Y-NEET: Empirical Evidence for New Zealand

Report prepared by Gail Pacheco* and De Wet van der Westhuizen

January 2016

Research prepared for the Vodafone New Zealand Foundation.

Gail Pacheco is an Associate Professor in the Department of Economics, AUT. For further information: email: gail.pacheco@aut.ac.nz

Executive Summary

Labour market outcomes for youth have received an upsurge of interest in recent years. In fact, reducing the number of youth not in employment, education, or training (Y-NEET) has become a key focus of government policies. This is particularly the case for members of the European Union (EU), many of which have experienced substantial spikes in youth unemployment over the last decade[1] (Eurofound, 2012a). While there has been an abundance of research internationally on this issue, the empirical evidence for New Zealand (NZ) is unfortunately scant. This study therefore aims to provide a comprehensive profile of the Y-NEET landscape in NZ, examine how NZ compares internationally, and quantify the costs of this economic and social issue.

This study employs data from the Household Labour Force Survey[2] for the years 2004-2015. Based on the most recent statistics from 2015 - it is estimated that 12% of youth aged 16-24 years in NZ were NEET; 65% of all Y-NEETs resided in either the Auckland, Waikato, Wellington or Canterbury local government regions; and Y-NEETs were generally more likely to be aged 20-24 years, relative to being 16-19 (accounting for 73% of all Y-NEETs). Females have consistently made up a larger proportion of Y-NEETs, and have generally been more likely to not be part of the labour force and have caregiving responsibilities. In terms of ethnic makeup, NZ Europeans and Maoris accounted for the largest proportion of Y-NEETs. When compared to non-Y-NEETs (youth who have not previously had periods of being NEET), Y-NEETs were more likely to have no school qualification, and less likely to have Bachelor level qualifications or above. Also in 2015, 21% of Y-NEETs were partnered, and 65% had children.

Y-NEETs fit into one of three types: Not in the labour force (NILF) and caregiving; NILF and not caregiving; or Unemployed. For both age groups (16-19 and 20-24 years), the largest proportion of Y-NEETs (over 40%) fell into the last category of unemployed. It was also found that Y-NEETs previous employment experience tended to be in temporary and/or seasonal work, and when unemployed, were more likely to seek new employment than not.

Evidence of what happens after experiencing a spell of being NEET suggests that those who experience spells of more than 6 months have poorer outcomes two years later (relative to their non-NEET counterparts) - in terms of employment, education, benefit receipt and inactivity.

---

[1] By February 2012, the youth unemployment rate in the EU reached 22.4%. This equates to 5.5 million youth unemployed, 1.5 million more than in 2007. Worst affected was Spain, who had an increase of almost 30% in their youth unemployment rate since 2007 (Eurofound, 2012a).

[2] Access to the data used in this study was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. The results presented in this study are the work of the authors, not Statistics NZ.

Latest figures from the Organisation for Economic Co-operation and Development (OECD) show that NZ has a lower Y-NEET rate relative to the OECD average. Drawing from relevant international empirical literature, several factors have been identified as significant predictors for individuals becoming Y-NEET. In particular, having previous spells of Y-NEET was the strongest predictor, making an individual 7.9 times more likely to experience future spells of inactivity. Another strong predictor was being pregnant, or being a parent.

International policy responses to reduce the size of Y-NEET are either preventative in nature, or aimed at attempting to re-integrate young people back into economic and social participation. Eurofound (2012b) developed a 'pathway to employment' framework which was used to assess Y-NEET policy responses against key transition points from school-to-workforce participation[3]. Policies revolved around preventing early school leaving, re-integrating early school leavers, supporting school-to-work transitions, fostering the employability of young people, and removing barriers and offering employer incentives.

Reviewing recent evidence regarding the short-term[4] economic cost of youth disengagement revealed a total cost per capita for NZ Y-NEETs of $21,996. One important caveat with this cost construction is that there is no differentiation across length of NEET spell. Consequently, future analysis should look to employ a longitudinal approach with a panel data set to estimate the range of costs associated with different types of NEET episode. Additionally, taking on a longitudinal data perspective will allow more in-depth analysis, such that future research can:

- Better understand the predictors of Y-NEET status in NZ (and allow better intervention strategies to be designed)
- Undertake programme evaluations to measure the effectiveness of responses to Y-NEETs in NZ.
- Quantify medium to long-term outcomes for Y-NEETs in NZ (current literature in this space has only focussed on short term outcomes thus far).

---

[3] Nine case study countries were selected for evaluation against the pathway to employment framework, including Austria, Finland, France, Hungary, Ireland, Italy, Spain, Sweden, and UK (England) (Eurofound, 2012b).

[4] Short-term costs equate to a 1 to 3 year timeframe (Pacheco & Dye, 2014).

Table of Contents

List of Tables

List of Figures

1   Introduction

In recent years an increasing amount of attention has been paid to youth labour market issues both in New Zealand (NZ) and internationally. In particular, reducing the number of youth not in employment, education, or training (Y-NEET) has become a key focus of government policies, following the impact of the Global Financial Crisis (GFC) on youth labour markets[5]. At times of economic recession, young people suffer disproportionately due to their lack of skills and experience (Gracey & Kelly, 2010; Maguire, 2013a).

The issue of Y-NEETs is also multi-faceted. Y-NEETs risk social exclusion in the form of political and social disengagement from their communities (Eurofound, 2012a). Social exclusion can also result in outcomes of poorer mental and physical well-being, and involvement in anti-social or criminal activity (Maguire, 2013a).

There has been an abundance of empirical research internationally, in particular the United Kingdom (UK), investigating the magnitude of the Y-NEET issue, predictors of Y-NEET status and effectiveness of policy responses to reduce the size of the Y-NEET population. There has been less comparable research focussing on the Y-NEET issue in the NZ context. This study aims to provide a comprehensive profile of the Y-NEET landscape in NZ. This study will also examine how NZ compares to other members of the Organisation for Economic Co-operation and Development (OECD), and quantify the costs of this economic and social issue.

This report is structured as follows. Section 2 summarises the data source used in this study, and continues by providing a comprehensive profile of Y-NEETs in NZ by several demographic characteristics. It will also provide evidence of outcomes for Y-NEETs in the short-run. Section 3 examines international Y-NEET statistics and evaluates how NZ compares to members of the OECD. Predictors of long-term Y-NEET are also summarised in this section, along with international policy responses. In Section 4, costs of youth disengagement are examined based on recent evidence on this front. Section 5 concludes with future research directions.

---

[5] This is especially the case across the EU, who experienced some of the largest rises in youth unemployment. Compared to 2007, youth unemployment reached 22.4% in 2012 across the EU. Most affected was Spain, who saw an increase in youth unemployment of almost 30% from 2007-2012 (Eurofound, 2012a).

2 New Zealand NEET statistics

2.1 Data source for Y-NEET

Statistics New Zealand produces NZ's official Y-NEET statistics using data from the Household Labour Force Survey (HLFS). The HLFS is a quarterly survey administered by Statistics New Zealand and was designed to provide regular, timely and a comprehensive portrayal of the NZ labour force (Statistics New Zealand, 2011). The Y-NEET indicator was first introduced in 2011, and has subsequently been derived for each quarter dating back to March 2004.

The Y-NEET indicator produced by Statistics New Zealand adopts the international definition of Y-NEET which include "people aged 15-24 years who are not in employment, education, or training" (Statistics New Zealand, 2011, p. 4). This definition captures those who are often overlooked by traditional labour market indicators, including youth who are unemployed (i.e., part of the labour force), and those who are not in the labour force (NILF), and simultaneously not in education or training. See Figure 1[6] below for an illustration of who is counted as Y-NEETs in NZ.
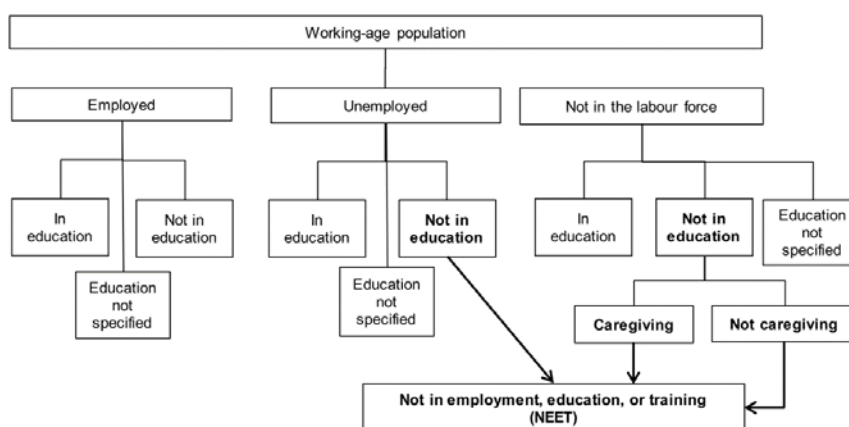
Figure 1: Who counts as NEET using the official measure from the HLFS

This study has defined Y-NEET as per the official measure with the exception of excluding people aged 15 years. Youth aged 15 are not yet legally entitled to leave school, and consequently, the majority of these youths will not be classified as Y-NEET[7] given their enrolment status.

Furthermore, although quarterly data is available, this study has opted to use the September quarter for each year as the basis for comparison. This decision was made following advice from Statistics New Zealand to examine annual comparisons due to the seasonality of the Y-NEET indicator, and the subsequent volatility of quarterly data.

---

[6] Source: Statistics New Zealand (2011).

[7] Using HLFS data, it is estimated that only 2% of youth aged 15 were classified as Y-NEET in 2015.

2.2 Age, gender and educational profile of Y-NEETs

2.2.1 Age

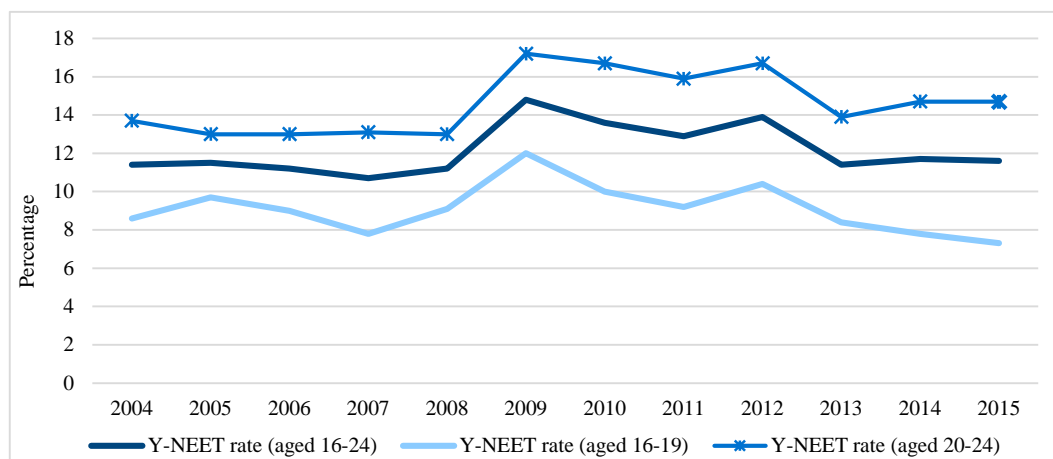This study has grouped Y-NEETs into the following age groups: i) 16-19 years of age, ii) 20-24 years of age, and iii) 16-24 years of age. Figure 2 illustrates the breakdown of Y-NEETs by age group from 2004 to 2015.

Source: HLFS. Author's compilation.

Figure 2: New Zealand Y-NEET rate by age group, 2004-2015

Overall, Y-NEETs were generally more likely to be aged 20-24 years. In each year between 2004 and 2015, the number of Y-NEETs aged 20-24 years ranged from 37,000 to 51,000, compared to 18,000 to 30,000 Y-NEETs aged 16-19 years. For both age groups, the percentage of Y-NEETs sharply increased in 2008, which can potentially be attributed to the impacts of the GFC on the youth labour market (Eurofound, 2012a; Milner, Morrell, & LaMontagne, 2014). From 2013, the rate of Y-NEETs aged 16-19 years has followed a downward trajectory, decreasing from 8% to 7%. In contrast, the rate for Y-NEETs aged 20-24 years increased from 14% to 15% over the same time period.

Using unit-level HLFS data, a more disaggregated age profile can be developed. See Table 1 for an overview of the 2015 age profile of Y-NEET in NZ.

Table 1: New Zealand Y-NEETs by detailed age groups, 2015

| Age Group	Number of Y-NEET	Percentage
16-17	4,300	6%
18-19	13,700	20%
20-21	19,200	28%
22-24	30,200	45%
Total	**67,400**	**100%**

Notes: Source: HLFS. Author's compilation.

Table 1 illustrates that youth aged 20-24 years made up the largest proportion of the Y-NEET population in 2015, totalling 73%. Y-NEETs aged 22-24 accounted for 45% of all Y-NEETs in NZ, compared to 16-17 year olds, who accounted for just 6%

2.2.2 Gender

Figure 3 presents the number of youth with Y-NEET status by gender from 2004 to 2015. Females have consistently made up a larger percentage of Y-NEETs. In each year from 2004 to 2015, females accounted for over 50% of the Y-NEET population when compared to males. Examining the trend for each gender suggests that the Y-NEET gender profile is changing over time. In 2004, there were close to 40,000 females compared to 19,100 males. By 2015, the number of females decreased to 36,600, while the number of males increased to 30,900. There appears to be a clear convergence of of the female and male rates, as shown in Figure 3.
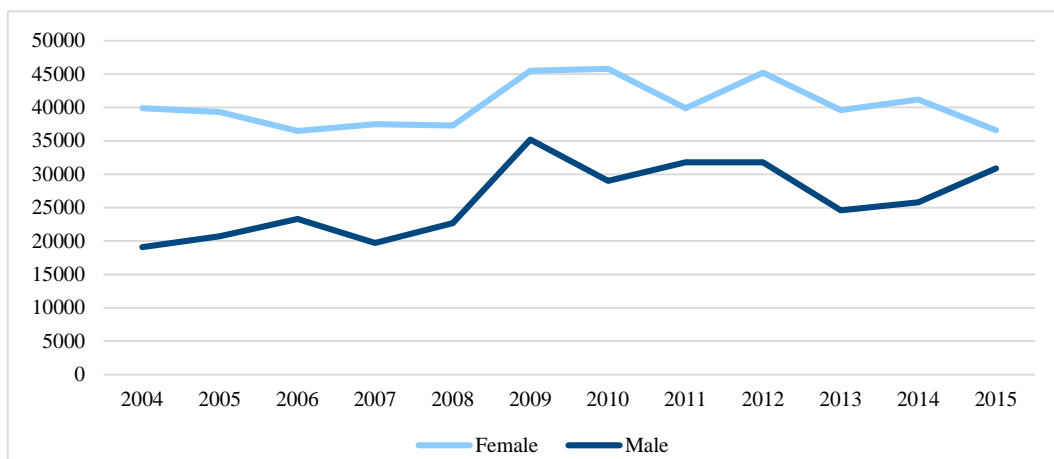
Source: HLFS. Author's compilation.

Figure 3: Y-NEETs by gender, 2004-2015

Using the unit-level HLFS data, the gender profile for Y-NEET can be disaggregated to examine gender characteristics by different types of Y-NEET status - see Table 2 for this breakdown for 2015.

Table 2: Y-NEETs by type and gender, 2015

Y-NEET Type	Male	Female
NILF – Caregiving	4%	37%
NILF – Not caregiving	36%	28%
Unemployed	60%	35%

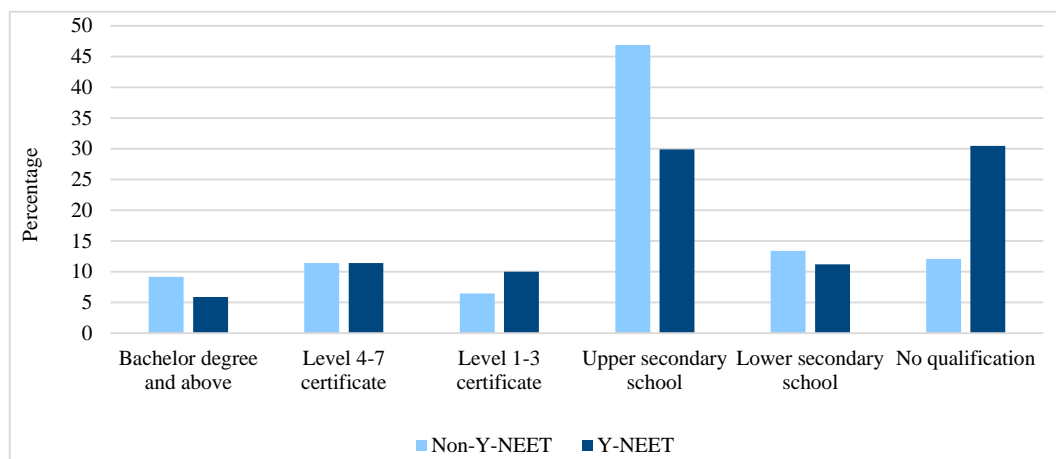*Notes:* Source: HLFS. Author's compilation.

There are notable differences in the prevalence of different types of Y-NEET status by gender. Males had a relatively skewed distribution towards being unemployed when compared to females, who were relatively evenly distributed across the different types of Y-NEET status. For male Y-NEETs, 60%

were unemployed, compared to only 35% of their female counterparts. Interestingly, in 2015, 65% of females were NILF, with the majority of that group (37%) having caregiving responsibilities, while the comparable figure for males was 4%. This is perhaps the most striking difference between the genders and not surprising given females are generally more likely to take on caregiving responsibilities[8].

2.2.3 Education

Education has long been considered a prominent determinant of labour market outcomes given the role it plays in knowledge and skills development. Consequently, lower levels of education risk poorer labour market outcomes, as well as entry to further learning and training opportunities (Hill, 2003).

Figure 4 compares highest qualifications of Y-NEETs against youth who have not experienced NEET status in 2015. Y-NEETs were generally more likely to have no qualification when compared to non-NEET youth, 31% to 12%, respectively. Furthermore, Y-NEETs were generally less-likely to have achieved Bachelor level qualifications or above. For non-NEET youth, 9% had Bachelor level qualifications or above, compared to 6% of their Y-NEET counterparts. Although Y-NEETs were generally more likely to have achieved Level 1-3 certificate qualifications, without further participation in education they risk longer term differences in levels of income earned when compared non-NEET youth (Samoilenko & Carter, 2015).
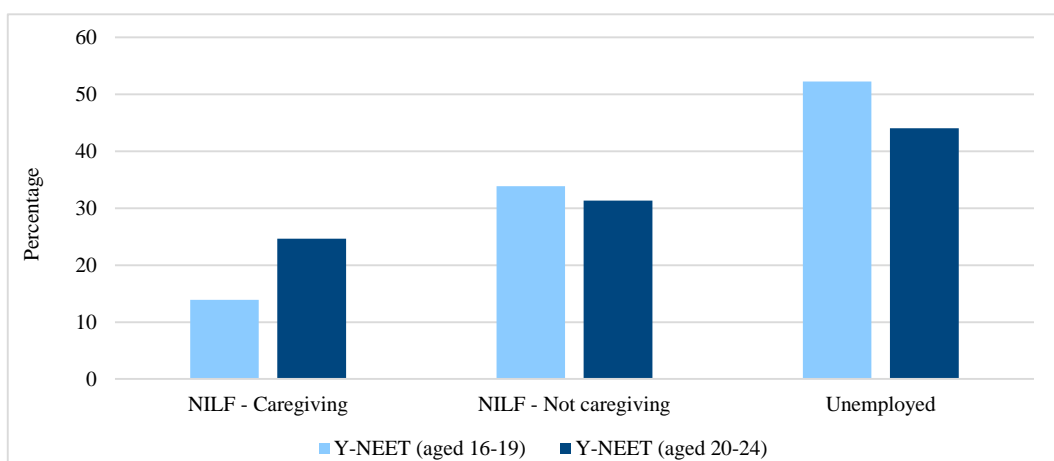
Source: HLFS. Author's compilation.

Figure 4: Y-NEETs by highest qualification, 2015

---

[8] See Mirza-Davies (2015) for similar findings.

2.3 Y-NEET types

The three types of Y-NEETs by age group in 2015 are presented in Figure 5. For both age groups (16-19 and 20-24), the largest proportion of Y-NEETs were unemployed. This group made up 52% of Y-NEETs aged 16-19, and 44% of Y-NEETs aged 20-24. When asked whether they will be looking for work in the next two weeks, 64% of Y-NEETs responded with yes, suggesting there is still a large subsection of the Y-NEET population (36%) planning to remain inactive in the short-term.
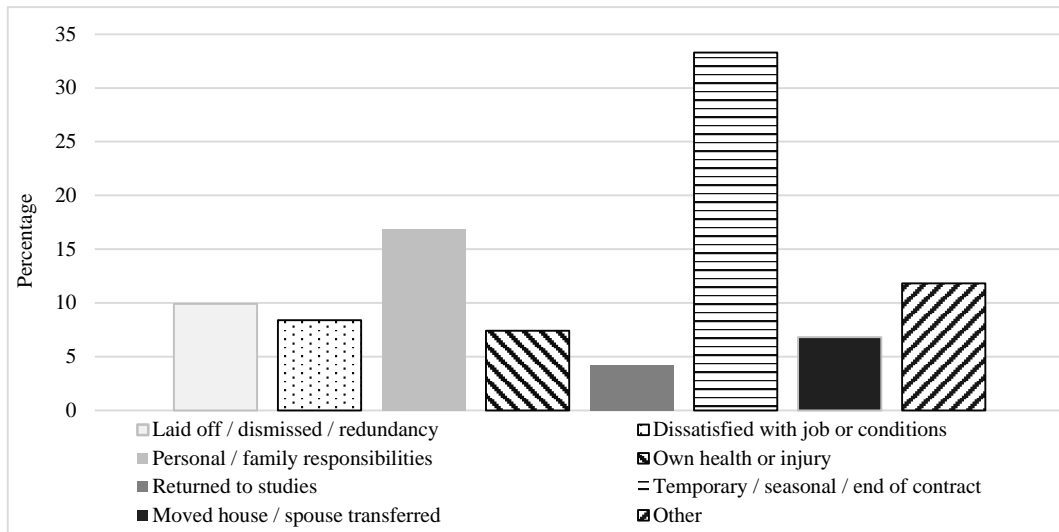

Source: HLFS. Author's compilation.

Figure 5: Types of Y-NEETs by age group, 2015

As part of the HLFS questionnaire, all respondents are asked to select the main reason why they left their last job. Approximately one-third of Y-NEETs selected temporary/seasonal work, or a fixed-term contract ending, as their main reason. This suggests that a sizeable proportion of Y-NEETs were not in permanent employment, prior to their NEET spell. Many also selected personal/family responsibilities as the reason why they had to leave their last job (17%). Of the data that did not require any suppression for confidentiality reasons[9], returning to studies was the least common reason given. This indicates that finding new employment, as opposed to upskilling through further education or training, was the main focus for Y-NEETs in 2015.

---

[9] Percentages derived using counts which fall below a prescribed threshold specified by Statistics New Zealand is considered a risk to respondents' confidentiality and requires suppression. In Figure 5, the reason 'travel/took a holiday/resigned to have a break' required suppression due to the small number of Y-NEETs who selected this as a reason for leaving their last job.

Figure 6: Reasons why Y-NEETs left their previous job, 2015

2.4 Y-NEETs by region

In 2015, 12% of youth aged 16-24 in NZ were classified as Y-NEET. Figure 7 disaggregates the Y-NEET population by local government region (LGR). Approximately 65% of all Y-NEETs resided in either Auckland, Waikato, Wellington or Canterbury LGR. The Wellington and Waikato LGRs each had a Y-NEET rate of 13%, which was higher than the NZ rate of 12%. The highest Y-NEET rate by far was that of Auckland at 29%, and Taranaki and Southland shared the lowest rate of 2%.
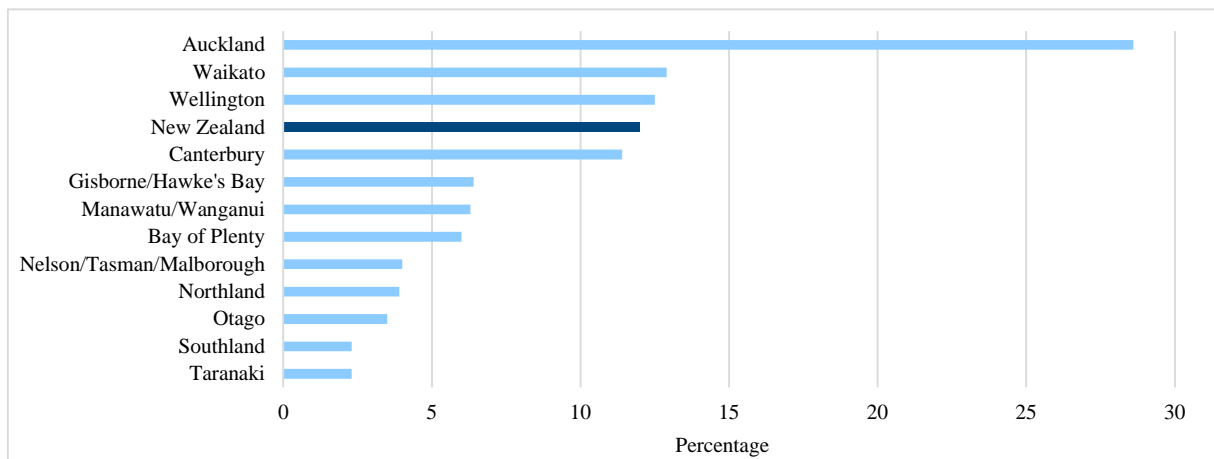
Figure 7: Y-NEET rate by local government region, 2015

2.5 Other characteristics of Y-NEETs

2.5.1 Ethnicity

Of the Y-NEET population in 2015, the largest ethnic group was NZ Europeans at 43%. Maori were the second most prominent group at 20%, followed by those who identified themselves as of European/Maori ethnicity (13%). Data for the MELAA, Other, and residual categories required suppression due to the small number of Y-NEETs who identified themselves with these ethnicities.
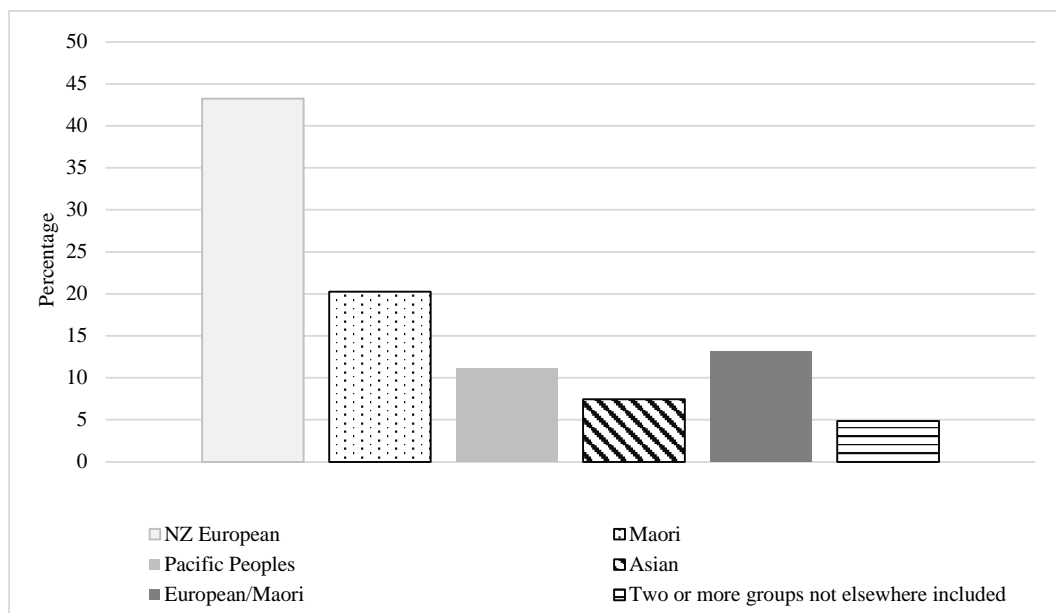
Figure 8: Y-NEETs by ethnicity, 2015

2.5.2 Partnership status

Examining marital and de factor partner status characteristics reveal that the majority of Y-NEETs are non-partnered (79%). When comparing this statistic against the partnership status of non-Y-NEETs, it is evident that Y-NEETs were generally more likely to be in a partnership (21%) than non-Y-NEET counterparts (13%).

Table 3: Comparison of partnership status, 2015

Partnership Status	Y-NEET	Non-Y-NEET
Partnered	21%	13%
Non-partnered	79%	87%

Notes: Source: HLFS. Author's compilation.

2.5.3 Parental status

Figure 9 presents the overall parental status of Y-NEETs, as well as a breakdown of parental status by gender in 2015. It is evident that there were almost twice as many Y-NEETs with children than without, 66% and 34%, respectively. This potentially complements the earlier finding of a relatively high number of Y-NEETs who selected personal and family responsibilities as being the reason why they left their last job (discussed in Section 2.3).

As Figure 9 shows, both male and female Y-NEETs were more likely to have children, than not, in 2015. Additionally, female Y-NEETs had a higher likelihood compared to their male counterparts, 72% to 60%, respectively. As seen previously, female Y-NEETs take on the majority of caregiving responsibilities, with 37% being NILF and caregiving, compared to only 4% of males (as shown in Table 2).
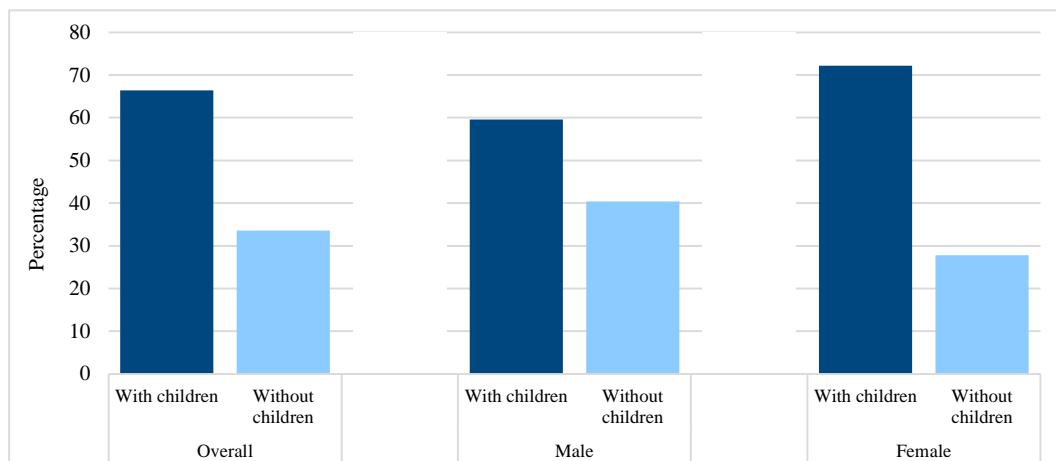
Source: HLFS. Author's compilation.

Figure 9: Y-NEET parental status by gender, 2015

2.6   Evidence of outcomes for Y-NEETs in the short-run

Empirical analysis by Samoilenko and Carter (2015) provide the most recent evidence regarding outcomes for Y-NEETs in the short-run. They examine outcomes of being Y-NEET for longer than five months in NZ. These outcomes were compared against a control group of individuals – who had either never experienced being NEET or had a NEET spell of under three months. Outcomes covered included: i) employment, ii) education, iii) benefit receipt, and iv) future inactivity.

Their overall findings indicated that individuals who experienced long-term spells of Y-NEET[10] encountered relatively poorer outcomes than the control group after the first two years. However, outcomes appeared to converge after four years (Samoilenko & Carter, 2015).

Looking at the outcomes individually, there are several observations worth noting.

2.6.1   Employment

Two employment related outcomes were examined by Samoilenko and Carter (2015): i) employment rate, and ii) employment duration over a 12 month period.

In terms of employment rate, regardless of age, Y-NEETs were significantly less likely to be employed when compared to the control group after two years following their initial period of being NEET. This outcome was most prominent for Y-NEETs aged 20-24, who were 23% less likely, on average, to be employed relative to the counterfactual group.

Differences in employment duration were also found. Y-NEETs were generally more likely to either be unemployed, or employed for shorter periods of time (i.e., 0-3 months) when compared to the control group. Furthermore, Y-NEETs were also less likely to be employed for the majority of the year (i.e., 10-12 months) when compared to the control group. These outcomes were consistent across all age groups.

After four years following their initial spell of Y-NEET, there were no statistically significant differences in employment rates or employment duration for Y-NEETs when compared to the control group. This is in contrast to previous empirical work by Maloney (2004) who suggests that periods of inactivity early on in life leave scarring effects on individuals' employment and educational outcomes which persist over time.

2.6.2   Education

In terms of highest qualification, when compared to the control group, Samoilenko and Carter (2015) found that Y-NEETs aged 18-19 years were 3% less likely to hold a Bachelor level qualification or

---

[10] Long-term spells equate to a period of at least five months (Samoilenko & Carter, 2015).

above after two years following their initial spell of being NEET. After four years, this outcome became more prominent, with NEET youths aged 18-19 years being 10% less likely to hold a Bachelor level qualification or above.

2.6.3 Benefit receipt

Two components of benefit receipt were examined by Samoilenko and Carter (2015): i) rate of receipt of any main benefit, and ii) duration of benefit receipt over a 12 month period.

Benefit receipt rates showed substantial differences between Y-NEETs and the control group after two years following their initial spell of being NEET. In particular, NEET youths aged 20-24 years were over 200% more likely to receive a benefit than the control group, those aged 18-19 years being over 100% more likely to receive a benefit, and those aged 15-17 years being 60% more likely to receive a benefit.

Similar to the benefit receipt results, duration of benefit receipt also showed significant differences between Y-NEETs and the control group. For youth aged 18-19 and 20-24 years, findings indicated that Y-NEETs were likely to receive benefits over a longer time period (i.e., 7 months or more).

These results indicate that Y-NEETs who experience long-term periods of inactivity may risk benefit dependency in later life.

2.6.4 Future inactivity

Samoilenko and Carter (2015) also showed that NEET youths were generally more likely than the control group to experience further periods of inactivity two years following their initial spell of being NEET. This effect was most prominent for those aged 18-19 years who were 64% more likely to be inactive after two years, relative to their control group counterparts[11].

Again, it is useful to note that no significant differences in rate or duration were observed between Y-NEETs and the control group after 4 years following their initial spell of Y-NEET.

---

[11] Similar findings emerged from Dixon (2013) with regard to Y-NEETs being at higher risk of experiencing future spells of Y-NEET when compared to youth who never previously experienced long-term spells of NEET.

3 International Y-NEET Statistics

3.1 International trends for Y-NEETs

Y-NEET data is published by the OECD for various age groups, including those youth aged 15-19 and 20-24 years. At present, data is only available for the years 2005-2013. Given the 15-19 year old group is not directly comparable[12] to estimates provided earlier in this report, all comparisons in this section will rely wholly on OECD figures.

It is worth noting, that the OECD data estimates a higher Y-NEET rate for NZ youth aged 20-24 in 2013 (16%), when compared to the HLFS data used earlier in this study (14%). This variation could be driven by OECD data being based on a different quarter than the quarter used in this study (September). For example, the rate of Y-NEETs aged 20-24 years in 2013 using HLFS data for March is 17%, and for June 16%, both more consistent with the OECD estimate of 16%.

Examining the information in Figure 10 reveals that NZ has generally had a lower Y-NEET rate when compared to the OECD average. This is most notably the case for NZ Y-NEETs aged 20-24 years, where the NZ Y-NEET rate was 16% for this age group, compared to 18% for the OECD average. In contrast, the NZ Y-NEET rate for youth aged 15-19 has been higher than the OECD average since 2009.

Similar to previous observations from this study, there was a sharp rise in the NZ Y-NEET rate for both age groups in 2008. For the OECD average, a relatively sharp increase is also evident for 2008, and although increasing, the rate of increase for OECD Y-NEETs aged 15-19 was less severe. These increases can potentially be attributed to the impacts of the GFC on the youth labour market.
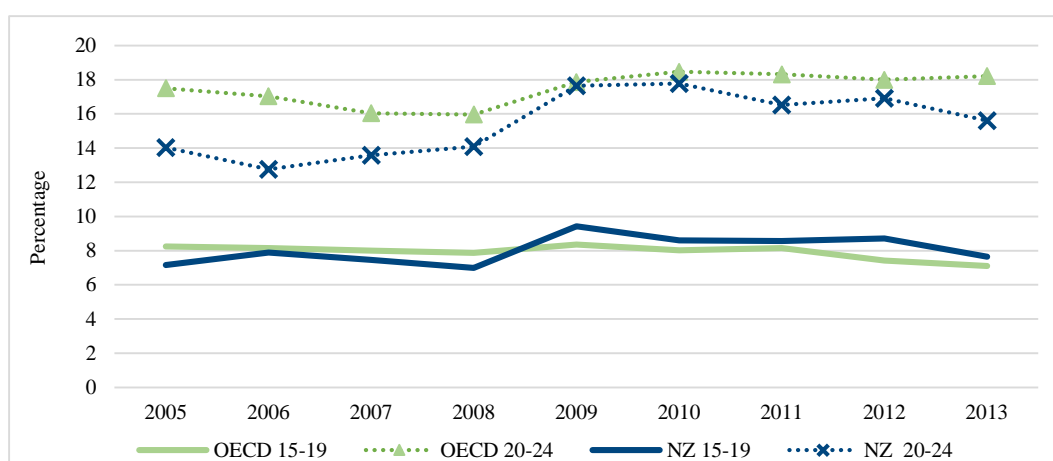
Source: Organisation for Economic Co-operation and Development (2015). Author's compilation.

Figure 10: OECD average and New Zealand Y-NEET rate by age group, 2005-2013

---

[12] This study has excluded youth aged 15 years. See Section 2.1 for further detail.

Figure 11 presents the Y-NEET rates, by age group, for all OECD countries in 2013 (the latest year or data available). When compared to the OECD average, 14 countries had a higher Y-NEET rate than NZ, including the United States, Great Britain and Ireland. European countries such as Denmark, Sweden and Norway have generally had a lower Y-NEET rate when compared to the OECD average.

Figure 11: Y-NEET rate by OECD country, 2013

3.2 Predictors of long-term Y-NEET

On the international front, several empirical studies have delved into identifying factors which predict the likelihood of individuals becoming Y-NEET. One UK based study by the Audit Commission (2010), identified nine personal characteristics which predicted whether a young person would become Y-NEET for six months or more. Of these factors, having previous spells of Y-NEET was the strongest predictor of future long-term Y-NEET. Those who have previously been Y-NEET were 7.9 times more likely to be Y-NEET is the future for more than six months (Audit Commission, 2010). The remainder of the factors are summarised in Table 4 below.

Table 4: Predictors of long-term Y-NEET

Personal Characteristics	Increase in likelihood of being NEET
NEET one or more times before	7.9 times more likely
Pregnant or a parent	2.8 times more likely
Supervised by youth offending team	2.6 times more likely
Less than 3 months post-16 education	2.3 times more likely
Disclosed substance abuse	2.1 times more likely
Caregiving responsibilities	2.0 times more likely
Requirement for special education needs	1.5 times more likely
Limited learning difficulty exists	1.3 times more likely
Ethnicity – White British	1.2 times more likely

Notes: Source: Audit Commission (2010). Authors compilation.

Other factors such as bullying at school, lack of parental support (Gracey & Kelly, 2010) and regional variation in levels of social-deprivation (Sachdev, Harries, & Roberts, 2006) have also been identified as predictors of becoming long term Y-NEET.

3.3 International responses to Y-NEET

Given the implications associated with Y-NEETs, governments have implemented a range of policies with the aim to reduce the number of Y-NEETs and enable youth to reach their full economic and social potential. Policies are generally either preventative in nature, or aim to re-integrate young people back into economic and social participation.

In evaluating the effectiveness of youth employment policy measures across the EU, Eurofound (2012b) developed a 'pathway to employment' framework which outlines young people's journey from formal education to participation in the labour market through employment (see Figure 12 below[13]). Using criteria[14] to ensure a balanced selection, nine case study countries were selected for evaluation against the pathway to employment framework, including Austria, Finland, France, Hungary, Ireland, Italy, Spain, Sweden, and UK (England) (Eurofound, 2012b).
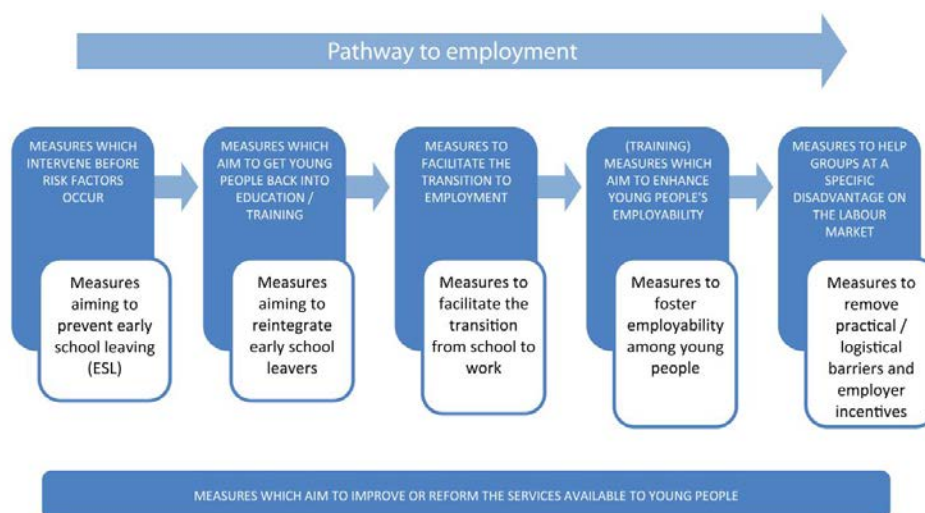
Figure 12: The pathway to employment

The policy interventions associated with each point in the pathway to employment are summarised below, and include examples of policies implemented internationally.

1. **Preventing early school leaving:** These policies include diagnostic measures to identify, target and support at risk students from becoming disengaged, providing career guidance to students during key transition periods, offering financial support to those from low income households or other vulnerable groups[15], and raising the participation age at which youth can leave education or training[16].

---

[13] Source: Eurofound (2012b).

[14] Criteria included geographical distribution, country size, date of joining the EU, and Y-NEET rate (Eurofound, 2012b).

[15] See Maguire and Rennison (2005) for further reading.

[16] See Maguire (2013b); Mirza-Davies (2015) for further reading.

2. **Re-integrating early school leavers:** These policies include the implementation of tracking systems to identify, support and monitor Y-NEETs. There are also second-chance opportunities which offer early school leavers non-traditional channels through which to gain a formal qualification.[17]

3. **Supporting school-to-work transitions:** These policies aim to stimulate the demand for youth in the labour market, which are commonly approached through wage or training subsidies or tax credits (International Labour Organization, 2013). Policies can take the form of work-experience opportunities[18], or the provision of youth guarantees[19], which guarantee that unemployed youth are offered a job or an educational or training opportunity within a specified period following their unemployment registration (Maguire, 2013a).

4. **Fostering the employability of young people:** The policies aim to develop work-related skills of youth through apprenticeships and vocational training, dedicated skill-based training courses, and internships. As part of the Youth Contract in England, payments of £1,500 are available to employers (with less than 50 employees) that take on youth apprentices (Mirza-Davies, 2015).

5. **Removing barriers and offering employer incentives:** These policies aim to address special support needs for different groups such as the disabled or young parents[20]. Policies can also promote the mobility of young people by providing mobility grants for those who face high travel costs.[21]

---

[17] Evening schools exist in Cyprus, Latvia and Romania. Distance learning opportunities are available in Hungary. Mobile education systems are operated in Portugal to support early school leavers from the Traveller community. Some second-chance policies are vocational in nature such as the Initial Vocational Qualification Programmes in Spain (Eurofound, 2012b).

[18] In the Netherlands, 'learn-work jobs' are offered by recognised learning companies. These companies enable youth to gain work experience while getting paid a salary. In Malta, the Job Shadowing Exposure Scheme places students at companies for a week (Eurofound, 2012b).

[19] In NZ, there are several examples of responses under action to support school-to-work transitions. The Ministry of Education administers the Youth Guarantee Scheme, which aims to create clear pathways from school to work and study (Ministry of Education, n.d.). There are also locally driven initiatives, such as Youth Connections, which are governed by the Mayors Taskforce for Jobs (Mayors Taskforce for Jobs, n.d.). Youth Connections aims to have all young people either working and earning, or learning and training (Youth Connections, n.d.).

[20] In Malta, the pathway to Independent Living Programme aims to support students with mild to moderate learning disabilities to gain the necessary skills to acquire and sustain employment. In the UK, childcare is offered to young parents who are participating in education (Eurofound, 2012b).

[21] In France, young people who have completed a training programme receive financial support and may apply for a rent allowance (Eurofound, 2012b).

4 Cost of Youth Disengagement

In this section we highlight some of the recent quantitative evidence regarding the economic cost of youth disengagement. In general, it is widely acknowledged that youth exclusion, and under-utilisation in the labour market is associated with serious economic and social costs. There is a plethora of evidence to suggest that Y-NEET are likely to have a lifetime of poorer outcomes. These include[22]:

- Scarring effects in terms of future employment prospects and wages (for evidence of increased likelihood of future unemployment spells, see Gregg (2001); Mroz and Savage (2006); and for evidence on lower wages, Viollaz, Ham, and Cruces (2012)).
- Increased crime (Wu & Wu, 2012).
- Poorer health and general happiness (Blanchflower, 2010).

Much of the literature signals that there are both short and long-term consequences for the individual that experiences a NEET spell, as well as negative impacts for the economy as a whole. Unfortunately many of these costs (such as the impacts on health and criminal activity) are difficult to quantify and require numerous assumptions in terms of what the counterfactual would be. Therefore, the one foray into assessing the cost of youth disengagement in NZ by Pacheco and Dye (2014) has focussed purely on projecting the loss to productivity, measured in foregone wages, and the expected strain on public finances. These are more readily quantifiable, and require fewer assumptions, but it must also be acknowledged that these estimated costs are likely to underrepresent the true cost. Nonetheless, it is quite useful to view the forthcoming estimates as lower bounds for the cost of youth disengagement. In this section of the report, we summarise the key aspects of the methodology utilised by Pacheco and Dye (2014) and indicate the main findings.

The focus is on short term costs, which equate to a 1 to 3 year time frame. Costs are defined as the excess cost of being in the Y-NEET group, compared to the hypothetical situation that youth would have experienced (on average) as their non-Y-NEET counterparts. There are three categories of costs that can be assessed:

- **The cost of unemployment.** This is based on the average duration of unemployment for youth, and assuming that a NEET youth would remain in unemployment 50% longer than the average[23]. Based on these assumptions we can calculate the productivity cost in terms of

---

[22] For a more detailed literature review of the range of negative consequences associated with young people being NEET – See Dye and Pacheco (2014).

[23] A similar assumption was made in comparable UK analysis by Godfrey, Bradshaw, and Hutton (2002). We also assume that non-NEET 15-19 year olds do not experience unemployment (as many are in education), while 20-24 non-NEETs are assumed to experience the average duration of unemployment.

foregone earnings. Additionally, based on tax rate and unemployment benefit information we can also calculate public finance costs, in terms of (i) lost income tax revenue, (ii) ACC contributions, (iii) lost indirect tax revenue, and (iv) benefit payments.

- **The cost of inactivity.** NEET youth that don't fall in the unemployed category are classed as inactive and are then further split into those that are engaged in caregiving, versus those that are not. We assume that Y-NEET that are engaged in caregiving will be out of the workforce and education sector for 1.5 years (regardless of age group), and that other inactive youth will be out of the labour market for 1 year. Based on these assumptions we can calculate the productivity cost in terms of foregone earnings. Then, in a similar fashion to the unemployed cost, we use tax rate and relevant benefit rate information to calculate the public finance costs, in terms of lost income tax revenue, ACC contributions, lost indirect tax revenue, and benefit payments.

- **The cost of educational underachievement.** This relates to the wage differential that Y-NEET will likely encounter when they re-enter the workforce. This may be attributed to having a lower skill and experience level compared to their counterparts that did not undergo a NEET episode. The result is therefore a wage differential between workers that have had a period of NEET history versus those that haven't. The differences in educational qualifications assumed are outlined in detail in Pacheco and Dye (2014) and result in a 32% wage differential for Y-NEET that have no school qualifications (regardless of age group), and an 8% and 24% wage differential for Y-NEET (aged 15-19 and 20-24 respectively) that have at least a school qualification. In a similar fashion to UK research by Godfrey et al. (2002), we assume that unemployed Y-NEET will experience the wage difference for 18 (12) months if aged 15-19 (20-24); while those that are inactive Y-NEET will experience the wage differential for 21 (15) months. Based on these assumptions we can calculate productivity cost in terms of foregone earnings. Also, as in the unemployed and inactivity categories, we calculate the strain on public finances in terms of lost income tax revenue, lost ACC contributions, and lost indirect tax revenue.

Based on these three sets of explicit costs, we project that over the short term (1-3 years), the per capita cost (in terms of both lost productivity and burden on public finances) amounts to $21,969[24].

---

[24] This analysis was based on the December 2012 cohort of Y-NEET. Many of the assumptions regarding wage differentials for educational underachievement, and assumed length of time out of the workforce for caregiving responsibilities, etc. would still hold in 2015. In addition to that, other assumptions in terms of benefit rates and tax rates (relevant for youth) have not changed in a substantive manner between December 2012 and September 2015. The last two rows of Table 5 extrapolate these costs using recent statistics for the Y-NEET population in NZ. Youth aged 15 years were included in these statistics, given Pacheco and Dye (2014) included youth of this age in their analysis.

This cost is provided for NZ, Auckland, and several ethnic sub-groups of Auckland in the following table:

Table 5: Short term costs for Y-NEETs

Region	NZ[25]	Auckland	Auckland		
Ethnicity			NZ European	Maori	Pacific Peoples
Total cost per capita[26] ($)	21,996	23,661	18,178	28,289	22,242
15-19 year olds	10,084	11,347	10,853	18,624	14,411
20-24 year olds	27,911	28,599	21,112	32,162	25,378

Source: Pacheco and Dye (2014)

As Table 5 shows, the per capita short term cost for each individual that is Y-NEET is estimated as $21,996. The analogous figure for Auckland is a little higher, and this is likely due to higher average wages forgone by Y-NEET in Auckland, relative to the rest of NZ. Auckland Maoris were found to be associated with the highest per capita costs, and this is likely attributable to their greater propensity to disengage from education earlier, begin caregiving responsibilities (and consequently withdraw from the labour market) at an earlier age, and on average, undergo lengthier spells of unemployment, relative to NZ European for instance.

Several caveats must accompany these estimates. There is no differentiation across length of NEET spell, in terms of calculating economic costs for those that experience a short spell (under 6 months), versus those that experience an extended period of being NEET. These costs are also only short term in nature. Future cost analysis, which is outside the scope of this report, can look to employ longitudinal data and take a panel approach to estimating the range of costs associated with different types of NEET episodes.

---

[25] The NZ and Auckland estimates are based on an aggregate context, without taking the ethnic composition into account.

[26] Total per capita figures are not a simple accumulation of productivity and public finance costs. We remove the value of tax income and ACC contributions to avoid double counting, as these are transfer payments from the individual to the government.

5 Future Research

The NZ empirical knowledge base on Y-NEETs is still relatively young compared to the magnitude of quantitative research undertaken internationally - especially in the UK and Europe at large. This is not to say that there isn't an opportunity available to gain a more widespread view of varying dimensions of Y-NEETs in NZ.

Future research should look to employ a longitudinal approach. This can be done by utlising administrative data (e.g. data from Ministry of Education, in conjunction with the HLFS and other Statistics NZ sources), which has recently become available in the Integrated Data Infrastructure (IDI)[27]. Future analysis on Y-NEETs can therefore take a long-term perspective to achieve the following:

- Better understand predictors of Y-NEET status in NZ;
- Undertake programme evaluations to measure the effectiveness of responses to Y-NEETs in NZ;
- Quantify medium to long-term outcomes for Y-NEETs in NZ; and
- Develop a range of cost estimates associated with different types of NEET episodes.

---

[27] See Statistics New Zealand (2015) for more information about the IDI.

References

Audit Commission. (2010). Against the odds: re-engaging young people in education, employment or training: technical paper – creating a predictive model of the characteristics of young people NEET Retrieved from http://socialwelfare.bl.uk/subject-areas/services-client-groups/children-young-people/auditcommission/13593720100707-characteristicsofyoungpeopleneetforagainsttheodds.pdf

Blanchflower, D. G. (2010). The wellbeing of the young. Retrieved from http://www.dartmouth.edu/~blnchflr/papers/bjir%20youth%20attitudes%20draft.pdf

Dixon, S. (2013). *Not in employment, education or training: The long-term NEET spells of young people in New Zealand*. Wellington: Ministry of Business, Innovation and Employment.

Eurofound. (2012a). NEETs - Young people not in employment, education or training: Characteristics, costs and policy responses in Europe. Retrieved from http://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1254en.pdf

Eurofound. (2012b). Evaluation of the effectiveness of policy measures implemented by Member States to increase the employability and to promote a higher employment participation of young people in Europe. Retrieved from http://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1260en.pdf

Godfrey, C., Bradshaw, J., & Hutton, S. (2002). Estimating the cost of being'not in education, employment or training'at age 16-18. Retrieved from http://www.york.ac.uk/inst/spru/pubs/pdf/RR346.pdf

Gracey, S., & Kelly, S. (2010). *Changing the NEET mindset: Achieving more effective transitions between education and work*. London, United Kingdom: Learning ans Skills Network.

Gregg, P. (2001). The impact of youth unemployment on adult unemployment in the NCDS. *The Economic Journal, 111*(475), F626-F653. doi:10.1111/1468-0297.00666

Hill, J. (2003). *Young people not in education, training or employment*. Wellington, New Zealand: Ministry of Social Development.

International Labour Organization. (2013). Global employment trends for youth 2013. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_212423.pdf

Maguire, S. (2013a). What measures can be taken to address the specific problem of young people who are NEET? *Intereconomics, 48*(4), 196-201. doi:10.1007/s10272-013-0464-9

Maguire, S. (2013b). Will raising the participation age in England solve the NEET problem? *Research in Post-Compulsory Education, 18*(1-2), 61-76. doi:10.1080/13596748.2013.755816

Maguire, S., & Rennison, J. (2005). Two years on: The destinations of young people who are not in education, employment or training at 16. *Journal of Youth Studies, 8*(2), 187-201. doi:10.1080/13676260500149287

Maloney, T. (2004). Isolating the scarring effects associated with the economic inactivity of youth in New Zealand: Evidence from the Christchurch health and development study. Retrieved from http://dol.govt.nz/PDFs/IsolatingScarringEffects.pdf

Mayors Taskforce for Jobs. (n.d.). *Auckland Council*. Retrieved January 13, 2016, from http://www.mayorstaskforceforjobs.co.nz/home/your-mtfj/auckland/auckland-council/

Milner, A., Morrell, S., & LaMontagne, A. D. (2014). Economically inactive, unemployed and employed suicides in Australia by age and sex over a 10-year period: What was the impact of the 2007 economic recession? *International Journal of Epidemiology, 43*(5), 1500-1507. doi:10.1093/ije/dyu148

Ministry of Education. (n.d.). *Youth Guarantee*. Retrieved January 13, 2016, from http://youthguarantee.net.nz/start-your-journey/

Mirza-Davies, J. (2015). NEET: Young people not in education, employment or training. Retrieved from http://researchbriefings.files.parliament.uk/documents/SN06705/SN06705.pdf

Mroz, T. A., & Savage, T. H. (2006). The long-term effects of youth unemployment. *The Journal of Human Resources, 41*(2), 259-293. doi:10.3368/jhr.XLI.2.259

Organisation for Economic Co-operation and Development. (2015). *Youth not in education or employment (NEET)*. Retrieved November 25, 2015, from https://data.oecd.org/youthinac/youth-not-in-employment-education-or-training-neet.htm

Pacheco, G., & Dye, J. (2014). Estimating the cost of youth disengagement in New Zealand. *New Zealand Journal of Employment Relations, 38*(2), 47-63. Retrieved from http://www.nzjournal.org/index.htm

Sachdev, D., Harries, B., & Roberts, T. (2006). *Regional and sub-regional variation in NEETs: Reasons, remedies and impact*. London, United Kingdom: Learning and Skills Development Agency.

Samoilenko, A., & Carter, K. (2015). Economic outcomes of youth not in education, employment or training (NEET). Retrieved from http://www.treasury.govt.nz/publications/research-policy/wp/2015/15-01/twp15-01.pdf

Statistics New Zealand. (2011). Introducing the youth not in employment, education, or training indicator. Retrieved from http://www.stats.govt.nz/~/media/Statistics/browse-categories/income-work/employment-unemployment/young-people-employment-education-training/young-people-employment-education-training.pdf

Statistics New Zealand. (2015). *Integrated Data Infrastructure*. Retrieved January 13, 2016, from http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/integrated-data-infrastructure.aspx

Viollaz, M., Ham, A., & Cruces, G. (2012). Scarring effects of youth unemployment and informality: Evidence from Argentina and Brazil. *Paper presented at the July 2012 IZA Conference: Bonn, Germany*.

Wu, D., & Wu, Z. (2012). Crime, inequality and unemployment in England and Wales. *Applied Economics, 44*(29), 3765-3775. doi:10.1080/00036846.2011.581217

Youth Connections. (n.d.). *Helping young people reach their potential*. Retrieved January 13, 2016, from http://www.youthconnections.co.nz/about/