels: Rodney, Hibiscus and Bays, Upper Harbour, Kaipātiki, Devonport-Takapuna, Waitematā, Henderson-Massey, Albert-Eden, Ōrākei, Whau, Puketāpapa, Maungakiekie-Tāmaki, Waitākere Ranges, Howick, Māngere-Ōtāhuhu, Ōtara-Papatoetoe, Manurewa, Papakura, Waiheke, Franklin

Figure 20: Unemployment rate (%) by local board area, March 2019
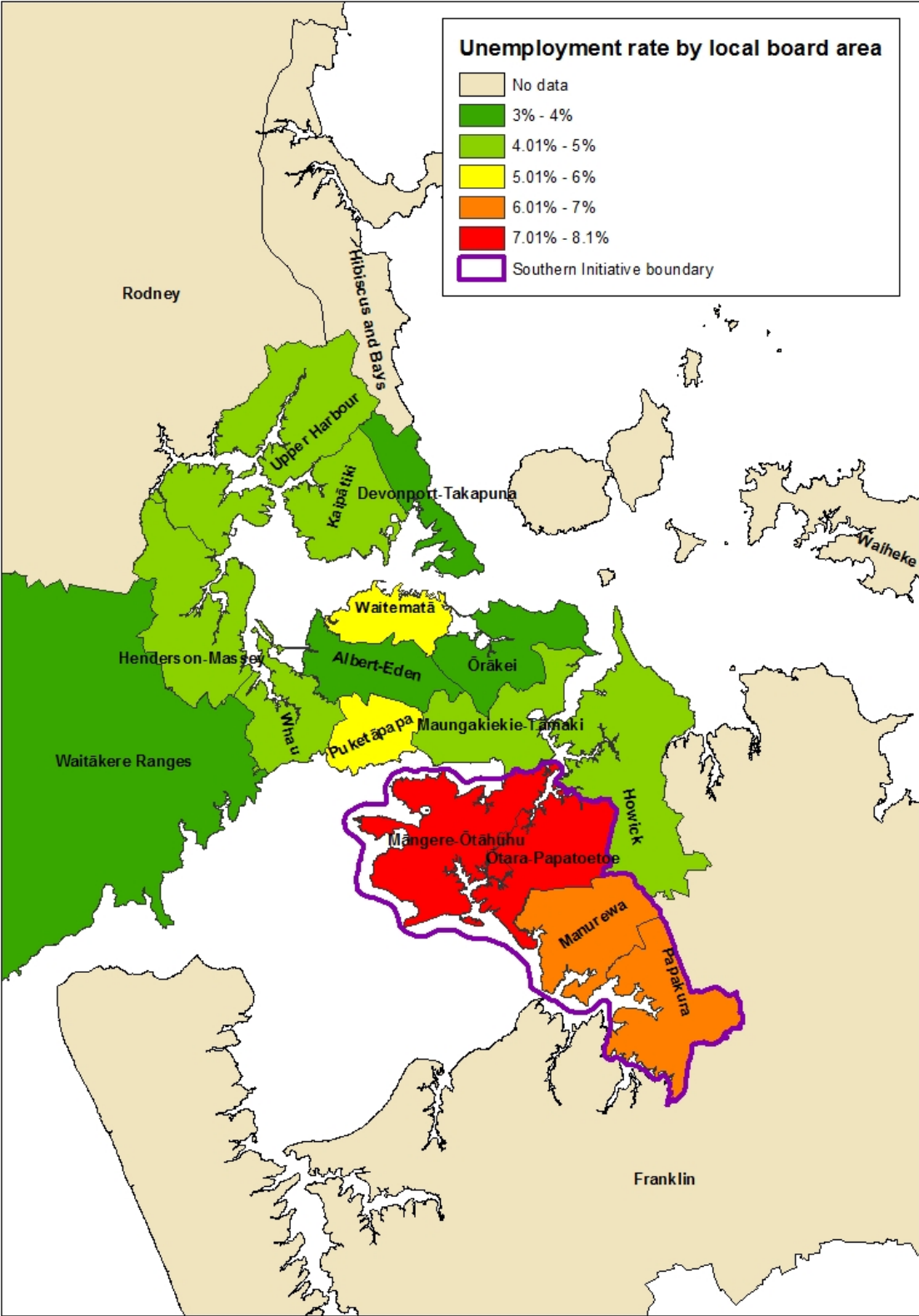
2.3   Movement into and out of employment

The challenges faced by workers with regard to increased unemployment and difficulty finding work can be seen in labour movement statistics provided by Stats NZ. These statistics complement the aggregate employment and unemployment information, by providing insight into the labour force pressures faced by an average individual.

Stats NZ's HLFS transition probabilities tell us how likely it is for an 'average individual' to move from one labour state (employment, unemployment, or not in the labour force) to another in successive quarters. Two statistics are of particular interest and are discussed here: the likelihood of an employed individual moving into unemployment, and the chance of an unemployed individual remaining unemployed.

2.3.1   Likelihood of an employed individual moving into unemployment

The statistics show that the chance of an employed individual moving into unemployment remained elevated in Auckland between 2009 and 2010, reaching a peak of 2.0 per cent in June 2010 (see Figure 21). This indicates that, at the height of the recession, one in 50 people with a job could expect to become unemployed in the forthcoming three months.

This pressure has now largely eased, with the likelihood of moving from employment to unemployment at 0.9 per cent in March 2019 (or 1 in 100 people), down from 1.8 per cent in March 2009 and about the same likelihood a year earlier (March 2018) of 1.1 per cent.

Figure 21: Chance (%) of an employed individual becoming unemployed in the following quarter, March 2009-March 2019
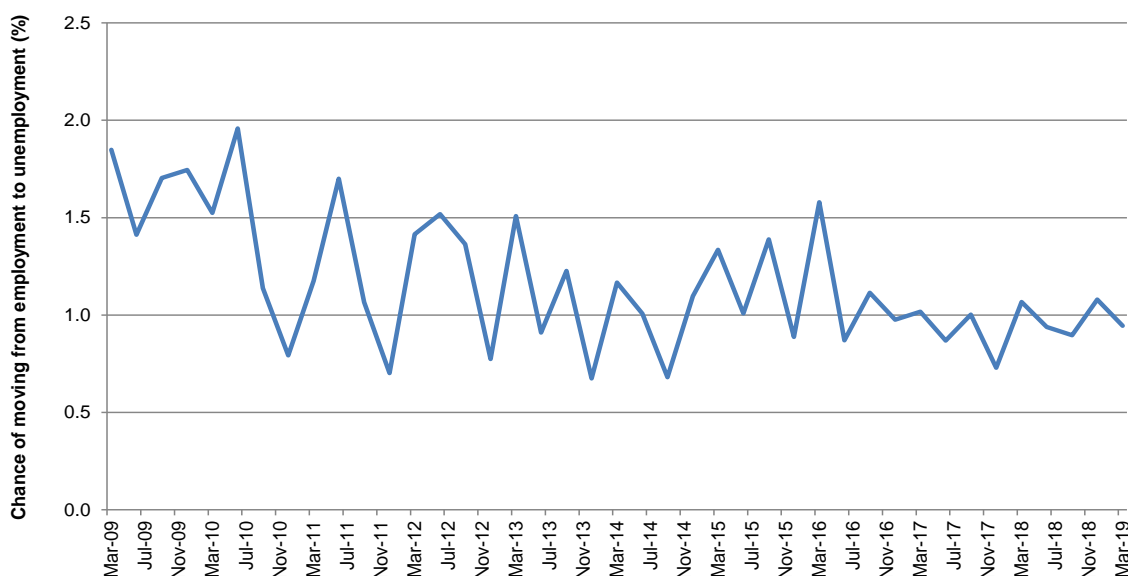
Source: Stats NZ, HLFS.

2.3.2 Likelihood of an unemployed individual remaining unemployed

As Figure 22 shows, by March 2011 those who were unemployed faced a greater chance of remaining unemployed (44.8%) than they had previously, and their chance of moving into employment fell to 22.8 per cent. The likelihood of unemployed individuals remaining in unemployment from one quarter to the next remained elevated since 2010 through to December 2017 where it declined to just over 30 per cent. March 2019 figures show a 32.4 per cent likelihood of an unemployed individual remaining unemployed in Auckland, an improvement from March 2009 with a likelihood of 36.7 per cent and about the same as at March 2018 of 32.9 per cent.

Conversely, the likelihood of an unemployed individual gaining employment was 37.1 per cent in March 2019, also an improvement from 20.4 per cent in March 2009 and 29.5 per cent in March 2018. People moving from unemployment to employment gain in material wellbeing, subjective wellbeing, physical and mental health, and socio-economic status (Canterbury District Health Board, 2019).

Figure 22: Chance (%) of an unemployed individual remaining unemployed in the following quarter, March 2009-March 2019
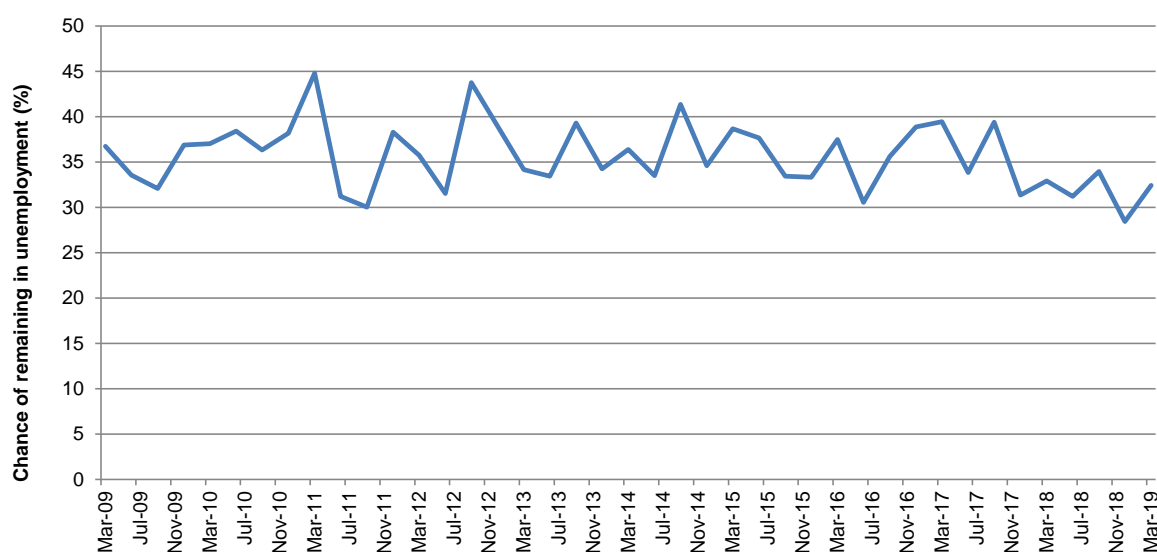
Source: Stats NZ, HLFS.

These probabilities are of course unlikely to be evenly distributed throughout Auckland, with highly experienced and skilled individuals both less likely to lose their job and more likely to find a new job if they find themselves unemployed. Nevertheless, the statistics above do provide a valuable insight into the increased pressure faced by individuals.

2.4 Disengagement from the labour market

Widespread disengagement from the labour market can have negative impacts on the economic potential of a city. Disengaged individuals are not contributing to the economy through work, and may not be actively participating in training or education which can improve their skills and thus improve their chances of future integration into work.

Disengagement from the labour market also puts individuals at significant future personal disadvantage, as they fall behind their peers in terms of skills accumulation and experience. This disadvantage increases the likelihood of these individuals being trapped in low-skilled, low-wage employment that is less likely to contribute to personal well-being and is more vulnerable to negative economic conditions.

There are a variety of reasons disengagement can arise, which are to some extent captured in additional statistics such as joblessness and NEET (youth not in education, employment or training). These are discussed further below.

2.4.1 Jobless

Joblessness is a broader, alternative measure of unemployment. The jobless number includes the officially unemployed as well as those individuals who are without work and who are either:

- available for, but not actively seeking work, or
- actively seeking, but not available for work.

The jobless rate is the number of jobless people expressed as a percentage of the jobless and employed. It is a useful measure because it includes a number of individuals who might be able to work, but are not doing so for various reasons. The inclusion of those who are available for, but not actively seeking work is particularly important because these individuals are more likely to be at greater risk of longer-term disengagement from the labour market.

The reasons an individual might be available for, but not actively seeking work, include waiting for a season to start, or to start a prior arranged job; illness or injury; ill health of others; not considering they need to work; unable to find suitable childcare; believing they lack skills; or believing there is not enough work in the area. The reasons an individual might be actively seeking, but not available for work include temporary illness, personal or family responsibilities (such as childcare), or attending an educational institution (e.g., near the time of course completion) (Allpress, 2013).

At March 2019 the jobless rate for Auckland was 8.0 per cent. This was an improvement from a rate of 10.6 per cent in March 2009 and was about the same as in March 2018 with a rate of 8.1 per cent.

Jobless by age

Differences in the jobless rate across broad age groups in the 10-year period March 2009 to 2019 are shown in Figure 23. During that time the jobless rate declined for all age groups, except those aged 15-19 years which increased by 16.9 per cent. Joblessness amongst 15-19 year olds increased from a rate of 31.4 per cent in March 2009 to 47.3 per cent in December 2009. It then declined in 2010 and 2011 but rose sharply again in 2012 reaching the peak of 49.1 per cent by December 2012. Since then joblessness has been declining (apart from a sharp increase in December 2018) to reach 36.7 per cent in March 2019.

The increases were less pronounced for the older cohorts, with the March 2019 figures showing the jobless rate higher at 15.0 per cent for 20-24 year olds compared to 5.2 per cent each for 25-39 and 40-54 year olds, and 4.7 per cent for 55+ year olds.

Compared to March 2018, the jobless rate had increased for all age-groups except for 25-39 year olds (down by 16.8%) and 55 years and older (down by 14.0%).

Figure 23: Jobless rate (%) by age group, March 2009-March 2019
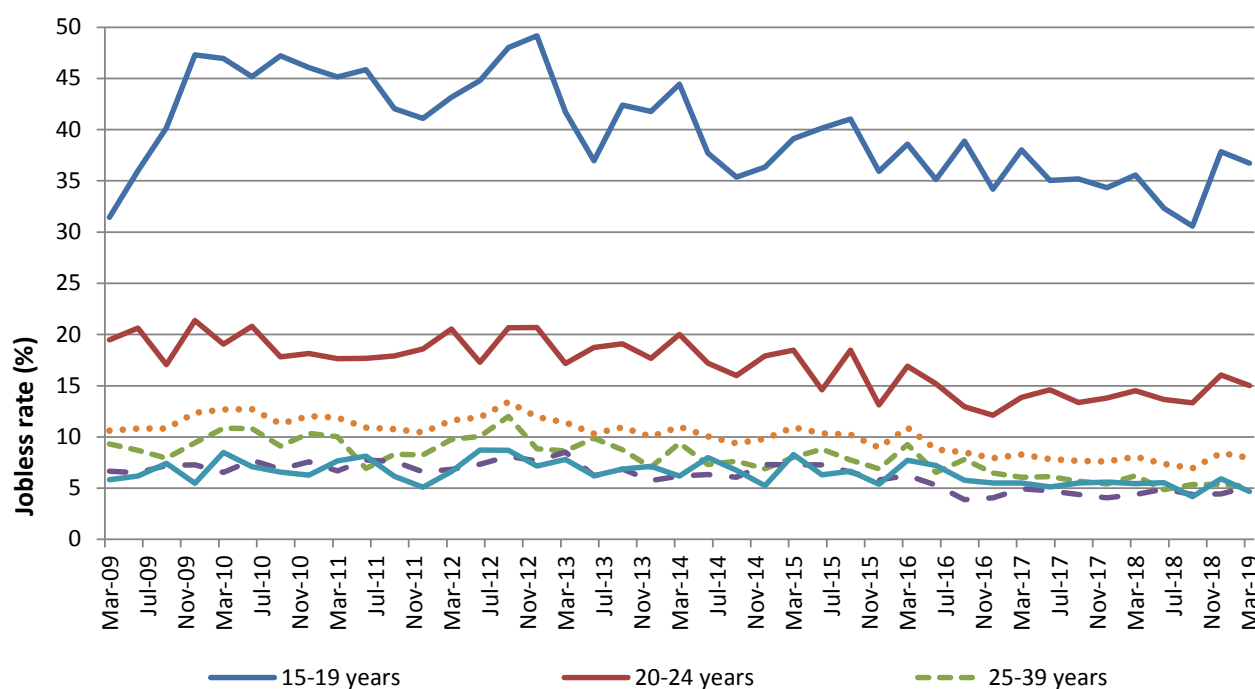
Source: Stats NZ, HLFS.

Jobless by ethnicity

As with the unemployment rate, joblessness was considerably higher for Māori and Pacific People particularly in 2009-2014 as illustrated in Figure 24. The jobless rate for those of European ethnicity has remained at less than 10 per cent throughout the 10-year period and was 6.5 per cent in March 2019, down from 7.6 per cent in March 2009. By March 2019 the jobless rate for Māori was 16.4 per cent, 14.6 per cent for Pacific People, 7.3 per cent for Asian and 7.0 per cent for MELAA/Other (compared to rates of 19.1%, 20.6%, 13.2% and 14.4% in March 2009 respectively).

Compared to March 2018, the jobless rate declined for MELAA/Other (down by 48.2%) and Asian (8.8%) but increased for Māori (up by 13.9%) and Pacific People (by 13.7%). It remained at the same level for European.

Figure 24: Jobless rate (%) by ethnic group, March 2009-March 2019
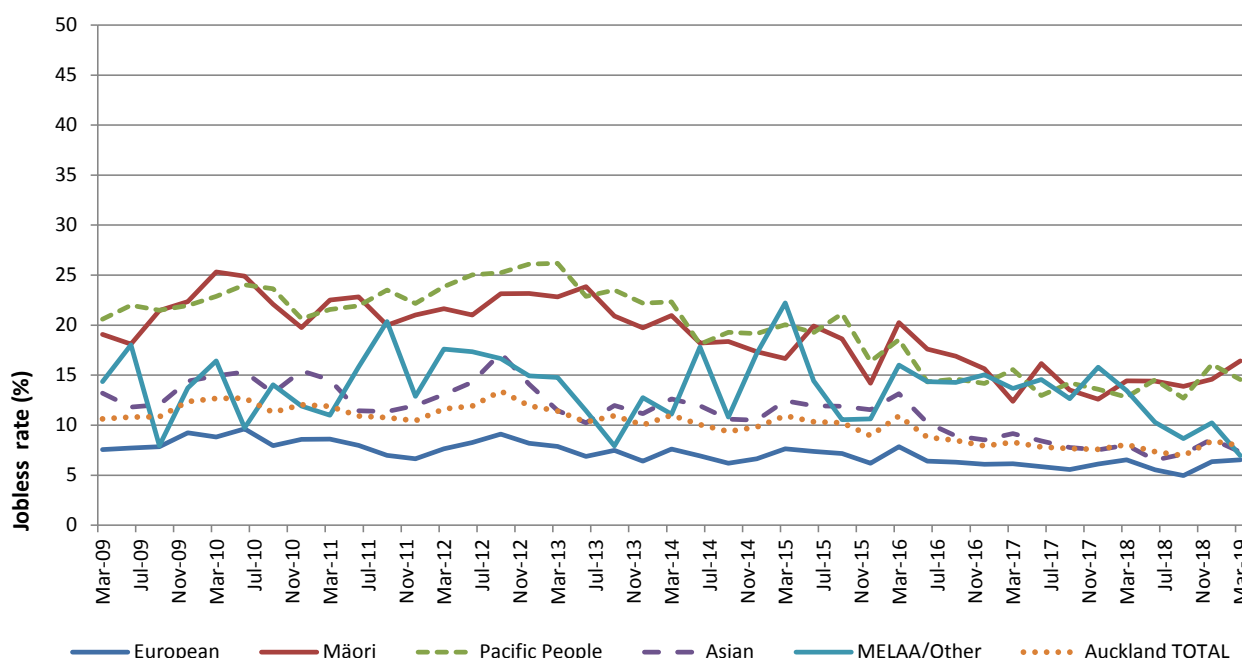
Note: The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity. Fluctuations observed for MELAA/Other could be partly due to a high sample error margin due to being a small sub-group.
Source: Stats NZ, HLFS.

2.4.2 Youth Not in Education, Employment or Training (NEET)

The youth NEET rate, as defined by Stats NZ, is the percentage of youth (aged 15-24 years) who are:

- unemployed (part of the labour force) and not engaged in education or training, or
- not in the labour force, and not engaged in education or training.

It is designed to more fully capture youth who are disengaged from both the labour market and the education system than the official measure of unemployment. The NEET rate is a valuable measure, in addition to youth unemployment, because it provides a wider measure of the percentage of youth who are neither employed nor engaged in activities such as education or training that contribute to the development of skills, and therefore improve future work and life prospects.

NEET status can be seen as a risk factor for exclusion and prolonged marginalisation from the labour market. For more detailed discussion on youth NEET in Auckland, see Tuatagaloa and Wilson (2018).

The overall NEET rate for youth (those aged 15-24 years) in Auckland was 13.9 per cent in March 2019, down from 15.5 per cent in March 2009 but up slightly from 13.6 per cent a year earlier (in March 2018).

NEET by ethnicity

Independent of age, NEET rates have, over the last 10 years, been consistently higher amongst Māori and Pacific People than European and Asian youth (Figure 24).

In March 2019, the NEET rates for both Pacific People (20.1%) and Māori (19.8%) were much higher than for youth of Asian (11.2%) and European (11.0%) ethnicity (see Figure 25). Compared to March 2009, NEET rates had declined across all groups (except Asian) – most notably for Māori decreased by 28.8 per cent. Similarly over the year from March 2018, NEET rates declined for all ethnicities but increased for Asian by 12.0 per cent. It declined by 8.3 per cent for Māori, 6.8 per cent for European and 4.7 per cent for Pacific People.

Figure 25: NEET rate (%) for youth aged 15-24 years by ethnic group, March 2009-March 2019
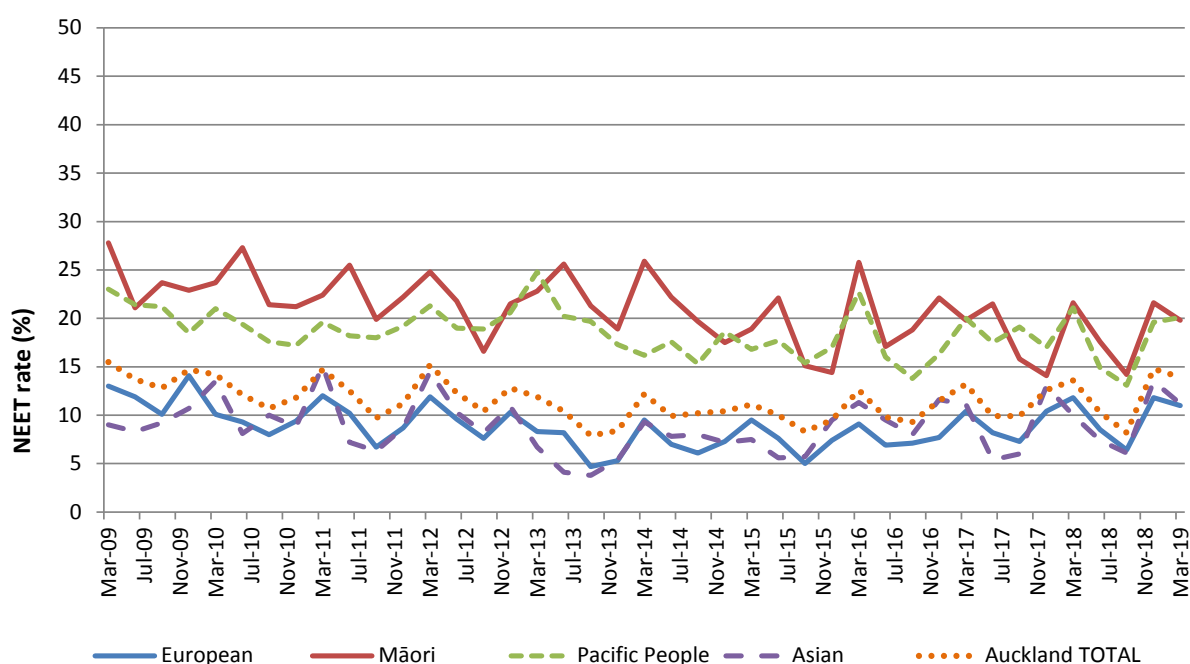
Note: The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity. Data for smaller groups (e.g. MELAA and NEET) is suppressed by Stats NZ due to excessive error margin arising from small sample subsets.
Source: Stats NZ, HLFS.

NEET by ethnicity and age

These differences in NEET rates among Auckland's ethnic groups are apparent in the two age groups that make up NEET, 15-19 and 20-24 years (Figures 26 and 27 respectively).

Significantly higher proportions of those aged 20 to 24 year were NEET (17.0% in March 2019) than 15-19 year olds (10.2%). This difference is primarily because 15-19 year olds are more likely to be in formal education and therefore not NEET. The age differential applies regardless of ethnicity: the average NEET rate since March 2009 for 20-24 year olds was approximately double that of 15-19 year olds for all major ethnic groups. However, the percentage point differential was greater for Māori and Pacific due to their higher NEET rates. Also for 20-24 year olds the differential between Māori (26.0% NEET rate in March 2019) and Pacific People (26.3%) versus European (14.2%) and Asian (11.3%) appears even more noticeable and more consistent over time than for 15-19 year olds, although this gap has been declining.

The NEET rate for Māori aged 15-19 more than halved from a peak of 25.9 per cent in March 2014 to 11.7 per cent in June 2018, however it has increased again to 13.4 per cent by March 2019.

Figure 26: NEET rate (%) for youth aged 15-19 years by ethnic group, March 2009-March 2019
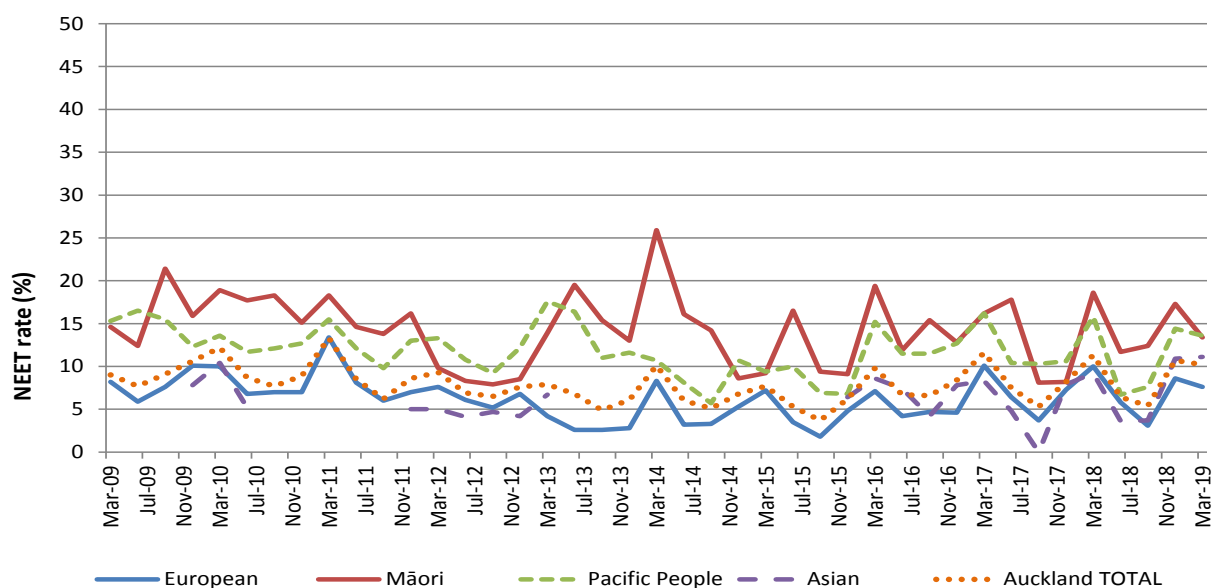
Figure 27: NEET rate (%) for youth aged 20-24 years by ethnic group, March 2009-March 2019
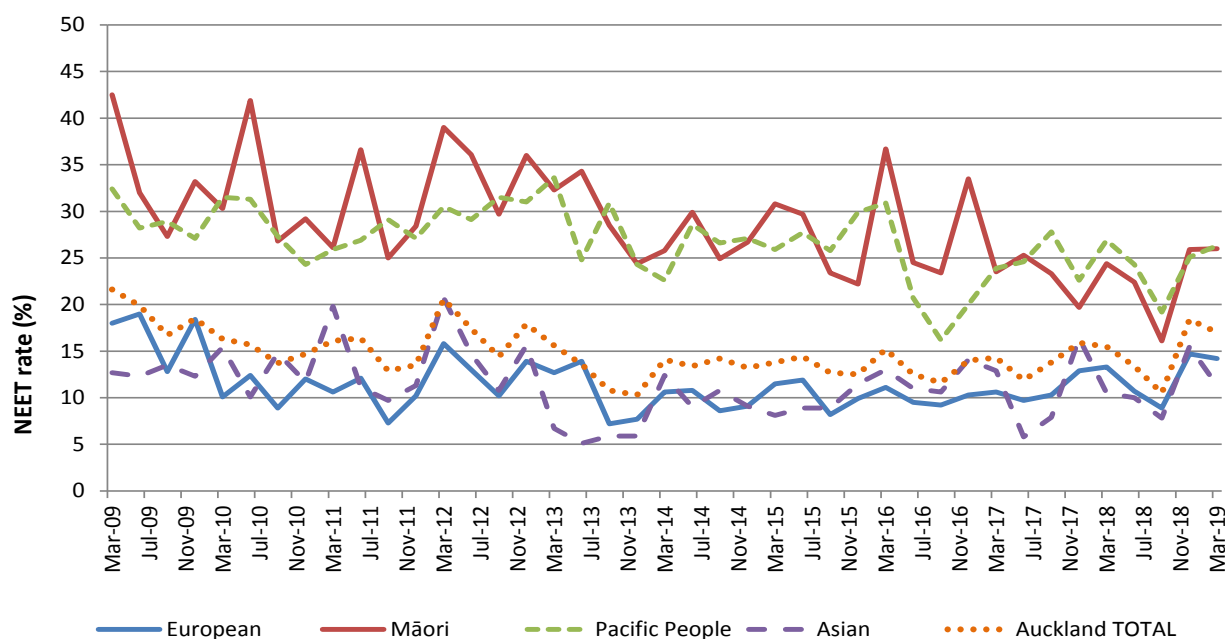
Note: The groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity. Data for smaller groups (e.g. MELAA and NEET) is suppressed by Stats NZ due to excessive error margin arising from small sample subsets.
Source: Stats NZ, HLFS.

Despite some improvement in recent years the disengagement rate of over one in four Māori and Pacific individuals in their early 20s has serious implications for Auckland's future. On a broad level, high rates of disengagement reflect an underutilisation of potential human capital, both in the present and in the future. For individuals, to be NEET reflects a missed opportunity to develop valuable and life-enhancing skills and experience at an early and crucial time in one's working life. The relative youth of Māori and Pacific communities means that this is likely to become a more, rather than less-important issue in coming years, as these cohorts move into, and represent a proportionately larger share of, the Auckland labour market.

2.5   Underemployment

Underemployment occurs when an individual possesses skills that are not fully utilised in their current role (skill-based underemployment), or when that individual is restricted to fewer hours of work than they would like (time-based underemployment). For the economy as a whole, both forms of underemployment reflect sub-optimal use of available labour.

Time-based underemployment reflects unused but immediately available capacity in the labour force. Skilled-based underemployment reflects a poor match between jobs and the skills of the workforce. All else being equal, poor matching leads to lower productivity levels and is therefore an important issue for the economy. For individuals, time-based underemployment restricts one's earning capacity, and skill-based underemployment may result in lower job satisfaction and a degradation of one's unused skill set.

Recent data is not available for Auckland skills-based underemployment, so this sub-section looks only at time-based underemployment.

2.5.1   Time-based underemployment

The rate of time-based underemployment is measured in the HLFS, and reflects the number of employed people who work part time (i.e., usually work 30 hours or less in all jobs) and would prefer to work more hours, as a percentage of all part-time workers.

As with measures related to employment and unemployment, the time-based underemployment rate has been strongly influenced by changes in wider economic conditions as shown in Figure 28.

Time-based underemployment went up sharply between March 2009 and September 2009, from 3.6 per cent (representing 25,400 people across Auckland) to 5.6 per cent (39,100 people). Since then the rate has remained between three and four per cent except for December 2013 when it was five per cent. By March 2019, there were 27,100 individuals who worked part-time but would prefer to work more hours in Auckland, 2.9 per cent of all part-time workers in Auckland (lower than the average over the last 10 years of 3.6 per cent). The underemployment rate in March 2019 was lower compared to March 2009 (3.6%) and March 2018 (3.5%).

Figure 28: Underemployment rate (%), March 2009-March 2019
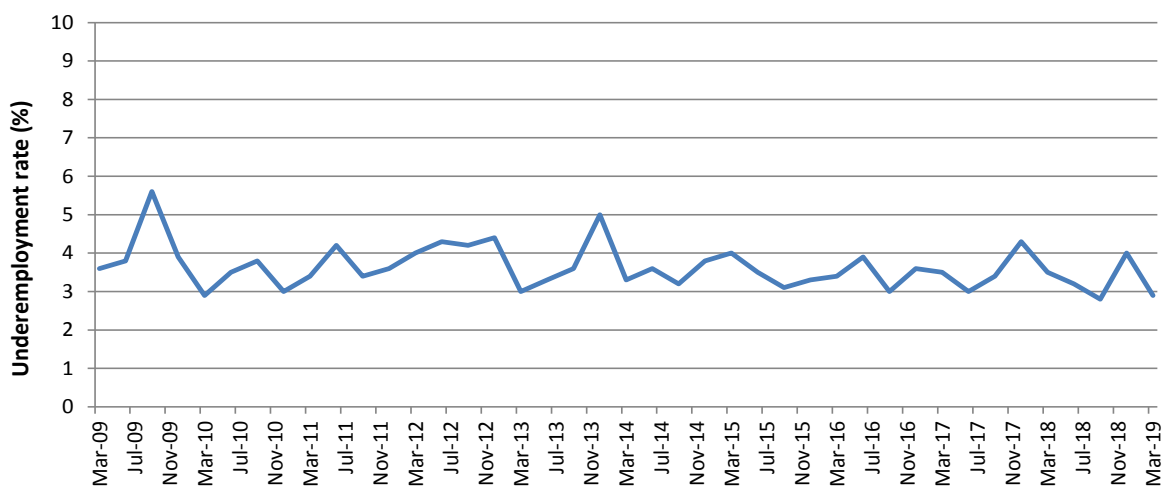
2.6 Industries in Auckland

This section provides information on the number of businesses in Auckland's broad industry sector and the jobs they have generated (as classified by the Australian and New Zealand Standard Industrial Classification (ANZSIC) Level 1). Insight into the industrial composition of the Auckland economy can assist individuals with decisions on educational pathways and training or upskilling into industries with the greatest growth opportunities.

Information on business units by industry is taken from Stats NZ's annual Business Demographics data set. Information on employment by industry is from Stats NZ's Linked Employer-Employee Dataset (LEED) which combines information from the taxation system and Stats NZ's Business Frame to provide statistics on job and worker flows. As noted earlier there is a lag in the availability of LEED data by approximately a year, hence the information reported on is for March 2018.

2.6.1 Business units by industry

As at February 2018, there were 196,011 business units in Auckland – 34.4 per cent of all businesses in New Zealand, and 35.0 per cent of all paid employees.

Over a third of all business units in Auckland were either rental, hiring and real estate services; or professional, scientific and technical services (see Table 3). In addition there were a significant number of businesses within the construction industry, financial and insurance services, and retail trade.

Total growth in the overall number of Auckland business units over the 10-year period (February 2008 to February 2018) was 21.2 per cent. The fastest growth occurred within:

- accommodation and food services (increasing by 40.1%, or 2253 business units)
- financial and insurance services (increasing by 34.6%, or 4314 units)
- rental, hiring and real estate services and professional, scientific and technical services, which had more modest percentage increases (28.6% and 21.2% respectively), but due to their size represented the highest and second highest increase in number of business units (9258 and 4881 respectively).

Table 3: Business count and percentage (%) by industry (ANZSIC Level 1), February 2018

Industry	Number	Percentage
Rental, Hiring and Real Estate Services	41,589	21.2
Professional, Scientific and Technical Services	27,870	14.2
Construction	22,848	11.7
Financial and Insurance Services	16,776	8.6
Retail Trade	13,677	7.0
Wholesale Trade	9,894	5.0
Other Services	8,568	4.4
Administrative and Support Services	8,238	4.2
Health Care and Social Assistance	8,163	4.2
Manufacturing	8,001	4.1
Accommodation and Food Services	7,866	4.0
Transport, Postal and Warehousing	6,816	3.5
Agriculture, Forestry and Fishing	4,197	2.1
Arts and Recreation Services	3,543	1.8
Education and Training	3,420	1.7
Information Media and Telecommunications	3,225	1.6
Public Administration and Safety	819	0.4
Electricity, Gas, Water and Waste Services	405	0.2
Mining	99	0.1
Total	**196,011**	**100**

Source: Stats NZ, Business Demographics

For more detailed discussion of the long-term trends in Auckland's business demographics, see Huang (2018).

2.6.2   Employment by industry (filled jobs)

Manufacturing has experienced a significant decline in the number of employees in recent years as measured by the number of filled jobs. LEED data shows that the number of jobs in that sector dropped from a peak of 77,310 in March 2008 to 68,250 in September 2013 (a loss of over 9000 over five years). It has since started to pick up and by March 2018 the sector recorded 75,370 jobs (see Figure 29).

The largest industry is the combined professional, scientific, technical services, administrative and support services sector, which experienced a significant decrease in jobs between June 2008 and March 2010, with a loss of 12,530 in 21 months. This industry has since made a strong recovery however, and by March 2018 there were 131,820 employees - an increase of 33,710 (or 34.4%) from March 2008.

Two industries in particular – accommodation and food services, and health care and social assistance – have been resilient to recent economic issues, with stable and consistent growth over the last decade. Contributing factors will include Auckland's growing population and an ageing population.

Most other industries either plateaued or had a moderate fall in jobs during the GFC, and subsequently recovered.

Figure 29: Filled jobs by industry (ANZSIC Level 1), March 2008-March 2018
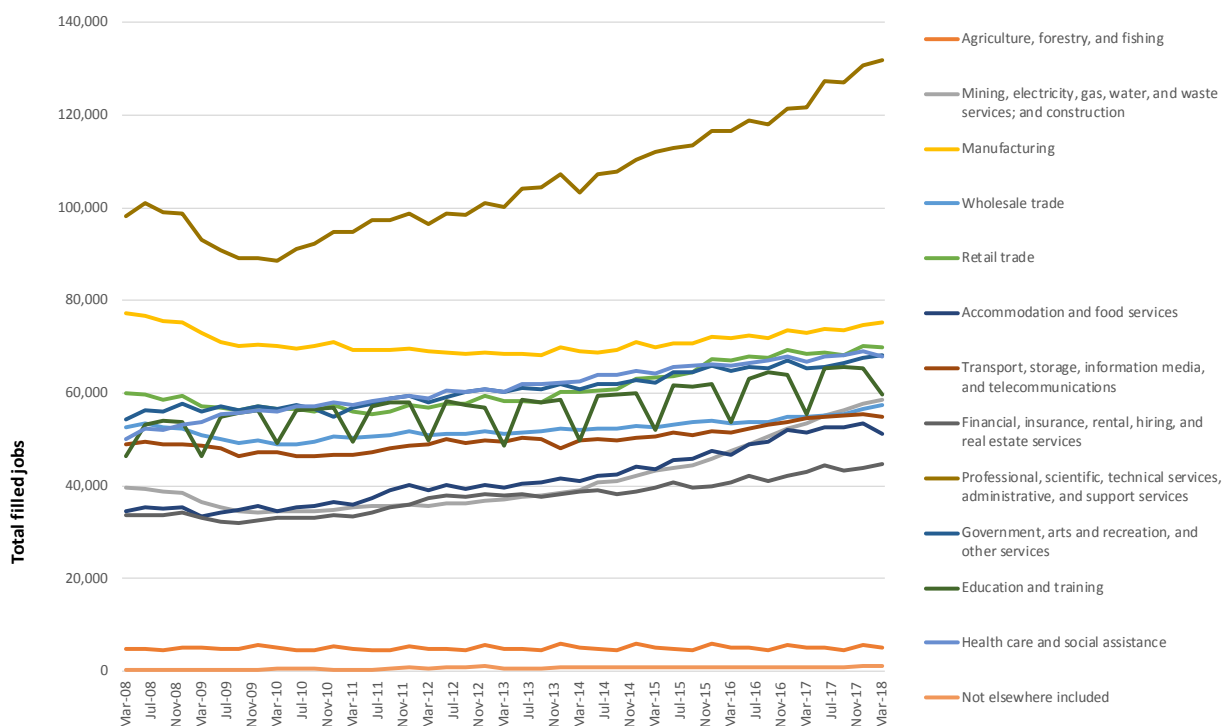
Source: Stats NZ, LEED

3.0   Demand for labour

Demand for labour shows how many workers an economy or employer is willing and able to hire (at a given wage rate in a given time period). Employer demand for labour is most directly reflected in hiring decisions – when employers need skills, they create jobs or when a firm's output increases, employers demand more labour thus hiring more staff.

In this section, analyses of job availability are reported on that calculate both the creation of jobs by broad skills and occupations in Auckland and the number of new job positions advertised on key online job sites over time (Section 3.1). Additionally, if the demand for labour grows faster than the supply, then employers are likely to have increasing difficulty finding appropriately skilled workers. Firms may then report diminishing ease of finding skilled or unskilled labour, or both, and/or may identify labour as the main constraint on growing their business. These are discussed in Section 3.2.

While a loss of jobs in one industry and the commensurate creation of jobs in another may be seen as a zero-sum outcome in macroeconomic terms, or even a beneficial outcome if the industry of growth is a knowledge-intensive one, such changes have important effects on the individuals working in the industries and occupations that are undergoing change. Drastically changing levels of demand, or a shift in demand from one industry to another, can greatly impact on the lives of workers, as they are forced to find new jobs – often in new industries or occupations – and adapt to new working conditions. For this reason, Section 3.3 reports on stability in the labour market.

Finally, because much of Auckland's competitive growth is likely to occur in knowledge-intensive industries in the future, levels of employment in Auckland's knowledge-intensive industries is reported in Section 3.4.

3.1   Job availability

This sub-section reports on employment growth by skill level and occupation category (as classified under the Australian New Zealand Standard Classification of Occupation (ANZSCO) Level 1). This information is from Infometrics' web-based Regional Economic Profile for Auckland (Infometrics, 2018). The broad skill levels, as defined by Infometrics, are:

- Highly skilled occupations typically require a bachelor degree or higher qualification and include professionals such as accountants, teachers, and engineers, as well as most managers such as chief executives.

- Skilled occupations typically require an NZ Register Diploma, an Associate Degree or Advanced Diploma. The category includes some managers (such as retail

managers) and technicians (such as architectural draftspersons, ICT support technicians and dental hygienists).

- Semi-skilled occupations typically require a NZ Register Level 4 qualification. The category includes tradespersons (such as motor mechanics), skilled service workers (such as firefighters), as well as skilled clerical and sales workers (such as legal secretaries and estate agents).

- Low-skilled occupations typically require an NZ Register Level 3 qualification or lower. It includes a range of lower skilled occupations from general clerks, caregivers, and sales assistants, through to cleaners and labourers.

Skill levels measured by qualification only risk missing additional skills that people acquire through workplace training and informal learning, which are likely to have significant impacts on an individual's skills, employability and life pathways. Hence, this information provides an important, but only partial insight into the skills of Aucklanders.

Analyses of online job vacancies, an important indicator of labour demand and changes in the economy are also discussed in this sub-section. Data on online job vacancies is taken from Jobs Online, a monthly report produced by Ministry of Business, Innovation and Employment (MBIE) that measures changes in online job advertisements from four internet job boards – SEEK, Trade Me Jobs, Education Gazette and Kiwi Health Jobs (MBIE, 2018). MBIE receives information from each job board and calculates the number of unique advertised job vacancies each month. These advertised vacancies provide an up-to-date indicator of changes in job openings over time.

3.1.1 Employment growth

Overall, the total number of people employed in Auckland (as recorded by Infometrics) was 886,187 in the year 2018. This is an increase of 22.0 per cent from 2008 (or 159,903) and 3.6 per cent (or 30,867) from 2017.

Split up by broad skill levels, 318,056 individuals (or 35.9%) were in highly-skilled occupations, 100,785 (or 11.4%) were in skilled, 139,219 (or 15.7%) were in semi-skilled and 328,127 (or 37.0%) were in low-skilled occupations.

The number of individuals employed in occupations of different skill levels from 2008 to 2018 is outlined in Table 4. It shows a polarised Auckland labour market, with most Aucklanders working in either highly-skilled or low-skilled occupations, and significantly fewer people working in skilled or semi-skilled occupations. This polarisation has gradually increased over time. From 2008 to 2018, higher skilled occupations (highly-skilled and skilled) have grown faster than lower skilled ones (low-skilled and semi-skilled) by 32.7 per cent compared to 13.8 per cent.

The recession reduced growth in higher-skilled occupations to zero, and resulted in job losses in lower-skilled occupations as depicted in Figure 30. From 2011 onwards, growth in all skill levels have largely returned to positive, however the rate of growth of jobs in higher-skilled occupations remained higher than for the lower-skilled occupations only up to 2014. Since then the rate of growth in semi-skilled employment has been higher than higher-skilled (highly-skilled and skilled) occupations (21.2% compared to 14.9% and 17.3% respectively).

Figure 30: Annual growth rate (%) of filled jobs by skill level, 2008-2018
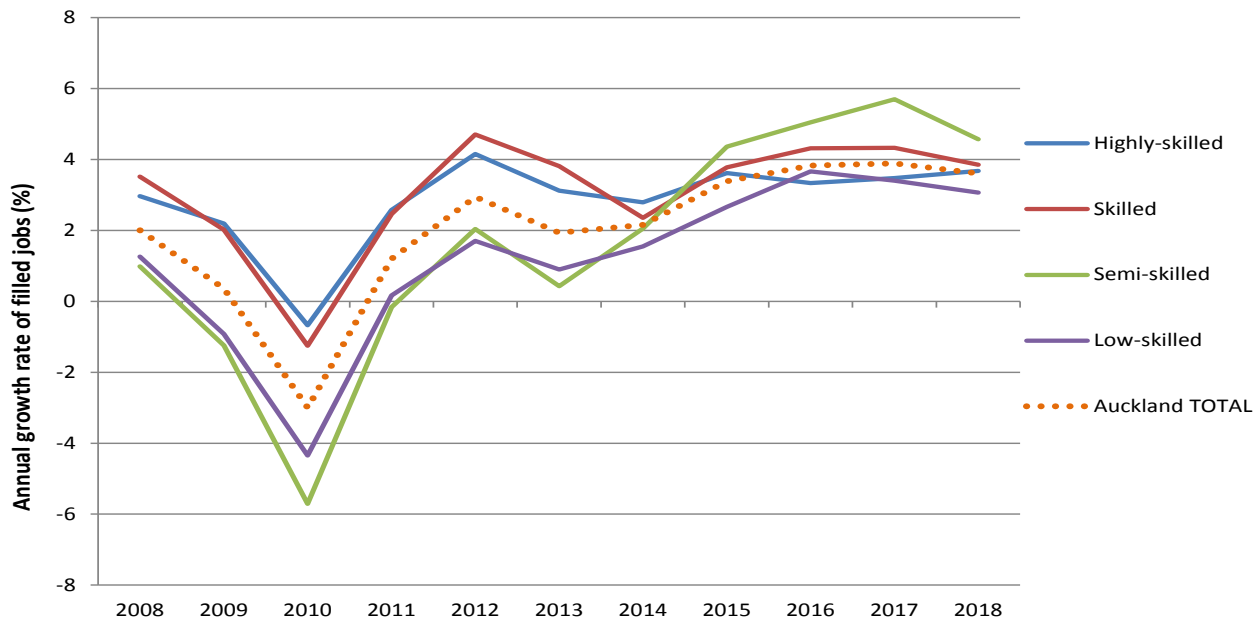
Source: Infometrics, Regional Economic Profile for Auckland

The patterns seen for different skill levels are reflected in changes in employment in different occupations over the period 2008 to 2018 as shown in Table 5. Managers and professionals have had the strongest growth in jobs since 2008 (24.3% and 36.2% respectively), and community and personal service workers have grown at a similar rate, but from a lower base starting point.

In contrast, there was minimal growth over the 10-year period in numbers of machinery operators and drivers, and clerical and administrative workers (7.1% and 4.7% respectively). These occupations had only recovered from pre-GFC levels by 2017. Technicians and trades workers, sales workers and labourers showed moderate overall growth since 2008, and by 2013/2014 their levels had largely recovered from the recession.

The annual changes in job numbers for different occupations from 2008 to 2018 is shown in Figure 31. The recession reduced growth in professionals and community and personal services workers to close to zero, and resulted in job losses in all other occupations. Even managers lost jobs in 2010, but they bounced back strongly in 2011 and 2012. Labourers also saw a return to robust growth in 2011 and 2012, as did professionals and community and personal services workers, but most other occupations saw only modest recoveries in growth rates.

The fastest growing occupations over the last year (from 2017) were technicians and trades workers which grew by 4.8 per cent, and labourers which grew by 4.3 per cent.

Figure 31: Annual growth rate (%) of filled jobs by occupation (ANZSCO Level 1), 2009-2018
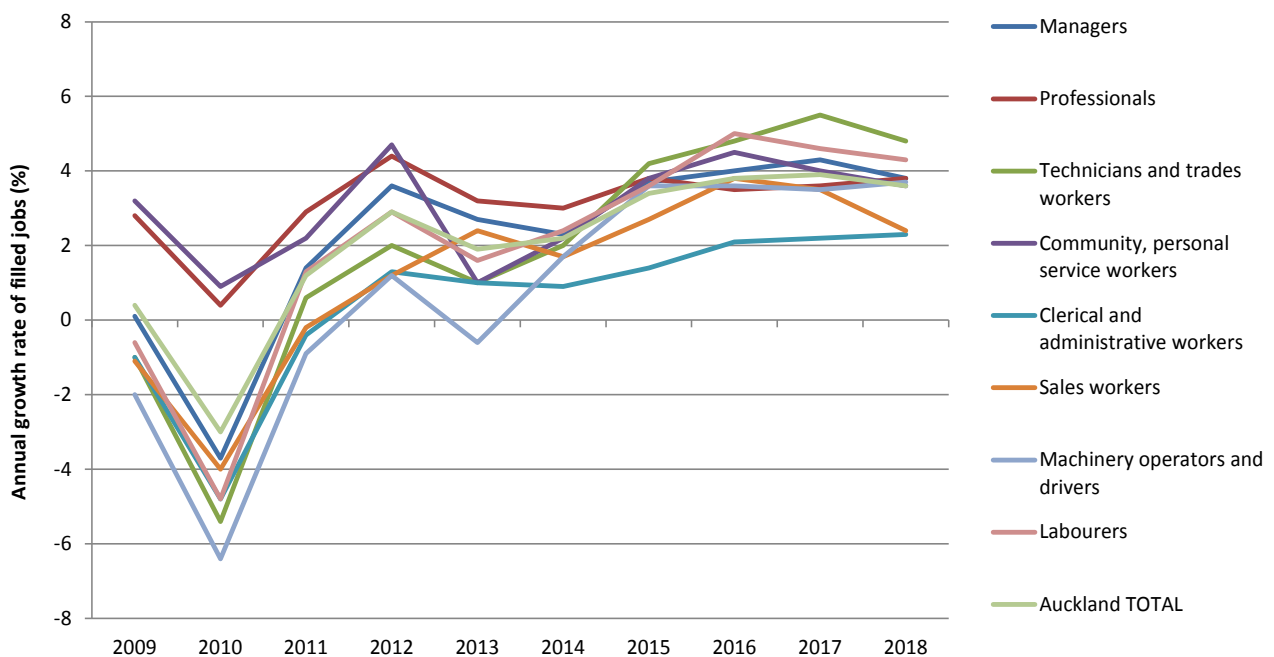
Source: Infometrics, Regional Economic Profile for Auckland

Table 4: Number of employed individuals by skill level, 2008-2018

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Highly-skilled	240,873	246,160	244,508	250,815	261,234	269,383	276,897	286,904	296,468	306,782	318,056
Skilled	74,817	76,328	75,374	77,231	80,864	83,948	85,927	89,174	93,022	97,049	100,785
Semi-skilled	118,163	116,695	110,036	109,859	112,102	112,584	114,895	119,904	125,956	133,135	139,219
Low-skilled	292,431	289,729	277,148	277,600	282,339	284,879	289,292	296,998	307,878	318,354	328,127
Total	**726,284**	**728,911**	**707,065**	**715,505**	**736,540**	**750,794**	**767,011**	**792,981**	**823,324**	**855,320**	**886,187**

Source: Infometrics, Regional Economic Profile for Auckland

Table 5: Number of employed individuals by occupation (ANZSCO Level 1), 2008-2018

Occupation	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Managers	124,475	124,625	120,053	121,712	126,050	129,466	132,421	137,376	142,888	149,049	154,667
Professionals	164,543	169,230	169,967	174,977	182,615	188,405	194,095	201,510	208,531	215,949	224,105
Technicians and trades workers	92,283	91,388	86,481	87,036	88,813	89,704	91,503	95,334	99,931	105,458	110,485
Community, personal service workers	58,576	60,440	60,957	62,318	65,261	65,891	67,338	69,895	73,037	75,984	78,735
Clerical and administrative workers	101,099	100,049	95,249	94,842	96,039	96,991	97,827	99,167	101,278	103,475	105,892
Sales workers	78,705	77,869	74,782	74,659	75,557	77,347	78,651	80,751	83,829	86,796	88,855
Machinery operators and drivers	43,274	42,393	39,701	39,324	39,798	39,578	40,235	41,679	43,177	44,704	46,337
Labourers	63,329	62,918	59,877	60,637	62,407	63,412	64,941	67,270	70,653	73,905	77,112
Total	**726,284**	**728,911**	**707,065**	**715,505**	**736,540**	**750,794**	**767,011**	**792,981**	**823,324**	**855,320**	**886,187**

Source: Infometrics, Regional Economic Profile for Auckland

The labour market and skills in Auckland 2009-2019

3.1.2   Job vacancies

The Jobs Online programme reports on two indices: the All Vacancy Index (AVI); and the Skilled Vacancy Index (SVI). Analysis by region, occupation and industry is available only for the SVI. This reports on occupations that require a minimum of a level 4 qualification (or equivalent experience) and are classified as professional, manager, or technicians and trades workers (MBIE, 2018).

The Jobs Online Skilled Vacancy Index shows that in December 2018, the vacancy level in Auckland was 80.3 per cent higher than December 2010 levels.

Within Auckland, all industries experienced marked increases in numbers of online vacancies for skilled workers over the December 2010 levels, except Information Technology (IT), as shown in Figure 32.

The largest increases were in Construction (by 219.6%), Manufacturing (170.3%), Primary (134.3%) and Hospitality (128%) industries. Vacancy rates in IT dipped from September 2012 and by December 2018 were 6.3 per cent lower than December 2010.

Figure 32: Skilled vacancy index (seasonally adjusted) by broad industry, December 2010-December 2018
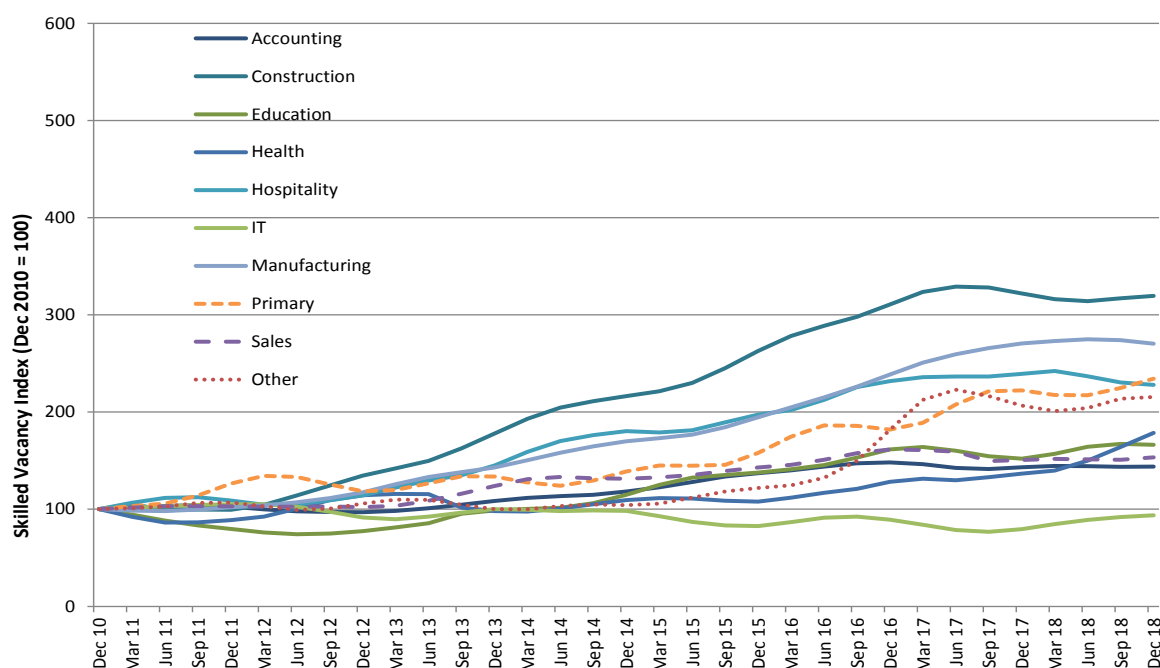
Note: Values are indexed against December 2010 = 100.
Source: MBIE, Jobs Online (custom data).

The vacancy postings for all occupations have increased over the December 2010 levels as presented in Figure 33. The strongest growth in vacancies occurred for labourers (400.7% h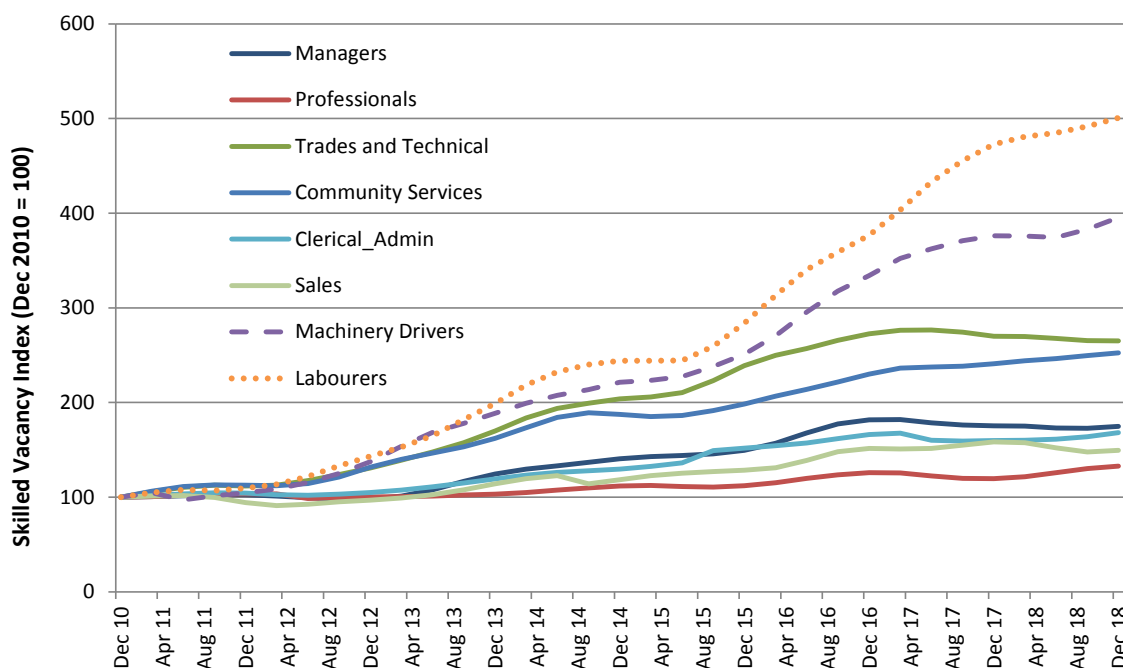igher than December 2010), machinery drivers (295.5%), trades and technical workers (165.1%) and community services workers (152.5%).

Figure 33: Skilled vacancy index (seasonally adjusted) by occupation (ANZSCO Level 1), December 2010-December 2018

Note: Values are indexed against December 2010 = 100.
Source: MBIE, Jobs Online (custom data).

Strong growth in job vacancies in Auckland for labourers, machinery drivers, trades and technical workers could be driven in part by the Auckland housing boom resulting in increased demand for these specialised skills and expertise.

3.2   Difficulty finding appropriately skilled workers

The New Zealand Institute of Economic Research's (NZIER) Quarterly Survey of Business Opinion (QSBO) samples a number of employers, including manufacturers, builders, architects, wholesalers and retailers, and service sector firms, to identify growth intentions and key inhibitors of growth (NZIER, 2019). Two measures provide particular insight into difficulties faced by employers with regard to finding appropriately skilled workers: difficulty finding skilled and unskilled labour and ratings of labour as a main constraint on growth.

These two measures are discussed in this sub-section.

3.2.1 Difficulty finding skilled and unskilled labour

The QSBO asks employers to rate whether it is easier or harder to find both skilled and unskilled staff compared to three months prior. The net percentage of firms that reported greater ease or difficulty of finding skilled and unskilled staff is presented in Figure 34.

Two trends are evident. Firstly, the ease of finding labour, be it skilled or unskilled, is influenced strongly by the underlying economic conditions. For example, finding labour became significantly easier during the recessionary period (e.g. 2008-2009 GFC). Secondly, regardless of the underlying economic conditions, skilled labour is more difficult to find than unskilled labour.

The net number of firms reporting greater difficulty recruiting both skilled and unskilled workers has increased sharply in recent years, for skilled labour from mid-2010 onwards and for unskilled labour from mid-2013 onwards. In March 2019, a net total of 41.9 per cent of firms reported it was more difficult to find skilled workers compared to three months ago, while for unskilled labour the figure was 22.2 per cent. This was an improvement compared to a year earlier (March quarter 2018) with 45.6 per cent of firms reported it was more difficult to find skilled workers compared to three months ago, and 40.4 per cent for unskilled labour.

Figure 34: Net percentage of firms (%) reporting ease/difficulty of finding skilled and unskilled labour, March 2009-March 2019
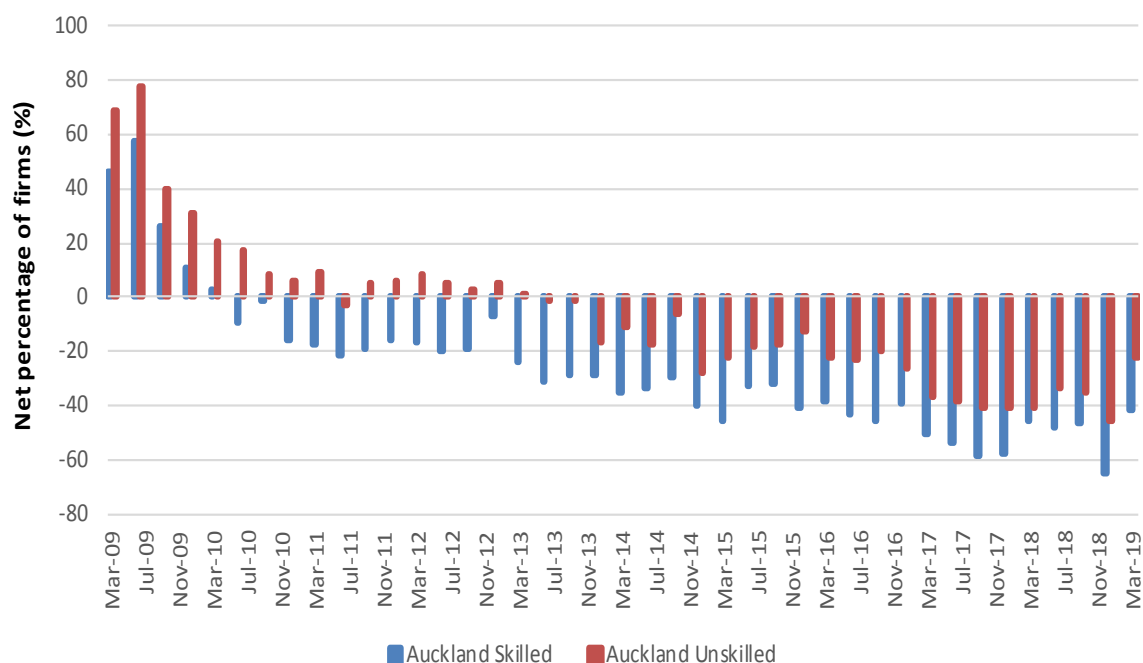
Note: Positive values reflect a net ease of finding labour; negative values reflect a net difficulty of finding labour.
Source: NZIER, QSBO (custom data)

3.2.2 Labour as the main constraint on growth

The QSBO also asks employers to identify the main factor that constrains their business growth. Year after year, the majority of firms identify sales as the primary constraint, although this has gone down significantly from the high of 86.4 per cent in September 2010 to 33.9 per cent in September 2016, as shown in Figure 35. By March 2019 it had increased again to 48.9 per cent. Smaller numbers of businesses identify finance (5.9%), materials (2.6%) and capacity (22.0%) as primary constraining factors on growth as at March 2019.

The percentage of businesses reporting difficulty finding labour as the primary constraint on growth has varied significantly over time, ranging from 0.2 per cent in June 2009 to a high of 23.4 per cent in June 2017. By March 2019 it declined to 10.9 per cent – lower than a year earlier in March 2018 (18.8%) but much higher than the 3.9 per cent reported in March 2009.

Figure 35: Net percentage of firms (%) reporting main constraint on growth, March 2009-March 2019
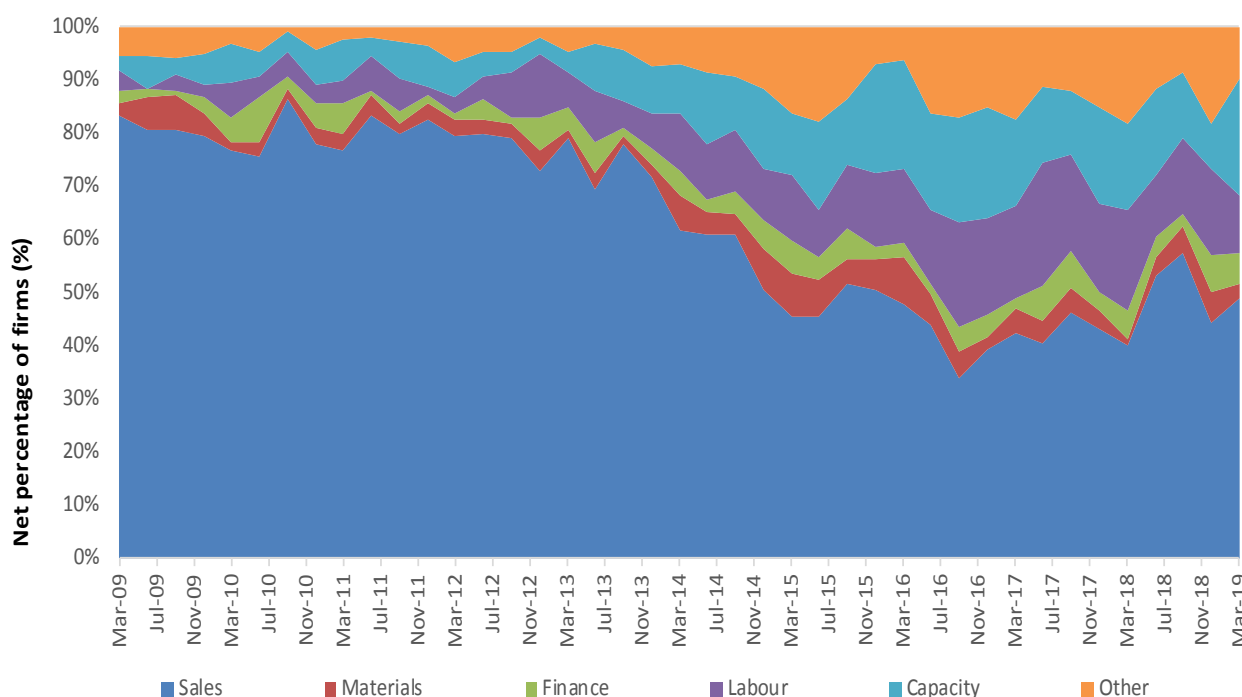
Source: NZIER, QSBO (custom data)

As noted earlier, the incidence of labour as a main constraint of growth closely reflects wider economic conditions, with the impact of finding labour on business growth increasing during periods of economic growth and decreasing during recessionary periods, when labour becomes relatively scare and plentiful, respectively.

Although the recent quarterly results are showing some improvements, signs of a tightening labour market continues with employers reporting it increasingly difficult to find the right workers (both skilled and unskilled) to fill vacant positions. This suggests that the current demand for labour is not being satisfied adequately for most businesses and that business growth may be constrained by the difficulties recruiting appropriately skilled and unskilled individuals.

3.3 Labour market stability

Stability in the labour market is reported in this sub-section in two parts. Job creation and destruction statistics are taken from LEED. They refer to the number of jobs created since the previous quarter, when businesses expand or start up and the number of jobs lost since the previous quarter, when businesses contract or shut down.

In addition, worker turnover provides insight into the rate of movement of employees between jobs, also taken from LEED. This is supported by staff turnover reports from employers collected in the QSBO. The survey asked employers in Auckland whether they have experienced more, less, or the same staff turnover in the last three months, compared to the three months prior.

3.3.1 Job creation/destruction

There is a strong seasonal pattern to job creation and destruction, with job losses in the March quarter and recovery in June as shown in Figure 36. In addition there is an overall long-term positive trend, which is to possibly be expected due to population growth.

There was a reduction in the number of jobs in 2009 and 2010, supporting patterns shown in previous sections of significant economic pressure during this period. Since then, the uptrend appears to have resumed at the previous rate of growth recovering the two or three years of lost growth.

By March 2018, 52,910 jobs were created and 61,520 were destroyed, for a net loss of 8610 jobs. Total filled jobs in March 2018 of 746,280[9] was 4.5 per cent above March 2017 (714,300) and 24.2 per cent higher than March 2008 (601,040).

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[9] Note that this figure is different from total employment numbers as recorded by Infometrics in Section 3.1.1 due to different methodologies and timeframes reported.

Figure 36: Net quarterly job creation/destruction and total filled jobs, March 2008-March 2018
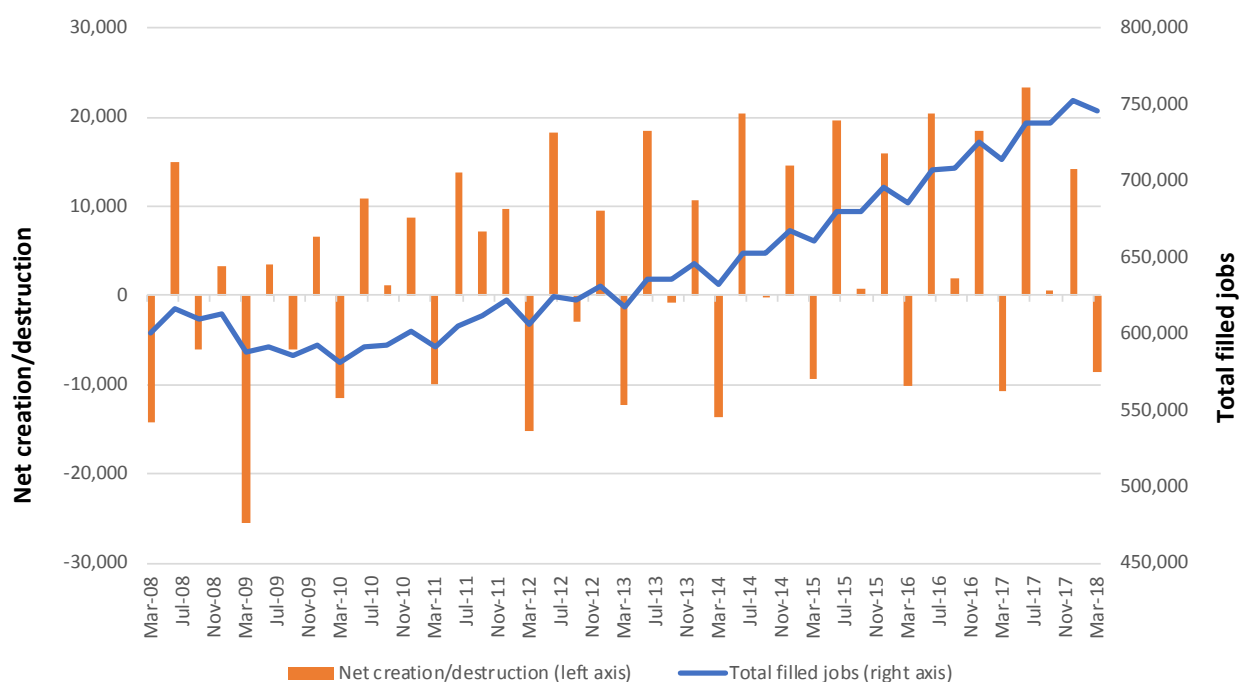
Source: Stats NZ, LEED

3.3.2 Worker turnover

The worker turnover rate reflects the number of individuals who moved into and out of employment, as a percentage of the total number of jobs. A turnover rate of 15 per cent can be seen to reflect the movement of 15 out of every 100 employees out of their current jobs and into new jobs.

Stats NZ defines worker turnover as the ratio of the average of the total accessions (the number of new employees who have joined employers in the reference quarter) and separations (the number of employees who have left employers in the reference quarter), to the average of the total jobs in the reference quarter (t) and the previous quarter (t-1):

$$\frac{(Accessions + Separations)/2}{(Jobs(t) + Jobs(t\text{-}1))/2}$$

The worker turnover rate for Auckland shows a dramatic drop off in 2009, down to 12 per cent in December 2009 as depicted in Figure 37. Since then the rate has largely been around 15 per cent or less (apart from a brief spike in June 2010 of 19.9 per cent). This momentary blip may have reflected an easing of the pressure built up throughout the GFC in 2009 as workers began to see signs of economic recovery. If this was indeed the case, the relief was short lived, with worker turnover quickly

returning to suppressed levels from September 2010 onward. By March 2018, 16 out of 100 employees (16.5%) in Auckland moved out of their current jobs into new jobs. This was similar to March 2017 (16.2%) and March 2008 (16.3%).

Figure 37: Worker turnover rate (%), March 2008-March 2018
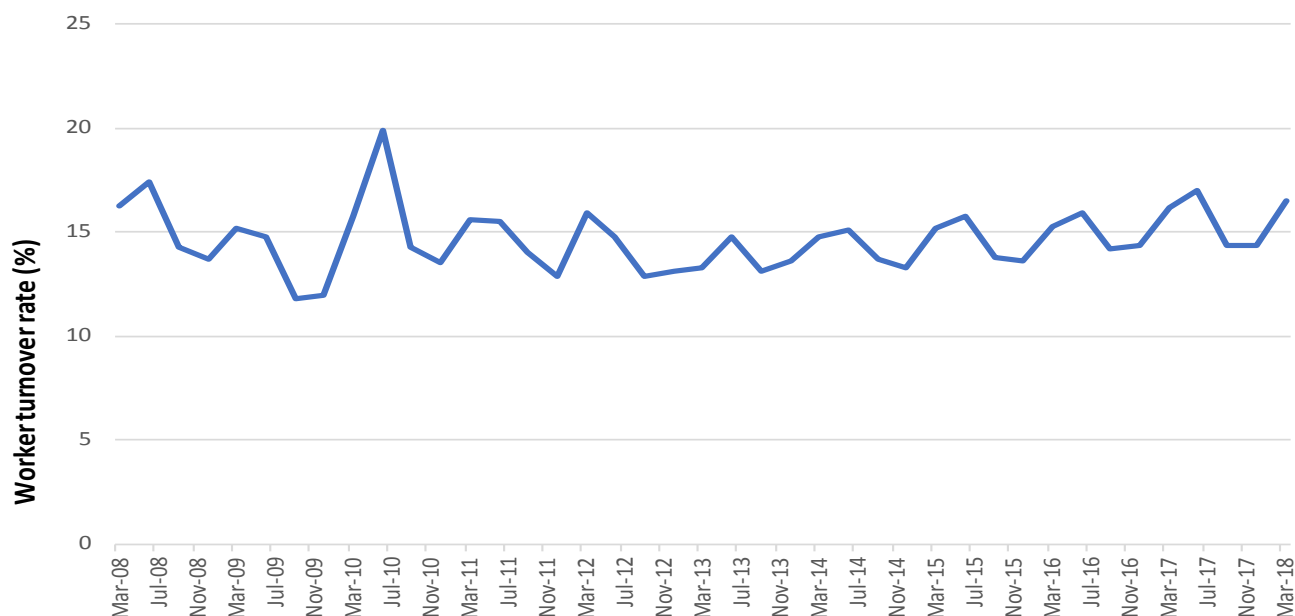
Source: Stats NZ, LEED

The above findings are supported by reports from employers collected in the QSBO.

Employers were asked whether they have experienced more, less, or the same staff turnover in the last three months, compared to the three months prior. This supports the LEED data by showing a significant drop in turnover in 2008-2009 with recent indications suggesting staff turnover rising in 2013/2014 and 2017/2018 (Figure 38). In March 2019 (which LEED does not report on, due to the time lag in data release) 8.2 per cent of employers reported more staff turnover than the previous quarter. This compares to 19.9 per cent of employers reporting more staff turnover in March 2018 and 33.2 reporting less staff turnover in March 2009.

Figure 38: Net percentage of firms (%) reporting increased worker turnover rate, March 2009-March 2019
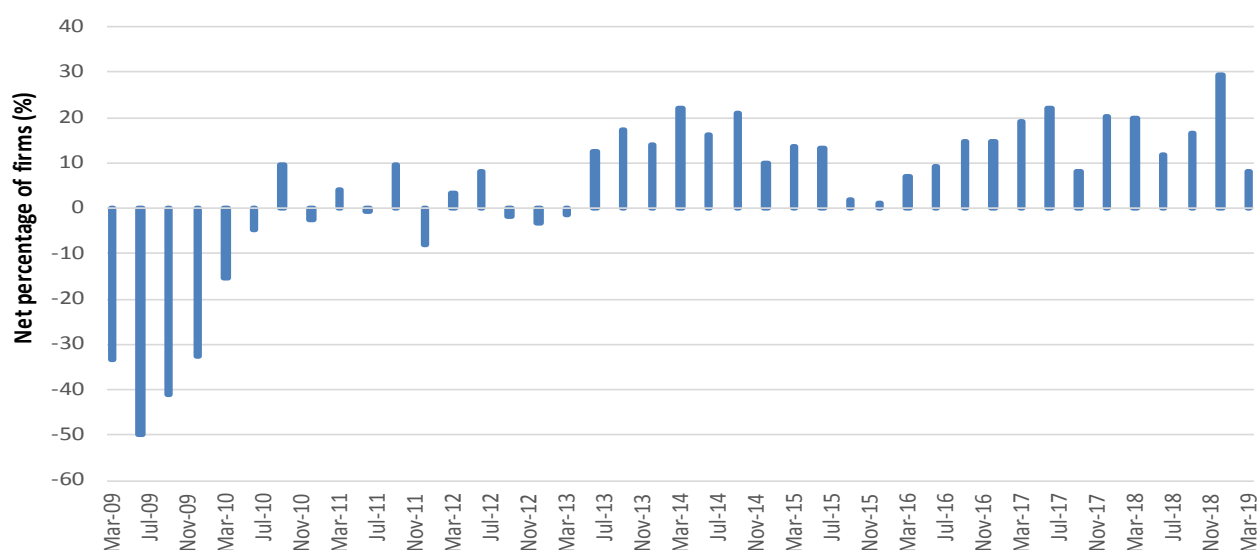
Note: Positive values reflect a net percentage of employers reporting more staff turnover than the previous quarter; negative values reflect a net percentage of employers reporting less staff turnover than the previous quarter.
Source: NZIER, QSBO (custom data)

3.4   Knowledge-intensive industries

Knowledge-intensive industries are those in which the generation and exploitation of knowledge play the predominant part in the creation of wealth. These sectors represent an increasing share of Auckland's employment and economic output, and will most likely be the primary source of the future productivity growth. Knowledge-intensive industries have greater scope to create wealth both for Auckland through higher GDP and for individuals through increased wages.

An industry is defined as knowledge intensive if it meets two criteria: at least 25 per cent of the workforce is qualified to degree level and at least 30 per cent of the workforce is in professional, managerial, or scientific and technical occupations.

Information on employment in knowledge-intensive industries is from Infometrics' online Regional Economic Profile for Auckland.

3.4.1   Employment in knowledge-intensive industries

In 2018, there were 312,297 jobs in Auckland's knowledge-intensive (KI) industries as outlined in Table 6. At 35.2 per cent of Auckland's total employment, this was higher than the New Zealand average of 31.6 per cent.

Between 2008 and 2018, employment in Auckland's knowledge-intensive industries increased by 2.3 per cent per annum, which compares with 1.7 per cent at the

national level. Between 2017 and 2018 knowledge-intensive employment increased by 3.0 per cent for Auckland and 2.9 per cent for New Zealand, as compared to an increase of 3.6 per cent in employment in Auckland's economy as a whole.

Table 6: Employment in knowledge-intensive industries in Auckland and New Zealand, 2018

	Employment in KI industries	KI industries % of total employment	Annual % change in employment in KI industries (2017-2018)	Annual % change in employment in KI industries (2008-2018)
Auckland	312,297	35.2	3.0	2.3
New Zealand	788,204	31.6	2.9	1.7

Source: Infometrics, Regional Economic Profile for Auckland

The growth of employment in knowledge-intensive industries between 2008 and 2018 for Auckland and New Zealand is depicted in Figure 39. Both grew strongly from 2008 with Auckland employment growing faster than New Zealand by 25.0 per cent compared to 18.7 per cent during this period.

Figure 39: Employment in knowledge-intensive industries in Auckland and New Zealand, 2008-2018
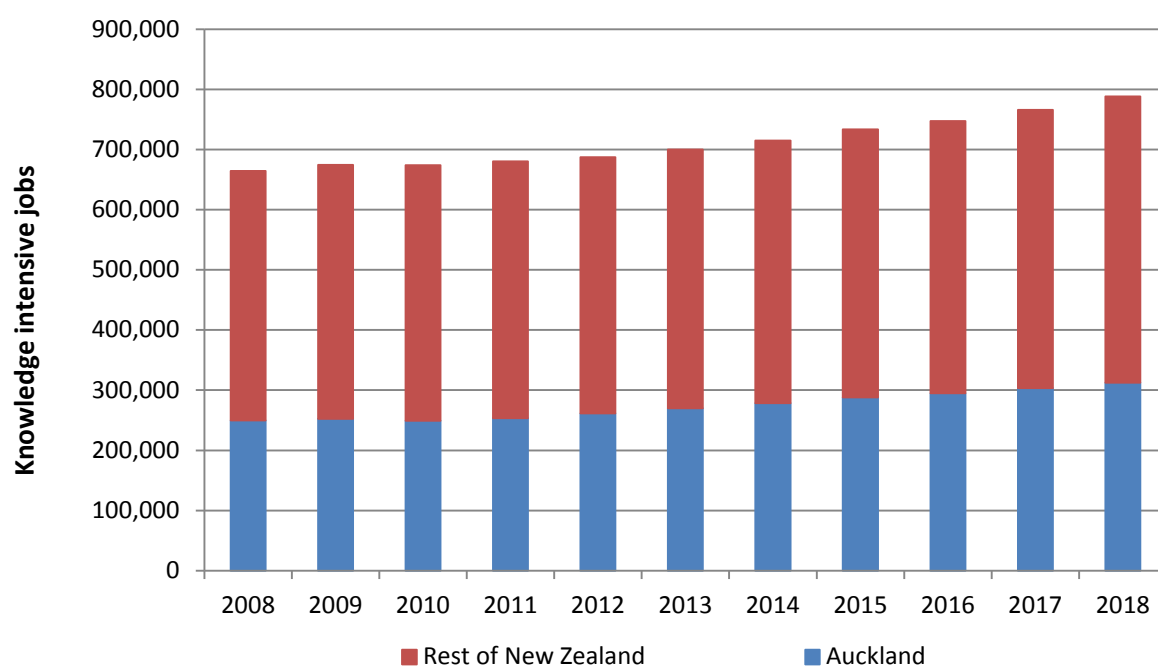
Source: Infometrics, Regional Economic Profile for Auckland

Table 7 shows the largest knowledge-intensive industries in 2018 in terms of employment (by ANZSIC 2006 at the 7-digit level). Hospitals (except psychiatric hospitals) were the biggest knowledge-intensive employers, with computer systems

design and related services, management advice and other consulting services, and primary education also contributing significantly to KI employment across Auckland.

For the 20 largest knowledge-intensive industries, Auckland provided on average 42 per cent of New Zealand's employment in those industries - significantly above its share for all industries (of 34.4% in Section 2.6.1). For some large knowledge-intensive industries, Auckland's share is substantially higher and exceeds 50 per cent: financial asset investing (68.2%), advertising services (67.7%), corporate head office management services (56.7%) and other auxiliary finance and investment services (52.2%).

Table 7: Largest knowledge-intensive industries by employment in Auckland, 2018

Industry (7-digit ANZSIC06 level)	Employment	% Auckland total employment	Auckland % of NZ total employment
Hospitals (except Psychiatric Hospitals)	23,808	2.7	33.4
Computer Systems Design and Related Services	22,021	2.5	49.7
Management Advice and Other Consulting Services	18,721	2.1	46.5
Primary Education	16,435	1.9	30.9
Corporate Head Office Management Services	15,339	1.7	56.7
Higher Education	14,035	1.6	38.2
Engineering Design and Engineering Consulting Services	12,072	1.4	43.0
Secondary Education	11,387	1.3	31.9
Other Allied Health Services	9,726	1.1	29.5
Accounting Services	9,216	1.0	37.5
Legal Services	7,806	0.9	41.1
Employment Placement and Recruitment Services	7,200	0.8	49.9
Local Government Administration	7,076	0.8	30.2
Central Government Administration	6,063	0.7	18.2
Financial Asset Investing	5,970	0.7	68.2
Other Administrative Services n.e.c.	5,839	0.7	49.3
Other Auxiliary Finance and Investment Services	5,017	0.6	52.2
Adult, Community and Other Education n.e.c.	4,935	0.6	38.7
Advertising Services	4,849	0.5	67.7
General Practice Medical Services	4,681	0.5	29.3

Source: Infometrics, Regional Economic Profile for Auckland

4.0 Supply of skills

On the other side of the equation is the supply of labour, which is the number of workers willing and able to work in a particular job or industry (for a given wage in a given time period).

A skilled workforce is crucial to a high-functioning economy. Skilled workers increase productivity and enable innovation, and help drive growth in high-value industries.

To possess skills is also empowering for the individual. Because highly skilled individuals are in demand amongst employers, they have greater choice about where and in what conditions they work. Not only are highly skilled individuals, on average, paid more, but they are less vulnerable to market downturns and restructuring. On a broader level, increased skills and education enable individuals to make more informed decisions about where and how they live, their health and well-being, and allow them to participate more fully in democratic and community activities.

This section presents skill levels of the Auckland working age population. It reports on results of the 2014 Survey of Adult Skills for Auckland and qualifications attained as recorded in the 2013 Census.[10]

4.1 Literacy and numeracy levels

In 2014 the Survey of Adult Skills measured the proficiencies of information-processing skills among adults (aged 16 to 65) living in New Zealand. The survey measured a range of abilities at the individual level, by undertaking simple through to more complex tasks across three domains:

- Literacy - the ability to understand, evaluate, use and engage with written texts in order to carry out day-to-day tasks

- Numeracy - the ability to access, use, interpret and communicate mathematical information and ideas, in order to engage in, and manage, the mathematical demands of a range of situations in everyday life (work-related, community and society, as well as education and training).

- Problem solving - the ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks.

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[10] Detailed results from the 2018 Census of Population and Dwellings for highest educational qualification by Auckland's ethnic groups were not available at the time of writing.

Respondents were scored on a range of 0 to 500 points. The scores were then bundled into proficiency levels: for literacy and numeracy from below level 1 to level 5 and problem solving from below level 1 to level 3.

These skills and competencies are regarded as necessary for working-age adults (16 to 65 years) to be able to fully integrate and participate in the labour market, education and training, and their social and civic life.

For more details on the Survey of Adult Skills and the full Auckland results, see Clark and Huang (2018).

Overall, the results show the average skill proficiencies of adults in Auckland were at level 3 for literacy proficiency, level 2 for numeracy proficiency and level 1 for problem solving proficiency. The proportion of adults in Auckland with low levels of literacy and numeracy were 14 per cent and 22 per cent respectively.

4.1.1   Skills by sub-groups in Auckland

There were several significant differences across sub-groups of Auckland respondents when results were broken down by age, gender, ethnicity and qualification attainment.

With respect to age, significantly lower average scores in all three skills were found among respondents in the 55-65 age group, compared to all other age groups (Figure 40). The average problem solving score for young adults aged between 16 and 24 was significantly higher than for 55-65 year olds and smaller differences in results were observed for literacy and numeracy.

Figure 40: Average literacy, numeracy and problem solving scores by age group, 2014
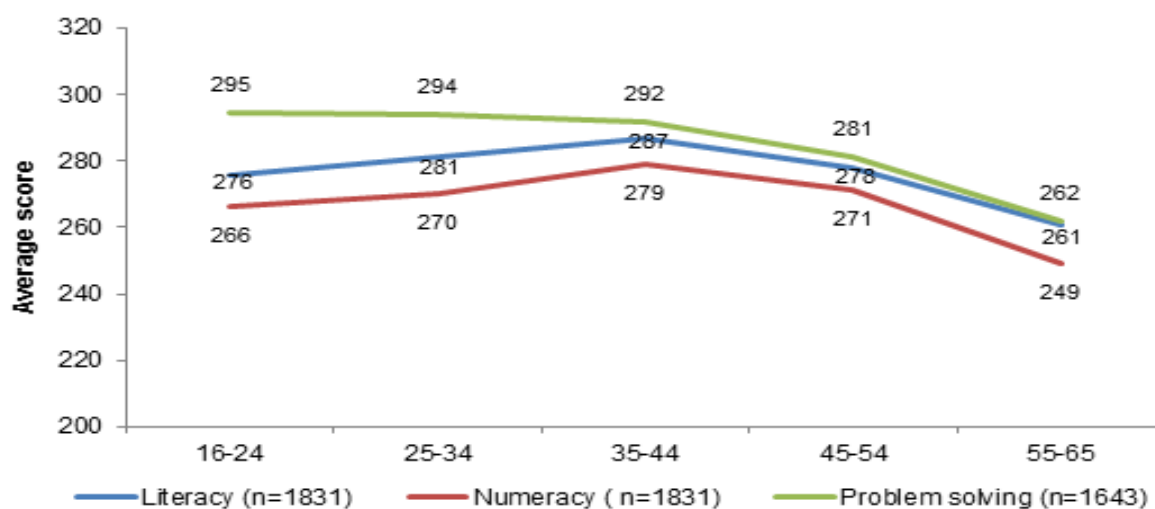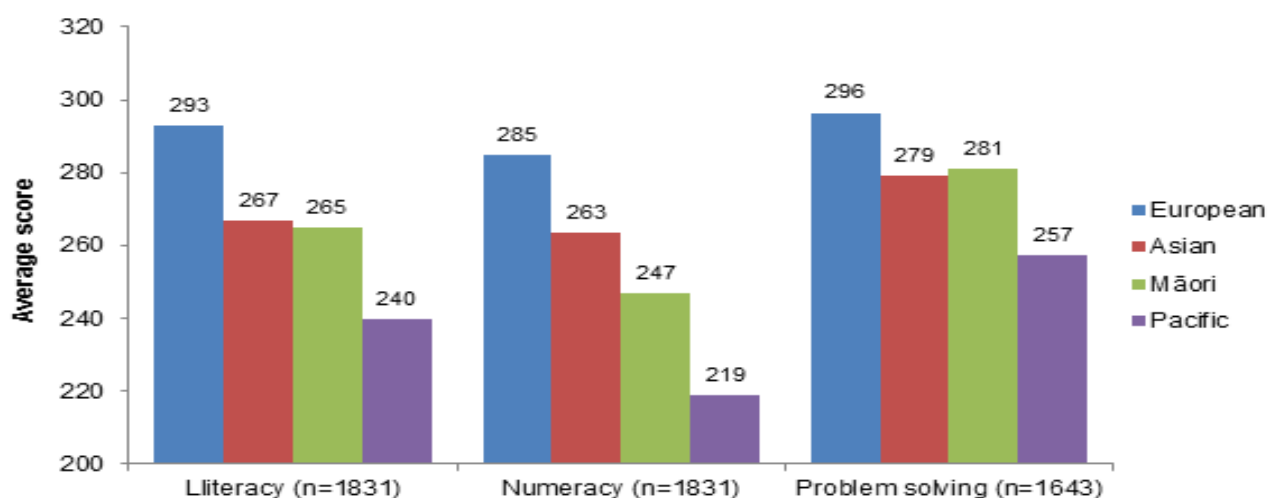

Source: Clark and Huang (2018)

Female and male respondents had similar average scores for literacy and problem solving. However, there was a significant difference in the results for numeracy with much higher results for males compared to females.

Respondents who identified as European had higher average levels of skill proficiencies compared to other ethnic groups, across all three skills (Figure 41). Conversely, the average scores for Pacific People were lower than the corresponding averages for all other ethnic groups.

Figure 41: Average literacy, numeracy and problem solving scores by ethnic group, 2014

Source: Clark and Huang (2018)

Auckland respondents with higher education qualification levels tended to have higher scores (for example, Bachelor's degree compared to those with a highest qualification of NCEA level 1-3 or a level 1-3 National Certificate) (Figure 42). On the other hand, respondents who had no educational qualifications had significantly lower scores than respondents with a qualification.

Figure 42: Average literacy, numeracy and problem solving scores by highest level of qualification, 2014
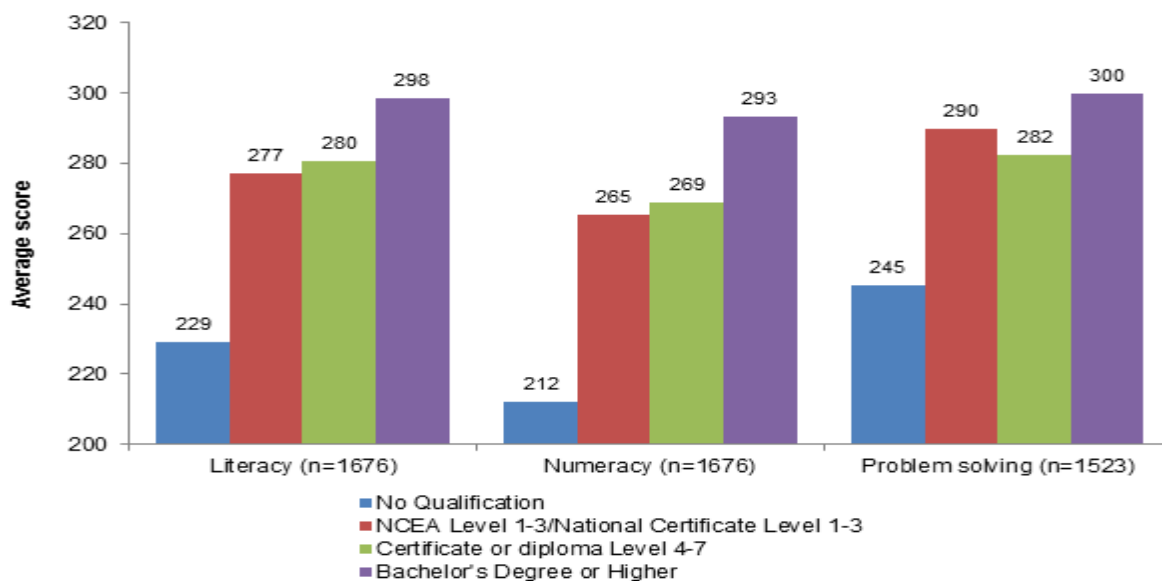
Source: Clark and Huang (2018)

The study also found a strong relationship between employment status and skills. Respondents who were employed had higher average scores than those who were unemployed or out of the labour force.

4.1.2 Skills by broad geographic areas in Auckland

The study also presented the results by broad geographic areas[11] in Auckland. Respondents living in northern and central parts of Auckland had higher average scores across all three skill domains, especially in numeracy, compared to those living in other parts of Auckland (Figure 43). Differences were statistically significant when compared to results for respondents living in the southern and eastern parts of Auckland. As the report also shows, these differences in average scores between those living in different parts of Auckland can be correlated with socio-economic circumstances. Using the 2013 New Zealand Deprivation Index as an indicator of socio-economic status, the survey found that adults living in areas of greater deprivation tend to have lower scores than those living in other parts of Auckland.

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[11] The local board areas within these broad geographic areas are, North: Devonport-Takapuna, Hibiscus and Bays, Kaipātiki, Rodney and Upper Harbour, West: Henderson-Massey, Waitākere Ranges and Whau, Central: Albert-Eden, Maungakiekie-Tāmaki, Ōrākei, Puketāpapa, Waiheke and Waitematā, South: Franklin, Howick, Māngere-Ōtāhuhu, Manurewa, Ōtara-Papatoetoe and Papakura.

Figure 43: Average literacy, numeracy and problem solving scores by broad geographic area in Auckland, 2014

Source: Clark and Huang (2018)

4.2 Qualification attainment

Qualifications are an important contributor to, and indicator of skills. Qualifications provide many of the prerequisite technical skills necessary for entry into specific industry areas, and provide the basis for the development of industry-specific expertise. The rate and level of qualification attainment in Auckland is therefore an important indicator of the supply and availability of skills within the population.

While qualifications are an important base upon which skills are built and developed, focusing only on qualifications risks missing additional skills that have been accumulated by different means. Statistics on qualification levels are unable to account for the skills that people acquire through workplace training and informal learning, which are likely to have significant impacts on an individual's skills, employability and life pathways. Hence, this information provides an important, but only partial insight into the skills of Aucklanders.

4.2.1 Highest qualifications

2013 Census data on individuals' (aged 15 and over) highest qualification show that at that time, one in seven (14.9%) Aucklanders had no qualification (Figure 44). A total of one in three (36.6%) had a school qualification, one in six (15.3%) a post-school qualification (excluding degree level), and one in five (21.9%) a degree or

higher (of which two thirds (15.1%) have a bachelor degree, and one third (6.8%) a higher degree).

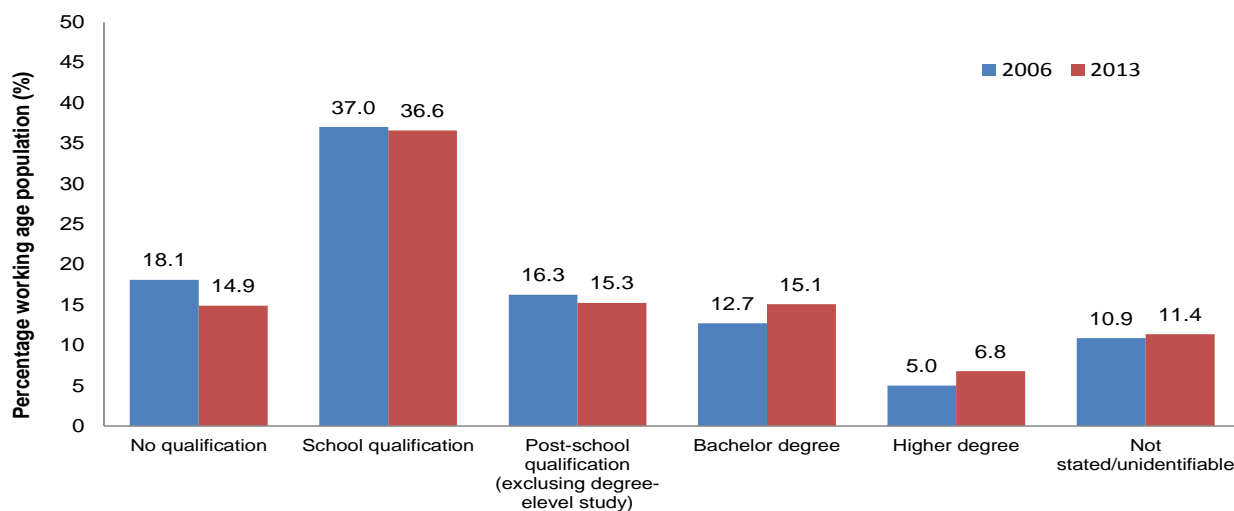**Figure 44: Percentage (%) of working age population by highest qualification, 2013**
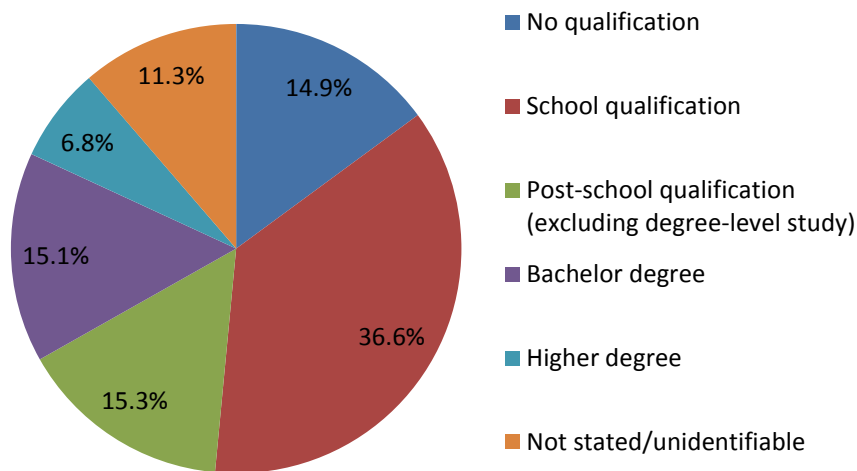
Source: Stats NZ, Census of Population and Dwellings

A further breakdown of Aucklanders with only a school qualification shows that in 2013 they were fairly evenly split between Level 1 (25.5%), Level 2 (23.3%), Level 3 (25.5%) and overseas secondary school qualifications (25.7%). Having only a school qualification is considered to be "low skilled", so over half (51.5%) of Auckland's working age population (aged 15+) are in that category (including those with no qualification).

There was an improvement however since the previous census (2006), where 55.1 per cent were considered low skilled, comprising 18.1 per cent having no qualification and 37.0 per cent school-only qualification (Figure 45). Similarly, in the 2006 Census there were lower proportions with high skilled qualifications, namely bachelor degrees (12.7%) and higher degrees (5.0%). This demonstrates that there were disproportionate increases for bachelor and higher degrees (by 39,768 and 25,245 respectively), as compared to a reduction for those with no qualifications (by 17,151) despite the overall population increase during this period.

Figure 45: Percentage (%) of working age population by highest qualification, 2006 and 2013
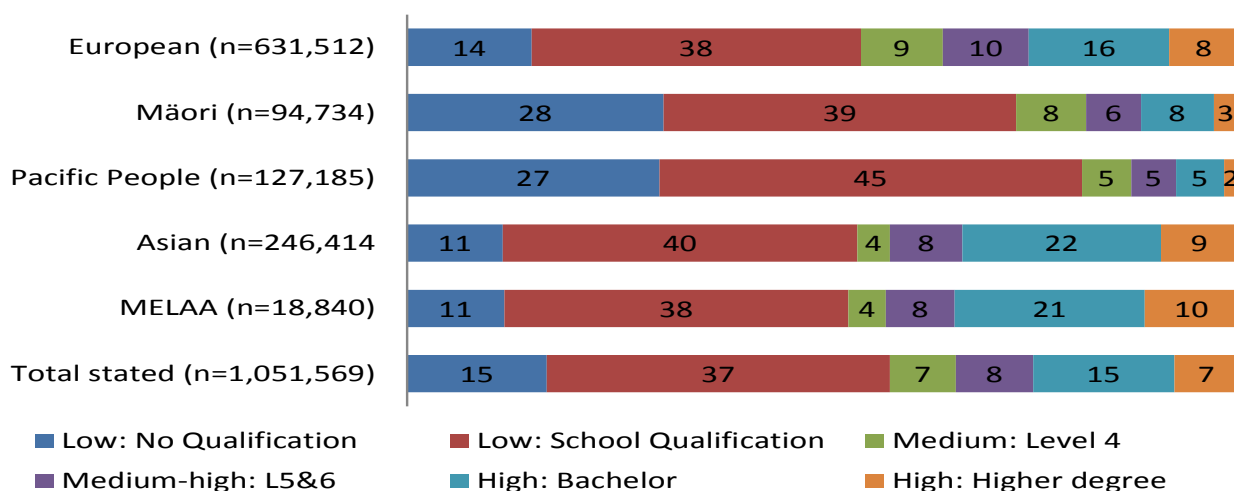

Source: Stats NZ, Census of Population and Dwellings

Highest qualification by ethnicity

Figure 46 shows highest qualification levels for Auckland's population aged 15 and over by broad ethnic group. Relatively large proportions of Pacific People and Māori tend reported low qualification levels (no qualification or school level only) (71.9% and 67.3% respectively). Relatively large proportions of those in the broad Asian and MELAA categories reported high qualification levels (Bachelors or higher degree) (31.1% and 31.5% respectively), while Europeans are closer to the total averages.

Figure 46: Percentage (%) of working age population by highest qualification and ethnic group, 2013

Source: Stats NZ, Census of Population and Dwellings

The educational attainment levels among the low skilled portion of Auckland's population aged 15 years and over by ethnicity is outlined in Figure 47. One in five Asian and MELAA low skilled individuals have an overseas secondary school qualification, and very few (less than 10%) have only a level 1 or 2 certificate. Low skilled Europeans, Māori and Pacific People each have proportions with level 1 and with level 2 that are similar to the proportion with level 3, and have less than 10 per cent with overseas qualifications. However, Māori and Pacific People have higher proportion with no qualifications (28.3% and 26.8% respectively).

Figure 47: Percentage (%) of working age population of low skilled qualification by ethnic group, 2013
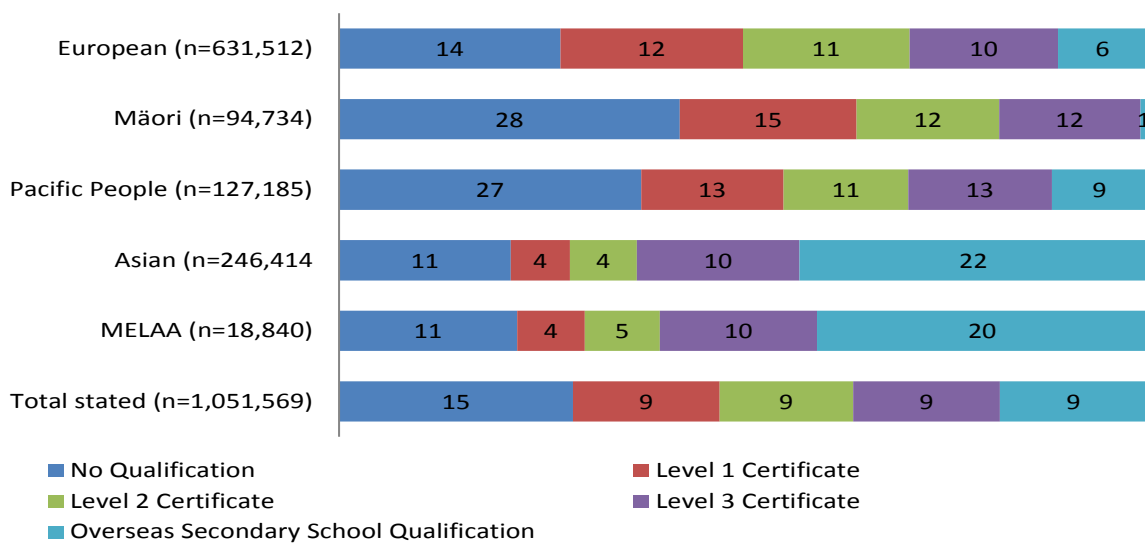
Note: Data is not available on the proportions of overseas secondary school qualifications that correspond to levels 1, 2 and 3.
Source: Stats NZ, Census of Population and Dwellings

While qualifications are a blunt measure of skills, due to their inability to capture the compounding effects of experience and less-formal training, the relatively high number of poorly qualified individuals has implications for Auckland's ability to leverage the skills of workers to increase innovation and productivity.

As noted earlier, less-formal learning and development is important for enabling working-aged adults to maintain the skills they already have, adapt to a changing labour market, and progress in their careers. There is currently a lack of information on the level and nature of 'informal' forms of learning and development within Auckland's labour force. More extensive data are required to adequately cover the wide range of on-the-job learning or work-related training that doesn't result in a formal qualification.

5.0 Match between demand and supply

Economies thrive when there is an ideal match between the supply of and demand for different skills within a population. When such a match exists, employers have an adequate supply of labour from which to build, grow and develop their businesses, and individuals have stable and rewarding employment.

A deviation away from a match between supply and demand, in either direction, can have a number of negative effects on employers, employees and the economy as a whole. An undersupply of labour pushes up the price of labour, restricts the ability of employers to develop and grow their businesses, and as a result constrains growth across the whole economy. An oversupply of labour is bad for both individuals and the wider economy, contributing to fewer employment options and increased risk of unemployment for individuals, and reflecting a poor utilisation of available labour across the wider economy.

There have been very few robust measures of the match between supply and demand of labour. Allpress (2013) addressed this gap by bringing together a number of different approaches to measure the supply and demand of labour in Auckland. Given data availability, this section updates two of these approaches: the relationship between unemployment and ease of finding labour and the Beveridge Curve which matches the vacancy rate (demand of labour) against the unemployment rate (supply of labour).

5.1 Unemployment and ease of finding labour

When the skills of the workforce match the skills needs of employers, the ease of finding labour amongst employers tends to closely track the unemployment rate. In the case of such a match, when unemployment increases, the pool of individuals who are looking for work increases, and as a result, finding appropriately skilled labour becomes easier. Likewise, when unemployment decreases, the pool of available workers decreases and finding appropriately skilled labour becomes more difficult.

Figure 48 shows that, in Auckland, there was a sharp increase in the ease of finding both skilled and unskilled labour throughout 2009 following the GFC, with unemployment also increasing (although there was a lag in the unemployment rate). From 2010 onwards the measures began to diverge, however, with employers reporting increasing difficulty finding labour as the economy recovers, despite unemployment remaining high. Although the unemployment rate has decreased in recent years, the difficulty of finding skilled and unskilled labour has increased at a much faster rate. A disconnection between ease of finding labour and the availability

of willing workers (as represented by the unemployment rate) points to a poor match between the skills of workers and the needs of employers.

Figure 48: Relationship between unemployment and ease of finding labour, March 2009-March 2019
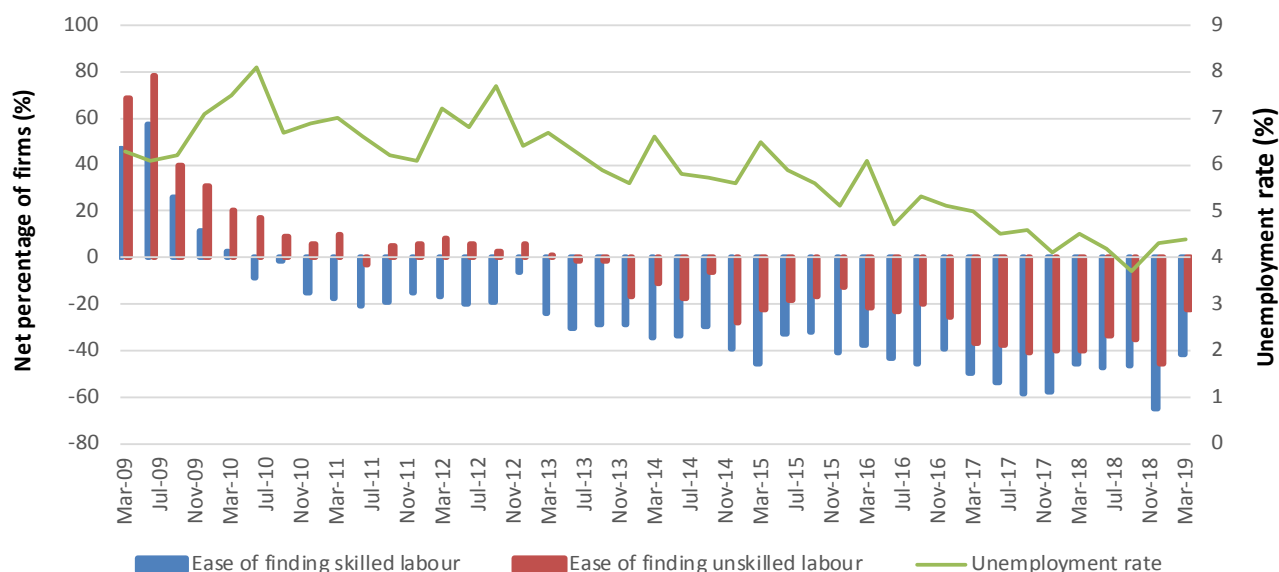
Source: Stats NZ and NZIER

An uncoupling of employers' ease/difficulty finding appropriately skilled labour from the supply of available labour (unemployment rate) indicates that a number of cyclically unemployed individuals (i.e., individuals who are unemployed due to decreased demand within the economy) have lost or no longer possess the skills needed by employers. A disconnect between employers' needs and the skills of potential employees reflects structural unemployment.

Structural unemployment is a drag on the economy. It represents a missed opportunity for those unemployed individuals to contribute to a business or organisation. On an individual level, structurally unemployed individuals experience poor employment outcomes; because of their lack of skills, they are more likely to remain in unemployment for a prolonged period (Allpress, 2013).

A high level of structural unemployment highlights a need to retrain the portion of the workforce whose skills no longer match that needs of employers.

5.2 The Beveridge Curve

A Beveridge Curve analysis investigates labour matching. It shows changes in matching between the demand for and supply of labour and reflects the business cycle. The supply of labour is represented by the unemployment rate (people who were unemployed and actively seeking work) as measured in the HLFS. The demand for labour is represented by the vacancy rate which is calculated by dividing the internet vacancies from Jobs Online by employment from the HLFS.

When the economy is expanding the vacancy rate is high. This usually corresponds with a lower unemployment rate, with the underlying implication that vacancies provide opportunities for those who are unemployed to gain employment. Conversely, when the labour market is contracting the vacancy rate is low. This usually corresponds with a higher unemployment rate. An upward shift can indicate a reduction in matching efficiency (the degree to which the skills of the unemployed match the requirements of the available jobs), as it implies that the unemployment rate does not fall with higher vacancy rates. Tracking the relationship between the unemployment and vacancy rates over time provides insight into changes in matching quality over time.

A number of factors that contribute to poor labour matching include a poor match between vacancies and the skills and characteristics of jobseekers, poor geographical matching between jobs and available workers, and a lack of intensity among job seekers and employers in their search for work/workers (Craigie et al., 2012).

Figure 49 depicts the Beveridge Curve for Auckland with the timeline from September 2007 to June 2015 (MBIE, 2015). The curve shows a contraction in the labour Market between September 2007 and December 2009 (during the GFC) with unemployment increasing and a reduction in vacancies, followed by an expansion between December 2009 and June 2015. December 2009 saw an unemployment rate of eight per cent which has since fallen (by 20%) to 6.4 per cent in June 2015 while vacancy rates increased by 58.3 per cent to 1.9. By June 2015 the vacancy rate for Auckland has not risen to the pre-GFC levels (2.4) yet and the unemployment rate was also still about two percentage points higher than where it was pre-GFC. Because the unemployment rate has not fallen as quickly as the vacancy rate has risen, there has been a shift upwards in the Beveridge curve. This could be due to less efficiency in matching demand and supply during the period December 2009 to June 2015.

Figure 49: Auckland Beveridge Curve (seasonally adjusted), September 2007-June 2015
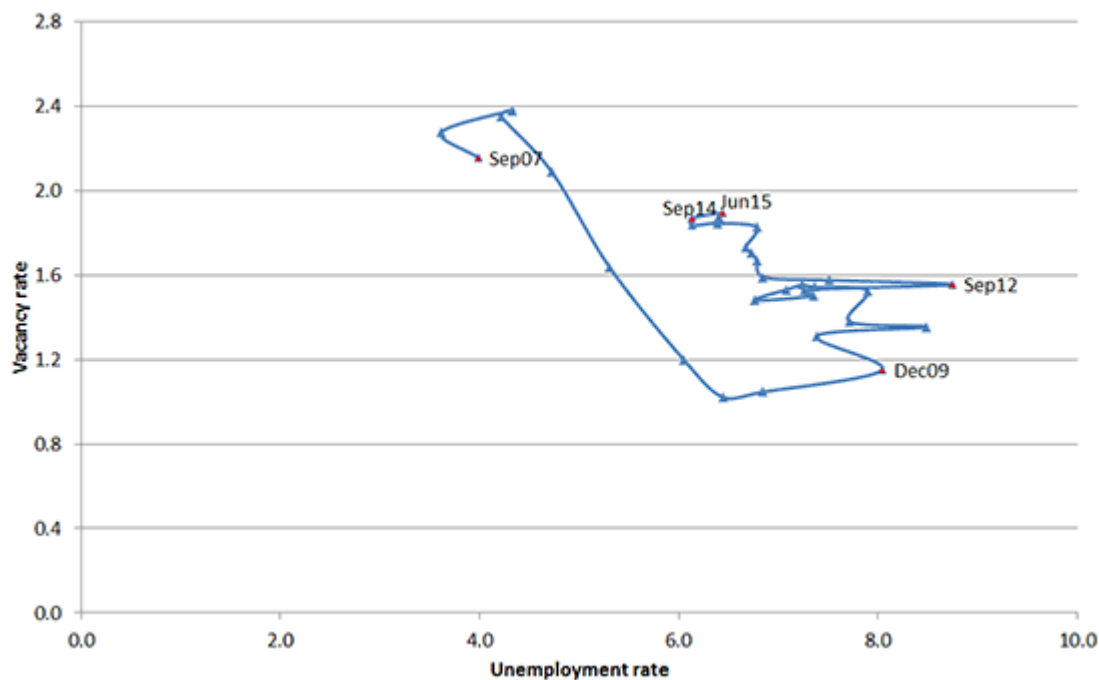
Source: MBIE (2015)

Compared to other regions however, the inefficiency in Auckland's labour matching was more muted. This is likely due to the larger size of Auckland's economy. A larger economy has a greater pool of workers to draw from to fill a wider range of vacancies and therefore is more likely to match workers to jobs that they are qualified for. This greater capacity to fill vacancies with appropriately skilled workers means larger economies tend to have lower levels of frictional and structural unemployment. Frictional unemployment is the unemployment that occurs as individuals transition between jobs and means that there will always be some degree of unemployment within an economy (MBIE, 2015).

6.0 Concluding comments

The Auckland labour market has largely recovered from the GFC with record participation levels and low unemployment recorded in 2018-2019. Strong growth over the 10-year period (March 2009 to March 2019) shows that not only are there more jobs being created, but there are more people in Auckland to undertake them. Population growth driven largely by migration, as well as increased participation by females and older workers (aged 55 years and over), have been vital contributors to the recovery

A challenge for Auckland is to maintain the growth seen in recent years as the supply side factors that increased the country's labour supply is declining. A report by Infometrics shows net migration is falling which coupled with a tightening labour market (as shown in the report) means that capacity pressures could be inhibiting further growth (Infometrics, 2019). At the same time, analysis by Callaghan et al. (2018) suggests that an ageing New Zealand population will offset further increases in the participation of women and older people and as a result the overall participation rate is likely to remain flat out to 2035. Hence, to achieve economic growth, businesses need to invest more and not rely on a growing population to drive growth.

The current skill and education deficit of Aucklanders aged 15 years and over reminds us that there is significant capacity for up-skilling. More specifically, there are substantial inequalities in levels of education and labour market outcomes for Māori and Pacific communities, who are projected to make up an increasing proportion of the Auckland labour market in the future. Of concern are young people aged 15-19 years and Māori and Pacific workers who continue to experience relatively low levels of engagement with the labour market, which is reflective of the continuing inequalities of Auckland's workforce and education. More needs to be done to close the gaps in educational attainment if Auckland is to have enough highly-skilled workers to fuel its economy in the future.

The results also suggest that there is a mismatch between the skills that workers possess and the skills that employers require. The long-term outlook for employment and skills is difficult to predict and is made even more so with the new future of work where technological changes are generating opportunities and challenges, requiring different business models and changes for workers. Upskilling of the current workforce is one answer to the significant proportion of low-skilled workers in Auckland; immigration of highly skilled workers is another. As such, Auckland needs to ensure it is seen as an attractive destination for skilled individuals, in order to both retain local talent and attract immigrant workers.

7.0 References

Allpress, J A. (2013). *The labour Market and skills in Auckland.* Auckland Council technical report, TR2013/005.

Auckland Council. (2018). *The Auckland Plan 2050,* Auckland Council, Auckland.

Callaghan, M., Culling, J. and Robinson, F. (2018). *Ageing is a drag: Projecting labour force participation in New Zealand.* Reserve Bank of New Zealand Analytical Note Series AN2018/10.

Clark, A and Huang, T (2018). *Survey of Adult Skills: results for Auckland.* Auckland Council technical report, TR2018/007.

Cluver, N. (2019). *Everything you need to know about the changing world of work, according to The Economist.* Takeaways from The Economist's Future Works event and what they missed. A-Connect. https://www.a-connect.com/acknowledge/everything-you-need-to-know-about-the-changing-world-of-work-according-to-the-economist/ (Accessed 28 Apr 2019)

Canterbury District Health Board. (2019). *Employment.* Canterbury Wellbeing Index. https://www.canterburywellbeing.org.nz/our-wellbeing/employment/ (Accessed 28 Apr 2019)

Huang, T (2018). *Long-term trends in Auckland's business demographics.* Auckland Council technical report, TR2018/024.

Infometrics. (2019). *Global Trends Add Weight to NZ Economy's Slowdown.* Infometrics. Wellington.

Infometrics. (2018). *Regional Economic Profile for Auckland,* Infometrics, Wellington.

Infometrics. (2009). *The impact of the global and national economic recessions on the Auckland Region.* Report prepared for Auckland Regional Council.

MBIE, Ministry of Business, Innovation and Employment. (2018). *Jobs Online,* Ministry of Business, Innovation and Employment, Wellington.

NZIER. (2019). *Quarterly Survey of Business Opinion,* New Zealand Institute of Economic Research, Wellington.

OECD. (2019). *OECD Skills for Jobs database: Measuring Skill Demands in the new Era of Work.* https://www.oecdskillsforjobsdatabase.org/methodology.php (Accessed May 21 2019).

Ortiz-Ospina, E. and Tzvetkova, S. (2017). *Working women: Key facts and trends in female labor force participation.* Our World in Data Blog. https://ourworldindata.org/female-labor-force-participation-key-facts (Accessed 28 Apr 2019).

Quast, L. (2011). *Cause and Consequences of the increasing numbers of women in the workforce.* Forbes. https://www.forbes.com/sites/lisaquast/2011/02/14/causes-and-consequences-of-the-increasing-numbers-of-women-in-the-workforce/#57f800ba728c (Accessed 28 Apr 2019).

Stats NZ. (2019a). *Household Labour Force Survey*, Stats NZ, Wellington.

Stats NZ. (2019b). *Linked Employer-Employee Dataset*, Stats NZ, Wellington.

Stats NZ. (2019c). *New Zealand Social Indicators. Labour Market.* Stats NZ, Wellington.

Stats NZ. (2019d). *The New Zealand labour Market during recessions*, Stats NZ, Wellington.

Stats NZ. (2018). *New Zealand Business Demography Statistics*, Stats NZ, Wellington.

Stats NZ. (2014). *Census 2013 custom dataset for Auckland Council*, Stats NZ, Wellington.

Stats NZ. (2006). *Census 2006 custom dataset for Auckland Council*, Stats NZ, Wellington.

Treasury. (2018). *Wellbeing, economics and the long view - reflections on recent work at the OECD.* Treasury staff insight. Treasury. Wellington.

Tuatagaloa, P and Wilson, R. (2018). *Youth not in employment, education or training (NEET) in Auckland.* Auckland Council technical report, TR2018/029.

Wilson, R. A. (2014). *The labour market and skills in Auckland 2014.* Auckland Council technical report, TR2014/026.