The Labour Market and Skills in Auckland 2014

September 2014 Technical Report 2014/026





The Labour Market and Skills in Auckland 2014

September 2014

Technical Report 2014/026

Auckland Council Technical Report 2014/026 ISSN 2230-4525 (Print) ISSN 2230-4533 (Online)

ISBN 978-1-927302-35-4 (Print) ISBN 978-1-927302-36-1 (PDF) This report has been peer reviewed by the Peer Review Panel using the Panel's terms of reference

Submitted for review on 21 August 2014 Review completed on 24 September 2014 Reviewed by two reviewers

Approved for Auckland Council publication by:

Name: Regan Solomon

Position: Manager, Research, Investigations and Monitoring

Date: 24 September 2014

Recommended citation:

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

© 2014 Auckland Council

This publication is provided strictly subject to Auckland Council's copyright and other intellectual property rights (if any) in the publication. Users of the publication may only access, reproduce and use the publication, in a secure digital medium or hard copy, for responsible genuine non-commercial purposes relating to personal, public service or educational purposes, provided that the publication is only ever accurately reproduced and proper attribution of its source, publication date and authorship is attached to any use or reproduction. This publication must not be used in any way for any commercial purpose without the prior written consent of Auckland Council. Auckland Council does not give any warranty whatsoever, including without limitation, as to the availability, accuracy, completeness, currency or reliability of the information or data (including third party data) made available via the publication and expressly disclaim (to the maximum extent permitted in law) all liability for any damage or loss resulting from your use of, or reliance on the publication or the information and data provided via the publication. The publication, information, and data contained within it are provided on an "as is" basis.

Executive Summary

The Auckland labour market has only partially recovered from the post-GFC (global financial crisis 2007-2008) recession. Many key measures have not yet returned to pre-recession levels, and some have shown little if any improvement at all. Total employment has resumed its upward trend and recovered to previous levels, but without the strong rise that would be needed to catch up to its previous track. Unemployment is improving, but only slowly (0.4% each year since 2010). However, firms have begun to report increasing difficulty in finding unskilled as well as skilled labour, which suggests a possible shift towards tighter labour markets.

The recession and its aftermath have highlighted inequalities in the Auckland labour market, with disproportionate, significant and ongoing adverse effects on young people, Māori and Pasifika workers, and those in lower-skilled occupations. Conversely, knowledge intensive industries have shown stronger employment growth post-GFC than the economy as a whole.

Unemployment rates remain above average for Pasifika, for Māori, for 15-19 year olds and for 20-24 year olds. In contrast, NEET rates for 15-19 and 20-24 year olds showed only minor increases in 2008 and 2009, suggesting that increased participation in education and training may have helped cushion the impact of the increases in joblessness for young Aucklanders. Both of those trends have largely persisted since the start of 2010: the jobless rates are still higher for 15-19 and for 20-24 year olds, but NEET rates are similar to pre-GFC levels.

Growth in jobs continues to be stronger in high and medium-high skilled occupations and less strong for low-skilled ones; the worst performance is for medium-skilled occupations (NZQA level 4 certificate).

Similarly, fastest growing occupations are managers, professionals and community and personal service workers, all of which recovered strongly from the recession and are now at record highs. In contrast, machinery operators and drivers, and clerical and administrative workers, were still below pre-recession levels even by 2013. Technicians and trades workers, sales workers and labourers are now back to 2009 levels.

The largest industry by employment is professional, scientific, technical services, administrative and support services, but the fastest jobs growth (2001-2013) has been in health care and social assistance, and in accommodation and food services. In contrast, manufacturing is still Auckland's second largest industry, but has been in continuous decline since its 2005 peak.

Over half of Auckland's population are low skilled (no post-school qualifications), but this proportion fell between 2006 (55%) and 2013 (52%). The population proportion qualified as high skilled (bachelor and higher degrees) increased substantially between 2006 (18%) and 2013 (22%). Compared to the averages for all ethnicities, a higher proportion of Māori and Pasifika have low skill qualifications, and a higher proportion of Asian and MELAA have high skill qualifications. Individuals with low skills are less likely than average to participate in the labour force (but this correlation does not imply causation), so they are "only" 44% of the workforce. Compared to total jobs requiring different skill levels, there is an apparent shortfall of highly skilled workers and possibly also of medium skilled, and a probable surplus of low skilled, with medium-high skilled in approximate balance.

Figure 1 shows a summary, for key indicators, of the latest result and how that compares to pre-GFC levels. It is important to remember that for some indicators a higher level is an improvement (for example, employment), while for others it represents a worsening (for example, unemployment). Where there was a trend of improvement pre-GFC, then "recovery, no catch-up" indicates that the pre-GFC level has been reached, but the indicator remains below the previous trend line.

Figure 1: Summary of results

Indicator	Sub-group	Latest result	Current level versus pre-GFC	
[Colour Key]	Green	n/a	Recovered	
	Yellow	n/a	Partial recovery	
	Red	n/a	No/slight	recovery
Participation rate	Total	68.3%	Recovered, no catch- up	mm
	Ages 15-19	36.3%	No recovery	www.
	Ages 55+	47.7%	Recovered; no catch- up	John Martin
	Pasifika	60.5%	Partial recovery	mohun
Employment rate	Ages 15-19	27.8%	No recovery	~~~~~
Unemployment rate	Total	6.2%	Partial recovery	min
	Ages 15-19	23.4%	Partial recovery	mon
	Māori	12%	Partial recovery	mmmm
	Pasifika	12%	Slight recovery	m
	Females	7.8%	Slight recovery	m
	No qualification	10%	Full recovery	m
Employed to unemployed		1.1%	Largely recovered	-man Mark
Unemployed to employed		29.5%	Slight recovery	MAMM
Joblessness	Total	10.3%	Slight recovery	~~~~~

NEET [from 2007]	Total	9.9%	Full recovery	$\sim\sim\sim\sim$
	Ages 15-19	6.1%	Full recovery	$\sim\sim\sim\sim\sim$
	Ages 20-24	13.2%	Full recovery	\sim
	Māori	22%	Nothing to recover	1
	Pasifika	18%	Partial recovery	<u>N~~~~</u>
Under- employment	Total; time based	4.3%	No recovery - but close to long-run rate	muntur
Filled jobs	Total	617,800	Recovered; no catch- up	
	Manufacturing	68,480	No recovery	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	Professional etc services	100,280	Recovered; no catch- up	
SVI vacancies [from 2007]	Total	93%	Below 2008 peak	m
	Education	165%	Fully recovered to 2010 peak	Marin
	IT	69%	Partial recovery	m
	Accounting etc	50%	Partial recovery	^
	Technicians	161	Record highs	m
	Community etc	150	Record highs	man
Turnover	All workers	13.40%	Slight recovery	muh
Employment	Knowledge intensive	267,584	Recovered; resumed growth	

Table of Contents

	Executive summaryi	ii
1.0	Introduction	.1
2.0	Overall state of the labour market	.2
2.1	Participation, employment and unemployment	.2
2.2	Movement into and out of employment	11
2.3	Disengagement from the labour market	13
2.4	Underemployment	18
3.0	Demand for labour	19
3.1	Industries in Auckland	19
3.2	Job availability	22
3.3	Difficulty finding appropriately skilled workers	27
3.4	Labour market stability	29
3.5	Knowledge-intensive industries	32
4.0	Supply of skills	35
4.1	Qualification attainment	35
5.0	Concluding comments	41
6.0	References	43
7.0	Glossary of acronyms	44

1.0 Introduction

This report is an update of the 2013 Auckland Council technical report *The labour market and skills in Auckland* (TR2013/005). That baseline report was a systematic profile of the Auckland labour market, using a range of data including one-off custom data, whereas this update reports only on data that is available on an ongoing basis. (Each data source is discussed within the relevant section or sub-section.) The intention is that this report will be updated annually.

Accordingly, this report addresses three main areas: the overall state of the Auckland labour market, the nature of demand for labour across Auckland, and the supply of skills in the Auckland labour force.

The first part of this report comprises insights into participation, employment and unemployment, movement into and out of unemployment, disengagement from the labour market (including both joblessness and youth not in education, employment or training (NEET)), underemployment (time-based only) and the relative importance to Auckland of various industries. The second part looks at job availability (job vacancies only), difficulty finding appropriately skilled workers, labour market stability (both job creation and destruction, and worker turnover) and knowledge intensive industries. The third part assesses the distribution of skill levels in the Auckland labour force as measured by qualifications attained, and how this compares to numbers of jobs needing those skill levels.

The themes covered in this report 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, and Māori and Pasifika communities.

2.0 Overall state of the labour market

There are a number of important statistics that paint a detailed picture of how well the labour market is performing. In the sub-sections that follow, 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 industrial composition of Auckland's economy. Viewed together, these data provide insight into pressures faced, and decisions made by both employers and employees over the last decade.

These data come primarily from the Statistics New Zealand Household Labour Force Survey (HLFS), a nation-wide, quarterly survey of approximately 15,000 households (30,000 individuals), that is the basis of New Zealand's official measures of employment and unemployment. Data is presented here in many cases split by age and ethnicity, and often there are important differences for key indicators. (With the caveat that correlation does not necessarily imply causality.) HLFS measures are subject to survey sampling error margins, which are relatively higher for smaller sub-groups (e.g. NEET by ethnicity) because sub-sample sizes are lower.

2.1 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. Respectively, they tell us the percentage of the population that is in the labour force, what percentage of the population is in 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 that 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.

Figure 2 shows the absolute numbers of the working age population in each of the three categories, and how they have varied over time. Employed is the largest category, and has largely kept up with population growth, with both rising for most of the 2001-2014 period, apart from 2008 and 2009. Unemployment has been characterised primarily by the major increase in 2009, which still persists. In addition, a sizeable number of people are not in the labour force (NILF), which has been increasing less rapidly than employment due to a rising participation rate.



Figure 2: Working age population ('000s) by labour force status, Auckland, 2001 - 2014

Source: Statistics New Zealand, HLFS.

2.1.1 Participation

The participation rate is the number of working-age individuals (i.e. aged 15+) who are working (officially 'employed') or seeking work (officially 'unemployed'), expressed as a percentage of the working-age population. The data is quarterly and includes seasonal variations, but strong trends can still be seen.

The participation rate for the total labour force has been relatively stable – with a slight uptrend – over the last decade or so, increasing slightly from 65.6% in March 2001 to 68.3% in June 2014.

Figure 3 shows that this overall participation rate masks a number of differences between age groups. Individuals in the prime of their working lives, in the 25-39 and 40-54 age groups, have the highest overall participation, at over 80%. Individuals in the 20-24 age group have somewhat lower participation rates of around 70%, reflecting a significant number of individuals in this category still in formal education. Individuals at the start and the end of their careers have markedly lower overall participation rates. Those aged 15-19 had, in June 2014, a participation rate of 36.3% and those aged 55+ had a rate of 47.7%.

The overall participation rate also masks differences between age groups in terms of changes in participation over time. Figure 2(a) below shows that over the last 13 years, the participation rate for the 25-39 age group has mirrored the overall gradual increase seen throughout the population, while the 40-54 age group has been relatively unchanged. The rate for the 20-24 age group has been similar, but with more fluctuations¹ and without the slight uptrend. However, the participation rates of 55+ and 15-19 year olds have been much more changeable.

The participation rate for the 55+ age group has increased significantly, from 31.2% in March 2001 to 47.7% in June 2014. The 55+ age group has no upper age limit, so the increase over time is likely to reflect a mixture of factors, including the ageing and improved health of the population, changing attitudes toward retirement (and increased tendency to postpone it), and a trend toward more office-based and less manual work. After 2008 there would also have been an inability of some 55+ individuals to retire in the wake of financial loss associated with the global financial crisis (GFC), which may be reflected in the up-tick in participation in December 2008. However this was only temporary, and from 2009 to 2011 participation was lower, possibly suggesting a discouragement effect on others in this age group from rising unemployment levels. In fact, the participation rate had already risen to 46.5% by March 2008, before the main employment impacts of the GFC took effect. From 2011 onwards there appears to have been a renewed uptrend in the participation rate for the 55+ age group

The participation rate for 15-19 year olds was relatively stable between 2001 and 2008, after which participation dropped sharply (down from over 50% in 2008 to 36.7% by December 2012). The participation rate continues to be depressed for this group (36.3% in June 2014), indicating that many young people aged 15-19 have been pushed out of the labour force as a result of worsening economic conditions brought about by the 2008 GFC.

¹ (partly due to larger sampling errors of this smaller sub-group)



Figure 3: Participation rate (%) by age, Auckland, 2001 - 2014

Source: Statistics New Zealand, HLFS.

Figure 4 shows that while the rates of participation for different ethnic groups are more similar than for different age groups, there are a number of important differences.

June 2014 figures show that those of European ethnicity had the highest participation rate (71.9%), Pasifika had the second-lowest rate (60.5%), with Māori (64.7%) and Asian (67.0%) in the middle. Middle Eastern/Latin American/African (MELAA) had the lowest (56.0%), but being a small subgroup their data has a relatively high sampling error margin in any one quarter.

In terms of changes over time, most groups experienced a slight decline in participation in 2009 and 2010, however all groups with the possible exception of Pasifika have largely recovered to prerecession levels.

The lower rates of participation amongst non-European ethnic groups points to the possibility of significant capacity to increase participation within these communities, although other variables such as demographic characteristics (especially age and household composition), qualification levels and socio-economic characteristics may also be significant.



Figure 4: Participation rate (%) by ethnicity, Auckland, 2001 - 2014

Note: Data prior to 2007 exclude individuals classified as Asian due to inconsistencies in classification rules.

2.1.2 Employment

The employment rate, as defined by Statistics New Zealand, 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.

The overall employment rate in June 2014 was 64.1%.

Figure 5 shows that there are stark differences in the employment rate between different age cohorts, with 27.8% of 15-19 year olds, 60.6% of 20-24 year olds, 78.5% of 25-39 year olds, 81.5% of 40-55 year olds, and 45.3% of 55+ year olds in employment in June 2014. This is a similar pattern to participation rates. The similarity between participation and employment rates is due to the fact that both rates reflect the number of employed individuals as a percentage of the working age population (with the participation rate including both unemployed, as well as employed individuals as a percentage of the working age population). The difference between 15-19 year olds and the other age groups is greater for employment rates than participation rates, due to that age group also having higher rates of unemployment.

The changes seen in the employment rate over the last 13 years are similar to those seen for the participation rate, with the employment rate increasing for 55+, decreasing for 15-19, and remaining relatively stable for the middle age groups. The decrease for 15-19 year olds is greater for employment rates than participation rates, due to that age group also having rising rates of unemployment.

Source: Statistics New Zealand, HLFS.



Figure 5: Employment rate (%) by age, Auckland, 2001 - 2014

Source: Statistics New Zealand, HLFS.

Figure 6 shows that as with the participation rate, employment rates fell from late 2008 for most ethnic groups; although there have been varying degrees of recovery, they remain below early 2008 levels for all ethnic groups except Asian and MELAA.

June 2014 figures show that those who identify as of European (69.2%) ethnicity have the highest and Pasifika (53.0%) the second-lowest employment rates, with Māori (57.0%) and Asian (61.6%) in the middle. MELAA (48.2%) had the lowest that quarter, but the apparent drop may in part be merely random due to the high error margin, given that this is a small sub-group.



Figure 6: Employment rate (%) by ethnicity, Auckland, 2001 - 2014

Note: Asians prior to 2007 excluded due to inconsistencies in classification rules.

Source: Statistics New Zealand, HLFS.

2.1.3 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.

Figure 7 shows that unemployment rose sharply in Auckland – as it did in the rest of New Zealand and in other developed countries – in 2008 and 2009 as the GFC unfolded.

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, printing, publishing and recorded media, and business services.

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, partially closing the gap with the rest of New Zealand, which has been relatively steady. The unemployment rate in Auckland in June 2014 was 6.2%.



Figure 7: Unemployment rate (%), Auckland and rest of New Zealand (RoNZ), 2001 - 2014

Source: Statistics New Zealand, HLFS.

In addition to the persistently high overall unemployment rate, there are significant differences in the levels of unemployment between different age cohorts, ethnic groups, genders (less so) and qualification levels. (Note however that because absolute numbers are lower, unemployment measures for smaller sub-groups are subject to relatively higher survey sampling errors).

2.1.3.1 Unemployment by age

Figure 8, a breakdown of unemployment by age, shows that 15-19 and 20-24 year age groups have, over the last 13 years, had significantly elevated levels of unemployment compared to the other age groups. These younger cohorts also disproportionately bore the brunt of the economic

downturn, with both age groups experiencing sharper increases in unemployment in 2008 and 2009 than older cohorts. Rates remain elevated for these groups, although with an apparent downtrend since 2011 for 15-19 year olds.

June 2014 figures show unemployment at 23.4% for 15-19 years and 12.0% for 20-24 years, as compared to 4.8% for 25-39 years, 3.8% for 40-54 years, and 4.8% for the 55+ age group.



Figure 8: Unemployment rate (%) by age, Auckland, 2001 - 2014

Source: Statistics New Zealand, HLFS.

2.1.3.2 Unemployment by ethnicity

Figure 9 shows that Māori and Pacific peoples have had persistently higher unemployment than European and Asian workers over the last 13 years, and also suffered greater increases in unemployment following the financial crisis. The overall decline in unemployment rates since 2010 appears less pronounced among Māori and among Pacific peoples, although quarterly variability makes this trend hard to pick up.

The June 2014 HLFS figures show unemployment rates of 12.0% for Māori and 12.3% for Pasifika, as compared to 14.2% for MELAA (but with a high sample error margin due to being a small subgroup), 8.1% for Asian, and 3.7% for Europeans.



Figure 9: Unemployment rate (%) by ethnicity, Auckland, 2001 - 2014

2.1.3.3 Unemployment by gender

Figure 10 shows that over the last decade, the unemployment rate has been, on average, slightly higher for women than men. Women were more strongly affected by the economic recession than men, with women's unemployment reaching a peak of 9.2% in June 2010. From mid-2011, the unemployment rates of men and women converged somewhat, but then in 2013 the rate for women failed to drop as much as for men. In June 2014, the unemployment rates were 7.8% for women and 4.7% for men. This is the largest gap since 2001.



Figure 10: Unemployment rate (%) by gender, Auckland, 2001 - 2014

Source: Statistics New Zealand, HLFS.

Source: Statistics New Zealand, HLFS. Note: Asians prior to 2007 excluded due to inconsistencies in classification rules.

2.1.3.4 Unemployment by secondary school qualification levels

Figure 11 shows that the unemployment rate for most secondary school qualification categories was below 5% from 2001 to 2008, and since 2008 has generally been between 5% and 10%. In contrast, those who left secondary school with no qualifications were significantly more affected by the economic downturn in 2008-2009, with unemployment rising from a low of 3% in June 2005 to 44% in June 2010. Although there was some recovery for this group in 2011, it was short-lived and by December 2012 the unemployment rate for individuals with no school qualification remained high at 35.3%. More recently, the unemployment rate for this group fell to 8.5% in June 2013, and by June 2014 was still "only" 10.1%.



Figure 11: Unemployment rate (%) by school qualification level, Auckland, 2001 - 2014

Source: Statistics New Zealand, HLFS.

2.2 Movement into and out of employment

The challenges faced by workers in terms of increased unemployment and difficulty finding work can be seen clearly in labour movement statistics provided by Statistics New Zealand. These statistics complement the aggregate employment and unemployment information, by providing insight into the labour force pressures faced by an average individual.

Statistics New Zealand 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: the likelihood of an employed individual moving into unemployment, and the chance of an unemployed individual remaining unemployed. The series is highly volatile, but definite trends can be seen over time

Figure 12 shows that the chance of moving from employment to unemployment doubled between 2008 and 2010, from under 1% to nearly 2%, indicating 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 1.1% in June 2014. The recent trend levels are only slightly higher than pre-crisis levels, and there appears to be a trend of improvement since the start of 2010.



Figure 12: Probability of an employed person becoming unemployed in the following quarter, Auckland, 2001 - 2014

Source: Statistics New Zealand, HLFS.

Figure 13 shows that similarly, by 2010 those who were unemployed faced a much greater chance of remaining unemployed: over 40%, up from approximately 25% throughout the early and mid-2000s. Conversely, their chance of moving into employment fell substantially in early 2009.

The likelihood of remaining in unemployment from one quarter to the next has remained elevated since 2010, but with substantial quarterly fluctuations, with June 2014 figures showing a 32.2% chance. Similarly, the chance of moving into employment has largely remained below 30% (June 2014: 29.5%). The trend since the start of 2010 appears to be only weakly improving, which suggests that most improvements to employment prospects are accruing to individuals already in employment rather than to the unemployed.





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.

Source: Statistics New Zealand, HLFS.

2.3 Disengagement from the labour market

In addition to employed and unemployed participants in the labour market, some individuals of working age are classified as disengaged from the labour market. Disengagement can arise for a variety of reasons, which are to some extent captured in additional statistics such as joblessness and NEET (youth not in education, employment or training).

Widespread disengagement from the labour market has serious negative impacts on the economic potential of a city. Disengaged individuals are neither contributing to the economy through work, nor actively participating in activities – such as training or education – that improve their skills and thus improve their chances of successfully integrating into work at a later time.

Disengagement from the labour market also puts individuals at significant future personal disadvantage, as they fall increasingly 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.

2.3.1 Joblessness

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.

Reasons an individual might be available for, but not actively seeking work include waiting for a season to start or to start a definitely arranged job, one's own illness or injury, ill health of others, no need to work, unable to find suitable childcare, believe one lacks skills, or believe there is not enough work in the area. 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).

As shown in Figure 14, joblessness increased dramatically from mid-2008 through to mid-2010. There does appear to have been a slight downward trend since June 2010, but the rates have remained well above pre-GFC levels. Despite a slight recovery from mid-2010 to late 2011, the overall rate rose to a high of 13.9% in September 2012. Although it improved somewhat after that, by June 2014 the rate still remained high at 10.3%.

Figure 14 shows that as with the unemployment rate, joblessness is significantly worse for Māori and Pasifika communities, with June 2014 rates for Māori at 18.6% and 18.3% for Pasifika. The rate for those of European origin has remained less than 10% throughout the recessionary period, and was 7.1% in June 2014.



Figure 14: Jobless rate (%) by ethnicity, Auckland, 2001-2014

Figure 15 shows that the age differences in the jobless rate are equally stark. Joblessness amongst 15-19 year olds rose from an average of 23.5% from 2001 to 2008, to over 47% in 2009-2010. The rate for this age group improved in 2011, but by December 2012 had increased to 49.8%, even higher than at the peak of the financial crisis. By June 2014 the rate had come down again, to 38.4%, suggesting a gradual downtrend.

The increases were less sharp for older cohorts, but the jobless rates of all groups nevertheless remain elevated compared to pre-GFC levels. June 2014 figures show the jobless rate at 18.1% for 20-24 year olds, 7.4% for 25-39 year olds, 6.6% for 40-54 year olds, and 8.0% for 55+ year olds.



Figure 15: Jobless rate (%) by age, Auckland, 2001-2014

Source: Statistics New Zealand, HLFS. Note: Asians prior to 2007 excluded due to inconsistencies in classification rules.

Source: Statistics New Zealand, HLFS.

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

The NEET rate is defined by Statistics New Zealand as 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.

NEET 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 (education or training) that contribute to the development of skills, and therefore improve future work and life prospects².

NEET status can be seen as a risk factor for exclusion and prolonged marginalisation from the labour market.

Figure 16 shows that the overall NEET rate (average for all ages and ethnicities) showed a small jump between late 2008 and early 2009 to approximately 15%. From 2009 onwards, the rate has largely remained between 10 and 15%, apart from 2013 when it fell slightly to below 10%. There has been a slight downtrend from June 2012 onwards.

The overall NEET rate for all youth aged 15-24 years in June 2014 was 9.9%, similar to the 10.4% in June 2013.

Both the overall rate and overall trend mask significant differences among ethnic groups, as well as between 15-19 and 20-24 year olds (the two age groups that make up the overall NEET rate).

Independent of age, NEET rates have, over the last six years, been consistently higher amongst Māori and Pasifika than European and Asian youth. In June 2014, the overall (15-24 years) NEET rates for both Māori (22.0%) and Pasifika (17.8%) were more than twice as high as for youth of European (7.1%) and Asian (7.9%) ethnicity³. NEET rate differences by ethnicity are also to be found in each of the two age groups that make up the overall NEET rate (15-19 years and 20-24 years). However, the percentage point differential is greater for 20-24 year olds due to their higher NEET rates.

² However, detailed NEET data for Auckland is only available back to the end of 2007, is particularly prone to higher sampling error margins for smaller subsets such as ethnicity, and shows a significant seasonal variation.

³ Data for MELAA and in some years for 15-19 year old Asians is suppressed by Statistics New Zealand due to excessive error margins arising from small sample subsets.



Figure 16: NEET rate (%) for all youth aged 15-24 years by ethnicity, Auckland, 2007-2014

Comparing Figure 17 to Figure 18 shows that there are notable differences between the two age groups that make up the overall NEET rate, although the gap has recently narrowed. The 20-24 year cohort has significantly higher NEET (13.2% in June 2014) than 15-19 year olds (6.1% in June 2014). 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 2007 for 20-24 year olds is approximately double that of 15-19 year olds for all major ethnic groups. However, the percentage point differential is greater for Māori and Pasifika due to their higher NEET rates.

For 15-19 year olds there was a significant drop in NEET rates between March 2011 and September 2013, but this apparent downward trend was largely reversed or halted by June 2014. For 20-24 year olds there was a significant downtrend in rates between March 2012 and September 2013, followed by a partial reversal in March and June 2014. A high jobless rate but relatively steady or falling overall NEET rate for 15-19 and 20-24 year olds may indicate that these age groups are facing extreme difficulty finding work, but that many young people could be responding to this difficulty by staying in school, or moving into other forms of education or training.

The NEET rate for Māori aged 15-19 halved over a period of two and a half years from 19.2% in March 2010 to 8.4% in December 2012, while for those aged 20-24 there was a possible slight uptrend over that period. Since then, the NEET rate for Māori from March 2012 to June 2014 shows an uptrend for 15-19 year olds (to 16.1% in March 2014), but a downtrend for 20-24 year olds (to 29.0% in June 2014)). However, some caution is needed due to the relatively high sampling error associated with estimating NEET by ethnicity and age (meaning the real rate may be notably different from the estimate provided by Statistics New Zealand).

For 20-24 year olds the differential between Māori (29.0%) and Pasifika (28.4%) versus European (10.7%) and Asian (8.9%) NEET rates (as at June 2014) appears even more noticeable and more consistent over time than for 15-19 year olds.

Source: Statistics New Zealand, HLFS.



Figure 17: NEET rate (%) for 15-19 year olds by ethnicity, Auckland, 2007-2014

Note: Missing values reflect suppressed data from Statistics New Zealand *Source: Statistics New Zealand, HLFS.*



Figure 18: NEET rate (%) for 20-24 year olds by ethnicity, Auckland, 2007-2014

A disengagement rate of over one in four Māori and Pasifika individuals in their early 20s has a number of 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 labour market.

Source: Statistics New Zealand, HLFS.

2.4 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.

On-going updated data is not available for Auckland skills-based underemployment, so this subsection looks only at time-based underemployment. Time-based underemployment reflects unused but immediately available capacity in the labour force and is therefore an important issue for the economy. For individuals, time-based underemployment restricts one's earning capacity, and can also impede on-the-job upskilling and future prospects.

2.4.1 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.

Figure 19 shows that as with measures related to employment and unemployment, the time-based underemployment rate has been strongly influenced by changes in wider economic conditions. Time-based underemployment doubled between September 2008 and September 2009, from 3.3% (representing 21,400 people across Auckland) to 6.6% (42,400 people). There was then a partial reversal to 4.8% in December 2009, but since then the rate has still remained significantly higher than pre-recession (2004-2008) levels.

Looking at the longer timeframe, the underemployment rate had peaked in 1998 around 6%, then fell almost continuously for seven years to a trough of around 2% in 2006, but almost immediately rose above 3% for most of 2007 and 2008. The current underemployment rate of 4.3% (June 2014) is comparable to the long run average.

The concurrent rise in the rates of unemployment and underemployment during the 2008-2009 recession shows that employers were, to some degree, attempting to soak up some of the external pressure by retaining workers on the payroll at reduced hours rather than making those employees redundant. Retaining employees at reduced hours rather than making them redundant is a form of labour hoarding that, while potentially difficult for employees, allows businesses to retain talent and to recover more quickly once wider economic conditions improve.



Figure 19: Underemployment rate (%), Auckland, 1991-2014

3.0 Demand for labour

Employer demand for labour (of a particular skill level and type) is most directly reflected in hiring decisions: when employers need skills, they create skilled jobs, which results in new job vacancies. Data relating to hiring decisions is presented in this section in five parts.

First, data is presented on the various industries in Auckland, specifically the number of businesses in each industry and the jobs they have generated.

Second, data is presented on employment growth for different skill levels and broad occupations; in addition, filled job availability data are presented that provide up-to-date tracking of the number of new job vacancies advertised on key online job sites over time.

Third, if the demand for labour grows faster than the supply, then employers are likely to have increasing difficulty finding appropriately skilled workers. Firms may report diminishing ease of finding skilled or unskilled labour, or both, and an increasing proportion of firms might then identify labour as the main constraint on growth; these are reported on in the third sub-section.

Fourth, 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 more 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, stability in the labour market is reported in the fourth sub-section.

Finally, because much of Auckland's competitive growth is expected to occur in knowledgeintensive industries in the future, levels of employment in Auckland's knowledge-intensive industries are reported in the fifth sub-section.

3.1 Industries in Auckland

This sub-section uses data about number of businesses from Statistics New Zealand's Business Demographics annual data series. Additional information was obtained from Statistics New Zealand Linked Employer-Employee Dataset (LEED), which combines information from the taxation system and Statistics New Zealand Business Frame to provide statistics on filled jobs, as well as job and worker flows.

At March 2013, Auckland had 163,582 business units, 32% of all businesses in New Zealand, and 34% of all paid employees (Statistics New Zealand, 2013, *Business Demographics*). (2014 data is not yet available.)

Table 1 shows that over a third of all business units in Auckland are within either rental, hiring and real estate services, or professional, scientific and technical services. In addition a significant number of businesses are found within the construction industry, financial and insurance services, and retail trade.

Total overall growth in the number of Auckland business units over the last decade (March 2003 to March 2013) was 26%. The fastest growth occurred within:

- financial and insurance services (increasing by 88% from 6,728 to 12,654 business units),
- rental, hiring and real estate services (increasing by 56%, from 21,902 to 34,147 units),
- information media and telecommunications (increasing by 41%, from 2,014 to 2,834 units, and
- professional, scientific and technical services, which had a more modest percentage increase (32%), but due to its size this represented the third highest increase in number of business units (5,726 increase, from 17,774 to 23,500).

Industry	Business count	Share of business units
Rental, Hiring and Real Estate Services	34,147	21%
Professional, Scientific and Technical Services	23,500	14%
Construction	16,159	10%
Financial and Insurance Services	12,654	8%
Retail Trade	12,335	8%
Wholesale Trade	9,243	6%
Manufacturing	7,725	5%
Other Services	7,394	5%
Administrative and Support Services	7,142	4%
Health Care and Social Assistance	6,852	4%
Accommodation and Food Services	6,250	4%
Transport, Postal and Warehousing	5,602	3%
Agriculture, Forestry and Fishing	4,321	3%
Arts and Recreation Services	3,233	2%
Education and Training	2,909	2%
Information Media and Telecommunications	2,834	2%
Public Administration and Safety	855	1%
Electricity, Gas, Water and Waste Services	334	0%
Mining	93	0%
Total all industries	163,582	100%

Table 1: Business count, Auckland, March 2013

Source: Statistics New Zealand, Business Demographics

Figure 20 presents total filled jobs, by industry. Total filled jobs grew strongly until 2008, fell sharply in 2009, but subsequently resumed their growth and by 2012 were consistently above the 2008 peak levels. Note that filled jobs here uses LEED data, which differs slightly from the Business Demographic dataset used for business count as displayed above. LEED provides similarly robust data, but has the advantage of providing a broader picture of self-employment and employment in smaller businesses.

Figure 21 presents the LEED employment data for each industry, which shows that manufacturing has experienced a significant decline in recent years, dropping from a peak of 81,370 jobs in December 2004 to 69,410 in September 2011 (a loss of 11,960 jobs over seven years), and is still in gradual decline (68,480 in March 2013).

Two industries in particular – health care and social assistance, and accommodation and food services – have been resilient to recent economic issues, with stable and consistent growth over the last decade.

The largest industry is professional, scientific, technical services, administrative and support services, which experienced a significant decrease in filled jobs between December 2008 and March 2010, with a loss of 12,270 jobs in 15 months. This industry has since made a strong recovery, however, and is now back to pre-recession levels.

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



Figure 20: Total filled jobs by industry, Auckland, 2001-2013

Source: Statistics New Zealand, LEED





Source: Statistics New Zealand, LEED

3.2 Job availability

This sub-section reports employment growth by skill level and occupation category, and analyses of job availability as indicated by online job vacancies (which are predominantly for moderately-tohighly skilled occupations). Employment growth analyses were conducted on broad skill levels and broad occupations (ANZSCO Level 1), using data from Infometrics' Regional Economic Profile for Auckland, a web-based subscription data tool. Data on online job vacancies is taken from MBIE's *Jobs Online* monthly report.

For the purposes of the broad skill level analysis, skill definitions are as follows:

- 'low skilled' is commensurate with a New Zealand Register Level 1, 2 or 3 qualification (usually at school) or less;
- 'medium skilled' is commensurate with New Zealand Register Level 4 qualification (usually post-school);
- 'medium-high skilled' is commensurate with a New Zealand Register Diploma (i.e., NZQA level 5 and 6; usually post-school); and
- 'highly skilled' is commensurate with a bachelor degree or higher qualification (i.e. NZQA level 7 and above).

3.2.1 Employment growth by skill and occupation

Figure 22 shows the number of individuals employed in occupations of different skill levels over time. 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 medium or medium-high skilled occupations. This polarisation has gradually increased over time, with medium skilled occupations being the only category to show no overall growth.

Figure 22 also shows that over time, higher skilled occupations (high skilled and medium-high skilled) have grown faster than lower skilled ones (low skilled and medium skilled).



Figure 22: Number of employed individuals by skill level, Auckland, 2002-2013

Source: Infometrics, Regional Economic Profile for Auckland

Figure 23 shows the annual changes in job numbers for different skill levels, and confirms that there has been consistently greater growth in employment throughout the last decade in higher-skilled (highly and medium-highly skilled) occupations than in lower-skilled (medium and low skilled) occupations. The rate of growth was slowing for all skill levels even before 2008, but the effect of the recession was to further reduce growth in higher-skilled occupations to close to zero, and to result in job losses in lower-skilled occupations. From 2011 onwards, growth in all skill levels has largely returned to positive, however the rate of growth of jobs in higher-skilled occupations remains higher than for the lower-skilled occupations.



Figure 23: Growth rate of employed individuals by skill level, Auckland, 2002-2013

Source: Infometrics, Regional Economic Profile for Auckland

Figure 24 shows that the patterns seen for different skill levels are reflected in changes in employment in different occupations. Managers and professionals have had the strongest jobs growth since 2002, and community and personal service workers have grown at a similar percentage rate (3.0% per annum), but from a lower base starting point. In contrast, machinery operators and drivers, and clerical and administrative workers, had little or no average growth over the period, and by 2013 were still below 2009 levels. Technicians and trades workers, sales workers and labourers showed moderate overall growth since 2002, and by 2013 their levels had largely recovered from the recession.





Source: Infometrics, Regional Economic Profile for Auckland

Figure 25 shows the annual changes in job numbers for different occupations. The effect of the recession was to reduce growth in professionals and community and personal services workers to close to zero, and to result in job losses in 2010 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.



Figure 25: Growth rate of employed individuals by occupation (ANZSCO), Auckland, 2002-2013

Source: Infometrics, Regional Economic Profile for Auckland

3.2.2 Job vacancies

This sub-section reports analyses of job vacancies over time from *Jobs Online* by region and for Auckland by broad industry and broad occupation. *Jobs Online* is a Ministry of Business, Innovation and Employment (MBIE) produced report that monitors job vacancies posted on three major New Zealand job boards, SEEK, Trade Me Jobs and Herald Jobs. 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.

While online job vacancies provide a fast and robust measure of change in the number of job openings, they are more representative of changes within moderately-to-highly skilled occupations than in lower-skilled occupations, in large part because lower-skilled occupations are more likely to recruit through less formal channels, such as word of mouth. For this reason, the primary output of the *Jobs Online* programme is the Skilled Vacancy Index (SVI), which tracks job openings in skilled vacancies. For the purposes of the SVI, skilled jobs are those defined as equivalent to a National Qualifications Framework Level 4 qualification, and therefore the SVI capture job vacancies for occupations that require a level 4 qualification or above.

Figure 26 shows that Auckland and Wellington were hardest hit by the 2008-2009 financial crisis, in terms of reduction in job vacancies as measured by the SVI. Recovery in job vacancies for regions other than Auckland and Wellington has been strong and consistent from late 2009 onward, such that by April 2014 these regions were between 60% and 90% higher than May 2007 levels.

Vacancy rates in Auckland and Wellington are yet to fully recover. Despite a partial recovery between 2009 and 2011, from mid-2011 job vacancies in both Auckland and Wellington have remained largely stagnant. In February 2013, the vacancy level in Auckland remained at only 81% of May 2007 levels, although by April 2014 it had improved somewhat to 93%.



Figure 26: Skilled vacancy index (seasonally adjusted), by region, 2007-2014

Source: MBIE, Jobs Online

Figure 27 shows that within Auckland, all industries except education and training, and healthcare and medical, experienced a marked drop in online vacancies in 2008-2009. Education and training vacancies continued to grow, despite the economic recession, until June 2010 after which there was a consistent reduction in advertised vacancies, followed by growth again from February 2013 onwards. Healthcare and medical experienced a moderate reduction over the four years to May 2012, after which time there was a significant jump in advertised vacancies, followed by an equally sharp drop between May 2013 and May 2014.

Most other industries' SVIs have experienced periods of slow recovery, as well as stagnation, over the last five years.

By May 2014, hospitality and tourism, and construction and engineering vacancies were well above May 2007 levels, and sales, retail, marketing and advertising was slightly above 2007, but information technology, and accounting, HR, legal and admin, were both still stagnant.



Figure 27: Jobs Online SVI (seasonally adjusted) by broad industry, Auckland, 2007-2014

Source: MBIE, Jobs Online (custom data). Note: Values are indexed against May 2007 = 100.

Figure 28 shows for Auckland how vacancy postings have changed over time for various higherskilled occupations. Vacancy rates dipped significantly below May 2007 rates for all occupations during 2008 and 2009, with a particularly severe drop for clerical and administrative workers. For clerical and administrative workers, vacancies had dropped to 29% of May 2007 levels by May 2009.

The strongest recovery in vacancies has occurred for community and personal service workers, and technicians and trades workers. By May 2014 vacancies amongst technicians and trades workers were 61% higher than May 2007 levels, while vacancies for community and personal service workers were 50% higher than May 2007. All other occupations had little or no growth in vacancy rates from November 2010 to March 2013, and even by May 2014 were still all below May 2007 levels.



Figure 28: Jobs Online SVI (seasonally adjusted) by broad occupation, Auckland, 2007-2014

Source: MBIE, Jobs Online (custom data). Note: Values are indexed against May 2007 = 100.

3.3 Difficulty finding appropriately skilled workers

The New Zealand Institute of Economic Research's (NZIER) Quarterly Survey of Business Opinion (QSBO) samples a range of employers, to identify growth intentions and key inhibitors of growth. 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 the main constraint on growth.

3.2.1 Difficulty finding skilled and unskilled labour

Employers are asked to rate whether it is easier or harder to find both skilled and unskilled staff compared to three months ago.

Figure 29 shows the net percentage of firms that reported greater ease or difficulty. Two trends are evident. Firstly, the ease of finding labour, be it skilled or unskilled, is influenced strongly by the underlying economic conditions. Finding labour became significantly easier during the recessionary periods of 1987-91, 1997-98 and 2008-2009. Secondly, regardless of the underlying economic conditions, skilled labour is always more difficult to find than unskilled labour.

From late 2010 onwards, skilled labour has been increasingly difficult to find, while unskilled labour has only recently (late 2013 onwards) become more difficult to find. In June 2014, a net total of 33% of firms reported it was more difficult to find skilled workers compared to three months ago, while for unskilled labour the figure was 18%.



Figure 29: Net percentage of firms reporting ease of finding labour, Auckland, 1990 - 2014

Source: NZIER, QSBO (custom data)

Note: negative values reflect a net increase in difficulty of finding labour

3.2.2 Labour as the main constraint on growth

Employers are asked in the QSBO to identify the main factor that is constraining their growth. Year after year, the majority of firms consistently identify sales as the primary constraint, with smaller numbers of businesses regularly identifying capacity and finance as primary constraining factors (between 2-15% each). Materials generally account for less than 5% of firms' primary constraint.

Figure 30 shows that the percentage of businesses reporting difficulty finding labour as the primary constraint on growth has varied significantly over time, ranging from 0% in December 1990 to 26% in March 2005. 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.

Prior to September 2008, labour was the primary constraint for 15% or more of firms, but between 2009 and 2012 the figure was generally between 2% and 6%. Since September 2012 the proportion has risen to between 5% and 12%, and in June 2014 was 10% - similar to 9% a year earlier in June 2013 but higher than the 4% reported in March 2012.



Figure 30: Percentage of firms reporting main constraint on growth, Auckland, 1990 - 2014

Source: NZIER, QSBO (custom data)

This pattern of findings suggests that current demand for labour is being satisfied adequately for most businesses, such that the growth of most businesses is not being significantly constrained by difficulties recruiting appropriately skilled individuals: however, some employers are nevertheless finding it increasingly difficult to find the right workers to fill vacant positions.

3.4 Labour market stability

The most robust data in New Zealand on job creation and destruction and labour movement is provided by Statistics New Zealand Linked Employer-Employee Data (LEED). Because LEED utilises taxation data, these statistics provide robust insights into the number of jobs created and destroyed, and the rate of worker turnover. There is a lag in availability of LEED data by approximately a year.

3.4.1 Job creation/destruction

Job creation statistics from LEED refer to the number of jobs created since the previous quarter, when businesses expand or start up. Job destruction figures refer to the number of jobs lost since the previous quarter, when businesses contract or shut down.

Figure 31 shows the net change in the number of jobs within each quarter as well as the total number of filled jobs. There is a strong seasonal pattern, with job losses in the March quarter and recovery in June. In addition there is an overall positive trend in the long term, which is to be expected due to population growth. The effect of these net losses and gains in each quarter on the total number of filled jobs in Auckland can be seen in Figure 24. This figure shows a reduction in the number of jobs in 2009 and 2010, supporting patterns shown in previous sub-sections, of significant economic pressure in 2009-2010. Since then, the uptrend appears to have resumed at the previous rate of growth, but with no rebound to recover the two or three years of lost growth.

In the quarter ended March 2013 (the latest available), 32,470 jobs were created and 44,820 were destroyed, for a net loss of 12,350 jobs. Total jobs in March 2013 were 617,800, which was 1.9% above a year earlier in March 2012 (606,510).



Figure 31: Net quarterly job creation/destruction, Auckland, 2001-2013

Source: Statistics New Zealand, LEED

3.4.2 Worker turnover

Job turnover rate reflects the number of individuals who moved into and out of employment, as a percentage of the total number of jobs. It provides insight into the rate of movement of employees

between jobs. In simplistic terms, a turnover rate of 15% can be seen to reflect the movement of 15 out of every 100 employees out of their current jobs and into new jobs.

Statistics New Zealand 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):

(Accessions + Separations)/2

(Jobs(t) + Jobs(t-1))/2

Figure 32 shows that the turnover rate for Auckland shows a dramatic drop off in 2009, down to 12%, from an average of 17% in the preceding eight years. Prior to 2009 the rate had always been 15% or more: since 2009 the rate has largely been 15% or less (apart from a brief spike in 2010).

This 5% drop off in 2009 indicates that a significant number of individuals responded to the uncertainty associated with the economic downturn by choosing to remain with their current employer. The difference between pre-recession and September 2009 rates is likely to reflect the significant number of individuals who would otherwise have left their job to pursue other opportunities, but for whom job security outweighed broader career desires whilst economic uncertainty was high. The drop in turnover was relatively consistent across industries.

When turnover decreases because workers choose to stay in their current job rather than move jobs or retire, replacement demand drops. Because there are fewer job openings due to replacement demand, competition amongst job applicants increases. The effect is that those with less experience or lower skills (relative to others in their desired occupation) are prevented from finding work.

There was a momentary blip in turnover in June 2010, which may have reflected an easing of the pressure built up throughout 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. The March 2013 worker turnover rate of 13.4% was still below the pre financial crisis average, indicating a continued element of reluctance amongst workers to leave the safety of their current job.



Figure 32: Worker turnover rate, Auckland, 2001-2013

Source: Statistics New Zealand, LEED

Figure 33 shows that the above statistics are supported by staff turnover reports from employers collected in the QSBO. In this part of the survey, employers are asked whether they have experienced more, less, or the same staff turnover in the last three months, compared to the three months prior. Employer reports support the more-robust LEED data by showing a significant drop in turnover in 2008-2009. Recent indications suggest that staff turnover has risen slightly over 2011 and 2012 and more so over 2013 and 2014 (June 2014: +16.2% of firms) (which LEED does not report on, due to the time lag in data release). These increases would not yet have offset the large drop in 2008-2009. (It must be remembered that the QSBO measures change in turnover, rather than the level of turnover.)



Figure 33: Firms reporting increased worker turnover rate, Auckland, 1990-2014

Source: NZIER, QSBO (custom data)

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.

3.5 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 are expected to be the primary source of future productivity growth. Knowledge-intensive industries have scope to create greater wealth both for Auckland through higher GDP and for individuals through increased wages.

This sub-section is based on Infometrics estimates of employment⁴ for knowledge-intensive industries. An industry is defined as knowledge-intensive if it meets two criteria: at least 25% of the workforce is qualified to degree level and at least 30% of the workforce is in professional, managerial, or scientific and technical occupations.

Table 2 shows that in 2013, there were 267,584 jobs in Auckland's knowledge-intensive (KI) industries. At 36% of Auckland's total employment, this was higher than the New Zealand average (32%).

Between 2000 and 2013, employment in Auckland's knowledge-intensive industries increased by 3.0% per annum, which compares with 2.3% at the national level. Between 2012 and 2013 the knowledge-intensive employment increase was 2.7% for Auckland and 1.7% for New Zealand, as compared to $1.9\%^5$ for employment in Auckland's economy as a whole.

Table 2: Share of knowledge-intensive industries, Auckland and New Zealand, 2013

	Employment in KI industries 2013	KI % of total employment	Annual % change in employment in KI industries (2012-2013)	Annual % change in employment in KI industries (2000-2013)
Auckland	267,584	36%	2.7%	3.0%
New Zealand	697,076	32%	1.7%	2.3%

Source: Infometrics, Regional Economic Profile for Auckland

Figure 34 shows the growth of employment in knowledge-intensive industries between 2000 and 2013 for Auckland and New Zealand. Both grew strongly from 2000 to 2007, had little or no growth in 2008 to 2010, and have had modest growth since then. Auckland grew faster than New Zealand during the two growth periods, but was more severely affected by the recession from 2008 to 2010.

⁴ As estimated by annual average filled jobs.

⁵ From LEED data.



Figure 34: Employment in knowledge-intensive industries, Auckland and New Zealand, 2000-2013

Source: Infometrics, Regional Economic Profile for Auckland

Table 3 shows the largest knowledge-intensive industries (ANZSIC 2006 at the 7-digit level) in terms of employment in Auckland in 2013. 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 37% of New Zealand's employment in those industries - significantly above its share for all industries (33%). For some large knowledge-intensive industries, Auckland's share is substantially higher and exceeds 50%: advertising services (66%), corporate head office management services (52%), employment placement and recruitment services (52%), other auxiliary finance and investment services (52%), and wired telecommunications network operation (52%).

Industry (7-digit ANZSIC06 level)	Employment	% of total employment	Auckland % of NZ employment
Hospitals (except Psychiatric Hospitals)	21,343	2.80%	32.9%
Computer Systems Design and Related Services	16,434	2.20%	49.4%
Management Advice and Other Consulting Services	14,793	2.00%	44.9%
Primary Education	14,681	2.00%	30.4%
Corporate Head Office Management Services	13,838	1.80%	52.4%
Higher Education	11,801	1.60%	34.6%
Secondary Education	11,429	1.50%	32.2%
Engineering Design and Engineering Consulting Services	8,561	1.10%	40.5%
Accounting Services	8,040	1.10%	35.8%
Other Allied Health Services	7,743	1.00%	26.5%
Legal Services	6,901	0.90%	40.3%
Local Government Administration	6,458	0.90%	31.5%
Other Administrative Services n.e.c.	6,293	0.80%	46.9%
Central Government Administration	5,044	0.70%	18.4%
Employment Placement and Recruitment Services	4,680	0.60%	51.6%
Other Auxiliary Finance and Investment Services	4,367	0.60%	50.8%
Adult, Community and Other Education n.e.c.	4,294	0.60%	38.0%
Advertising Services	4,249	0.60%	66.2%
General Practice Medical Services	4,236	0.60%	29.4%
Wired Telecommunications Network Operation	3,934	0.50%	52.3%

Table 3: Largest knowledge-intensive industries by employment, Auckland, 2013

Source: Infometrics, Regional Economic Profile for Auckland

4.0 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. To possess skills is also empowering for the individual.

This section assesses the distribution of skill levels in the Auckland population and labour force as measured by qualifications attained, and how this compares to numbers of jobs needing those skill levels.

4.1 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.

It is important to recognise, therefore, that the information presented below in relation to qualification levels provides an important, but only partial insight into the skills of Aucklanders.

The information in this sub-section is taken from Statistics New Zealand's 2013 Census (custom tables), supplemented by data from the 2006 census and also Infometrics' regional economic profile.

4.1.1 Highest qualification all working age

Figure 35 shows Aucklanders' highest qualification as at the 2013 census; the data is for all individuals aged 15 or more, so includes some school pupils and other students who had not yet completed their studies. It shows that one in seven (15%) of these Aucklanders had no qualification. A total of one in three (37%) had a school qualification, one in six (15%) had a post-school qualification (excluding degree level), and one in five (22%) had a degree (of which two thirds (15%) had a bachelor degree, and one third (7%) had a higher degree). The remaining one in nine (11%) could not be classified.



Figure 35: Highest qualification of working age population, Auckland, 2013

Source: Statistics New Zealand, Census 2013

A further breakdown of Aucklanders with only a school qualification shows that in 2013 they were fairly evenly split between Level 1 (26%), Level 2 (23%), Level 3 (26%) and overseas secondary school qualifications (26%).

Having only a school qualification is considered to still be "low skilled", so over half (52%) of all working age Aucklanders (aged 15+) are in that category. This is an improvement over the previous census (2006), where 55% were low skilled, comprising 18% having no qualification and 37% school-only. Similarly, in the 2006 census there were lower proportions with high skilled qualifications, namely bachelor degrees (13%) and higher degrees (5%).

Figure 36 compares the qualifications held by the Auckland working age population in 2006 and 2013, and confirms that there were disproportionate increases for bachelor and higher degrees (to 168,924 and 76,074 respectively in 2013), as compared to an absolute reduction for "No qualification" (to 166,782) despite the overall population increase.



Figure 36: Highest qualification of working age population, Auckland, 2006 and 2013

Source: Statistics New Zealand, Census 2013 and Census 2006

4.1.2 Highest qualification by ethnicity

Figure 37 shows how qualifications vary depending on ethnicity, for all Aucklanders aged 15+. Pasifika and Māori tend to have a higher proportion with low qualification levels, and Asians and MELAA tend to have a higher proportion with high qualification levels, while Europeans are closer to the total averages.



Figure 37: Highest qualification of working age population by ethnicity, Auckland, 2013

Source: Statistics New Zealand, Census 2013

Figure 38 shows the educational attainment levels of the low skilled portion of Auckland's total population aged 15+, for each major ethnicity. Over 40% of Asian and MELAA low skilled individuals have an overseas secondary school qualification, and very few have only a level 1 or 2 certificate. Low skilled Europeans, Māori and Pasifika each have proportions with level 1 and with level 2 that are similar to the proportion with level 3, and have less than 10% with overseas qualifications. However, Māori and to a lesser extent Pasifika have a higher proportion with no qualifications.

(**Note**: data is not available on the proportions of overseas secondary school qualifications that correspond to levels 1, 2 and 3)



Figure 38: Highest qualification of low skilled individuals by ethnicity, Auckland, 2013

Source: Statistics New Zealand, Census 2013

4.1.3 Highest qualification workforce only

Figure 39 shows that when we consider only the workforce (individuals who are employed full or part time, or are currently unemployed), a more positive picture emerges than for the total working age population. The proportion who are low skilled (no qualification or school qualification) reduces to 44%⁶, and the proportion who are high skilled (bachelor or higher degree) increases to 27%. The proportion with post-school level qualifications (medium or medium-high skilled) also increases slightly, to 17%.



Figure 39: Highest qualification of workforce participants, Auckland, 2013

Source: Statistics New Zealand, Census 2013

(Note: "low skilled" here includes level 4 qualifications acquired at school, as these cannot be split out from level 3 for the 2013 census workforce data (whereas at the total population level they were split out and added to level 4 post-school qualifications). The effect is to over-state the "low skilled" proportion of the workforce, and correspondingly under-state the medium-skilled proportion of the workforce.)

⁶ But see note regarding "low skilled"

4.1.4 Participation rates by skill

The difference in qualification shares between the workforce and the total working age population is due to differing labour force participation rates of the different skill levels. Low-skilled individuals are substantially less likely to be working or seeking a job (59%), and highly skilled individuals are more likely (84%), relative to the average (69%). Even within the low-skilled category there are differences, with individuals with no qualifications even less likely to participate (45%). (See Figure 40). These rates may differ from the participation rates estimated by the HLFS, which is subject to sampling errors.



Figure 40: Labour force participation rate by skill, Auckland, 2013

Source: Statistics New Zealand, Census 2013

4.1.5 Workforce qualifications compared to job skill requirements

Figure 41 shows for 2013 the workforce numbers by skill level (from the census), as compared to the number of jobs requiring those skill levels (from Infometrics' regional economic profile). Overall, the workforce of 769,272 employed and unemployed people aged 15+, is only slightly higher (20,000) than the 749,182 filled jobs. However, there is a noticeable shortfall of highly skilled workers (204,846) compared to jobs (277,480), and it is not clear to what extent this is accounted for by workers in the "other/not stated" category of the workforce. There is also an apparent surplus of low skilled workers and shortage of medium-skilled ones, although this will be partly accounted for by workforce classification issues (see note regarding "low skilled").



Figure 41: Workforce and jobs by skill level, Auckland, 2013

Sources: Statistics New Zealand, Census 2013 and Infometrics, Regional Economic Profile for Auckland

5.0 Concluding comments

The Auckland labour market has only partially recovered from the post-GFC recession. Many key measures have not yet returned to pre-recession levels, and some have shown little if any improvement at all. Employment has resumed its upward trend, but without the rebound necessary to make up for lost time. However, firms have begun to report increasing difficulty in finding unskilled as well as skilled, labour, which suggests a possible shift towards tighter labour markets.

The unemployment rate since the start of 2010 remains elevated, but appears to show a slight downward trend. However, any improvements to employment prospects appear to be accruing largely to people already in employment rather than to the unemployed.

While the shocks associated with the economic downturn were felt widely, the negative effects were felt particularly strongly by young Aucklanders, and by Māori and Pasifika communities, many of whom were affected by the loss of lower-skilled jobs from 2008 onwards. For these groups, high unemployment and joblessness has reflected a worsening of employment options and a reduction in the ability to compete for jobs with other workers in the labour force.

Unemployment rates remain above average for Pasifika, Māori, 15-19 year olds and 20-24 year olds. In contrast, NEET rates for 15-19 and 20-24 year olds showed only minor increases in 2008 and 2009, suggesting that increased education and training may have helped cushion the impact of the massive increases in joblessness for young Aucklanders. Those trends have largely persisted since the start of 2010: the jobless rates are still higher for 15-19 and for 20-24 year olds, but NEET rates are similar to pre-GFC levels. (Whether this increase in education and training was subsequently of benefit to those individuals is beyond the scope of this report.)

Similarly, the labour force participation rate fell significantly for 15-19 year olds after 2008, and remains below pre-recession levels. In contrast, participation of ages 55+ rose before the recession and has been rising again since 2011.

The loss of jobs during 2008-2010 was reflected in reduced vacancies even for skilled jobs The *Jobs Online* Skilled Vacancy Index (SVI) had, by 2009, dropped to approximately half of May 2007 levels. Since then SVI job openings have grown only slowly, and by May 2014 were not quite back to 2007 levels. By May 2014 vacancies amongst technicians and trades workers, and community and personal service workers were substantially higher than May 2007, but all other occupations were still below May 2007 levels.

The proportion of firms reporting labour as their primary constraint to business growth is up from the record lows during the recession (2009-2012), but still below the pre-recession levels. Similarly, a positive net total of firms in June 2014 reported it was more difficult to find skilled labour than three months before, as compared to June 2009 when half of firms (net) reported it was **less** difficult than before. Even unskilled labour is now also more difficult to find. These may be considered signs of a tightening labour market.

The official (LEED) worker turnover rate was by early 2013 not much higher than its low-point in 2009, and showed no sign of returning to pre-recession levels. Job security with their current employer still outweighed broader career desires, which leads to fewer job openings arising due to replacement demand. Similarly, employers reported (QSBO) major drops in worker turnover rates in 2009 and 2010 and minimal subsequent recoveries in 2011 and 2012. However, they have been reporting increasing worker turnover in 2013 and 2014, which further supports the likelihood of a tightening labour market.

Auckland's knowledge intensive industries continue to grow employment faster than in New Zealand as a whole, after having been more severely affected by the recession. Auckland has particular comparative advantages in KI industries related to advertising, corporate management, recruitment, finance and IT, and to a lesser extent design, consulting and other business services.

Auckland's workforce has a mix of skill levels, with the overall level improving over time. However the need for skills is also increasing, leading to an ongoing shortage of high skilled labour. Both the labour supply and demand are somewhat polarised to either low skilled or highly skilled, with fewer workers and jobs at the medium and medium-high skilled levels. The population's qualification levels tend to vary by ethnicity, with Asians and MELAA the most likely to have a university degree, and Pasifika and Māori the most likely to have no qualifications or school-only.

6.0 References

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

Auckland Council 2012a, The Auckland Plan, Auckland Council, Auckland.

Auckland Council 2012b, *Auckland's Economic Development strategy 2012-2022*, Auckland Council, Auckland.

- Infometrics 2014, Regional Economic Profile for Auckland, Infometrics, Wellington
- MBIE 2014, Skilled Vacancy Index, Ministry of Business, Innovation and Employment, Wellington
- NZIER 2013, *Quarterly Survey of Business Opinion*, New Zealand Institute of Economic Research, Wellington
- OECD 2012, Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies, OECD Publishing.

Statistics New Zealand 2006, *Census 2006 custom dataset for Auckland Council*, Statistics New Zealand, Wellington.

- Statistics New Zealand 2011, Introducing the youth not in employment, education, or training indicator. Statistics New Zealand, Wellington.
- Statistics New Zealand 2013, *New Zealand Business Demography Statistics*, Statistics New Zealand, Wellington.
- Statistics New Zealand 2014, *Linked Employer-Employee Dataset*, Statistics New Zealand, Wellington.
- Statistics New Zealand 2014, *Household Labour Force Survey*, Statistics New Zealand, Wellington.
- Statistics New Zealand 2014, *Census 2013 custom dataset for Auckland Council*, Statistics New Zealand, Wellington.

7.0 Glossary of acronyms

ANZSCO: Australian New Zealand Standard Classification of Occupations

- GFC: Global financial crisis (2007-2008)
- HLFS: Household Labour Force Survey (Statistics New Zealand)
- IT Information technology
- KI: Knowledge intensive
- LEED: Linked Employer-Employee Dataset (Statistics New Zealand)
- 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)
- RONZ: Rest of New Zealand
- SNZ: Statistics New Zealand
- SVI: Skilled Vacancy Index



